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THE APPLICABILITY OF THE THEORY OF PLANNED BEHAVIOUR TO CHOOSING A CAREER AS A RURAL PHYSICIAN IN SOUTH AFRICA

Elsje Greyling

Submitted in fulfilment of the requirements for the degree

PhD with specialisation in Human Resources Management

in the

FACULTY OF ECONOMIC AND MANAGEMENT SCIENCES

at the

UNIVERSITY OF PRETORIA

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Study leader: Professor Hein E. Brand

September 2016

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DECLARATION

I, Elsje Greyling, declare that the study on:

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is my own work. All the resources used for this study are cited and referred to in the list of references by means of a comprehensive referencing system. I declare that the content of this thesis has never been used before for any other qualification at any tertiary institution.

_____

Elsje Greyling

24 September 2016

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University of Pretoria - E Greyling (2016)

ABSTRACT

The applicability of the theory of planned behaviour to choosing a career as a rural physician in South Africa

by

Elsje Greyling

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The public health system of South Africa faces a number of serious human resources challenges. The shortages, inequity and maldistribution of physicians across various geographical areas and health employment sectors are aggravated by the migration of skills within and from South Africa to urban areas, the private medical sector and to other countries which are perceived to be offering better career prospects and quality of living. Rural health facilities in South Africa experience particular challenges to attract and retain health professionals, as very few physicians choose careers in rural medicine. This scenario gave rise to the problem statement of the study which set out to explore the complex process of career intentions and decision making by medical graduates with a specific focus on choosing a career as rural physician.

Many studies have investigated the factors that influence the attraction and retention of physicians in rural areas, both internationally and in South Africa, however, a comprehensive literature review revealed that none of these research studies employed a theoretical model to interrogate career decision making. In this study, the Theory of Planned Behaviour (TPB) was applied to investigate and compare the intentions of two research groups to choose a career as a rural physician in the South African public service.

The study involved an interpretive qualitative research method which is uncommon in typical research applied to test the TPB. Data was collected from undergraduate medical

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students (n=22) and qualified general practitioners (n=21) to determine the following aspects: their beliefs regarding the outcomes of choosing a career as rural physician, as well as the importance and associated benefits of these outcomes; to determine the impact of demographic variables and TPB background factors in the prediction of a career choice as a rural physician; to establish whether the core and extended variables of the TPB account for differences in the career choice to become a rural physician between the two research groups; and to determine whether the TPB can be applied using a qualitative research methodology.

ATLAS.ti was utilised for the purposes of data analysis which involved open and axial coding and the generation and evaluation of research findings. In this study, open codes typically represented the “salient beliefs” of study participants regarding the expected outcomes, expectations or feelings related to background or informational variables of the TPB. The “groundedness” concept of ATLAS.ti was used as a proxy to determine the subjective value of salient beliefs. Criteria for credibility, transferability, dependability and confirmability were applied and demonstrated.

The study contributes to the fields of vocational and social psychology by demonstrating that the TPB can be applied in a qualitative research design. In addition, the study offers a viable and objective method to test TPB constructs for the purposes of career theory development in a diverse and complex South African context, thus enhancing the body of knowledge in career and social psychology. The constructs of the TPB in its extended form contributed to the development of a practical framework that creates a better understanding of beliefs and behaviour of medical students and physicians as well as inform interventions aimed at influencing or changing their behaviour, particularly with regard to choosing a career in rural health. Themes for future research include expanding the boundaries of the “career” concept; unpacking careers in medicine and current perceptions of South African medical students regarding future career prospects and expanding TPB studies to include more background factors such as emotions, personality traits, value systems and media exposure, particularly exploring the impact of social media on career decision-making.

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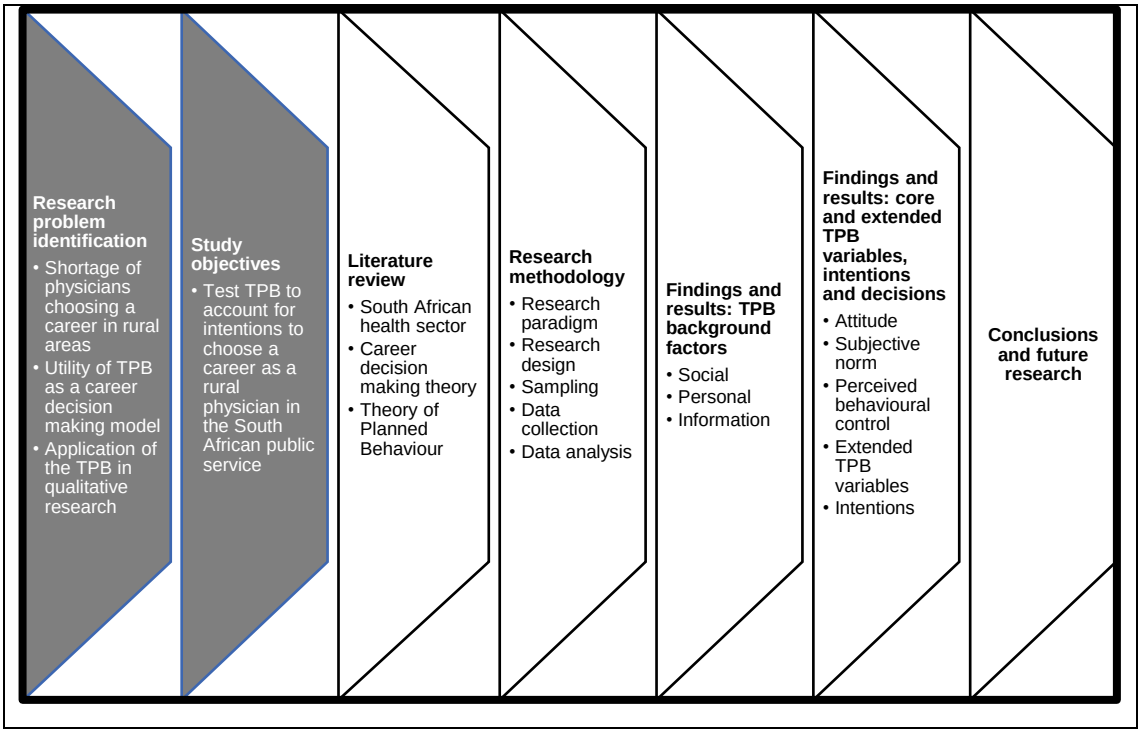
CHAPTER 1: INTRODUCTION

1.1 INTRODUCTION AND BACKGROUND

In this chapter, the researcher sets out the context of the study by identifying the research problem and stating the objectives of the study. The delimitations and assumptions of the study as well as the anticipated contributions of the study are also discussed in the first chapter. The content of this chapter is summarised in Figure 1.

Figure 1: Overview of Chapter 1



Source: Researcher's own summary.

Health human resources challenges are universally experienced by rural communities across the world. Strasser (2003:457) states: "Despite the huge differences between developing and developed countries, access is the major issue in rural health around the world. Even in the countries where the majority of the population lives in rural areas, the resources are concentrated in the cities. All countries have difficulties with transport and communication, and they all face the challenge of shortages of doctors and other health professionals in rural and remote areas. Many rural people are caught in the poverty–ill health–low productivity downward spiral, particularly in developing countries."

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The public health system of South Africa is faced with a number of serious human resources challenges. The shortages, inequity and maldistribution of physicians across various geographical areas, health employment sectors as well as race and gender distribution are aggravated by the migration of skills within and from South Africa to urban areas, the private medical sector and to other countries which are perceived to be offering better career prospects and quality of living (Hall & Erasmus, 2003:523).

In 2003 the public sector employed approximately 38% of the physicians in South Africa, serving over 80% of the population (Hall & Erasmus, 2003:528). By 2010, only 30% of physicians were employed in the public sector (George, Quinlan & Reardon, 2009:6). In addition, provinces with large rural communities such as Limpopo, North West, Mpumalanga and the Eastern Cape experience the worst shortages of physicians as indicated by the low physician/ population ratios in those areas. It is estimated that 43% of the population resides in rural communities (Statistics South Africa, 2010).

A strategic driver of the National Department of Health's (NDoH) human resources plan is to promote the availability of general practitioners in rural areas which typically represent the most vulnerable and poorest segment of the South African population.

Price and Weiner (2005:414) suggest that most of the policy development and implementation processes appear to take place in the absence of reliable data on the actual career choices made by medical students and graduates from different South African university environments and the reasons for these choices. Several research studies conducted in various countries, including South Africa, indicated that increasingly fewer medical students are interested in general practice as an occupation (Green, Nel, & Prinsloo, 2006:15, Lambert, Goldacre & Turner, 2003:194, Newton & Grayson, 2003:1179, Price & Weiner, 2005:419). This implies that fewer physicians are likely to choose a career in primary health care and more specifically, choosing a career in the rural health sector. Furthermore, this observation has negative implications for the successful implementation of the NDoH' s objective to increase the number of physicians likely to choose a career in a rural environment.

Choosing a career after completion of formal studies is a complex process and is dependent on a wide range of factors, including preference at the start of studies, experience and exposure during training, organisational reputation, career progression

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prospects, rural or urban origin as well as cultural and socio-economic aspects (De Vries & Reid, 2003:789, Green *et al.*, 2006:15, Van Hooft, Born, Taris & Van der Flier, 2006:156).

An overview of existing literature demonstrated that studies conducted to ascertain the reasons for career choices of medical graduates generally do not employ a theoretical basis to specify the variables associated with career choice. This study proposes that the Theory of Planned Behaviour (TBP) which was developed by Ajzen (1991:182), be used as a theoretical framework to predict career choices or intentions of medical students that are favourable towards becoming a rural physician in the South African public service. The TPB provides a model about how human action is guided and as such it predicts the occurrence of a specific behaviour provided that the behaviour is intentional. Intentions are the precursors of behaviour. (Ajzen, 1991). The TPB furthermore incorporates constructs and variables covering the spectrum of behavioural motivation, intention and implementation, and has been empirically validated in a number of studies that investigated human behaviour in various circumstances and more recently in research studies predicting vocational choice (Arnold, Loan-Clarke, Coombs, Wilkinson, Park & Preston, 2006:375).

The TPB, which is also an extension of the theory of reasoned action, proposes that the intention to perform a behaviour (career decision in this case) is influenced by three variables, namely an individuals' attitude towards the planned behaviour, subjective norms which represent the individual's perception of social pressure to perform the planned behaviour and thirdly the perceived control over the planned behaviour which would reflect the individual's perception about the relative ease to implement the behaviour (Ajzen, 1991:181).

The TPB has been found to be a valid predictor of career choice in previous research studies. These studies have demonstrated the application of the theory in core and extended forms to include other variables such as ethnic and gender differences in job applicants, moral obligation towards employment in a public sector organisation and identification with such an organisation, i.e. person-organisation fit (Arnold *et al.*, 2006:375, Van Hooft *et al*., 2006:157).

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This research study tested the application of the TPB in a South African career decision making context and it introduced a qualitative research design which is uncommon in typical research conducted to test the TPB (Renzi & Klobas, 2008:2).

1.2 RESEARCH PROBLEM

Rural health facilities in South Africa experience particular challenges to attract and retain health professionals, as very few physicians choose careers in rural medicine in the public service. This study explored the complex process of career intentions and decision making by medical graduates with a specific focus on choosing a career as rural physician in South Africa

1.3 AIM OF THE STUDY

The purpose of this study was to test the capacity of an extended version of the TPB to account for intentions to choose a career as a rural physician in the South African public service amongst two groups, namely final year medical students of the University of Pretoria and registrars who are specialising further through postgraduate medical studies at the University of Pretoria.

1.4 RESEARCH OBJECTIVES

The study aimed to address the following research objectives:

- To determine the beliefs of study participants regarding the outcomes of choosing a career as rural physician in the South African Public Service as well as the importance and associated benefits of these outcomes;
- To determine whether the core variables of the TPB, namely attitude, subjective norm and perceived behavioural control, account for differences in the career choice to become a rural physician among two research groups namely medical students (“professionals in training”) and registrars undergoing medical specialist training (“professionally qualified”). The two groups are chosen to test the generalisability of the theory pertaining to career decision making;
- To determine whether previously tested extended TPB variables namely moral obligation and identification with employer account for differences in the prediction of a career choice as a rural physician;

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- To determine whether additional extension variables such as the South African health human resources policy, the health management system and role models account for differences in the prediction of a career choice as a rural physician;
- To determine whether demographic variables namely race, gender, origin (rural/ urban), home language, marital status, dependant family, age, previous work experience in the public service, family or friends working in the profession account for differences in the prediction of a career choice as a rural physician; and
- To determine whether the TPB can be applied using a qualitative research methodology.

1.5 DELIMITATIONS AND ASSUMPTIONS

1.5.1 Delimitations

Although closely related, the following topics are excluded from the context of this study:

- The training of medical doctors pertaining to the content of undergraduate studies.
- The career choices of medical graduates in general. This includes differences in choices by different genders and or race groups.
- The reasons why doctors specialise further and the factors that influence those choices.
- The reasons why doctors emigrate and the factors that influence those choices.

From a theoretical perspective, this study does not attempt to explain and describe all models of career decision making that is available, but rather strives to expand the body of knowledge in this respect.

1.5.2 Assumptions

Assumptions function as essential “self-evident truths” to ensure that research has meaning (Leedy & Ormrod, 2005:5). The following assumptions are underlying this thesis:

- The need for medical doctors to be employed in rural areas will continue to be a public health challenge in South Africa.

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- Following the completion of their compulsory service (after completing their undergraduate degree and internship), doctors will continue to make career choices from a range of options including specialisation, emigration and practicing in the private or public sector.
- The TPB is well researched and has been applied extensively on various human behaviours. Even though the application of the theory has been limited as far as occupational choice is concerned, it is assumed that the theory will sufficiently account for variances in intention and behaviour that lead to career decision making (Arnold *et al*., 2006:375)
- The chosen research design is appropriate to investigate and test the complexity factors that influence career decisions by doctors, particularly to work in a rural area, because it allows for the addition of more diverse research than that of strictly quantitative methods (Ambert, Adler, Adler & Detzner, 1995:881); and
- The chosen sample group consisting of the population of medical students at the University of Pretoria is representative of the universe of medical students (under and postgraduate) in South Africa.

1.6 IMPORTANCE AND BENEFITS OF THE PROPOSED STUDY

From a theoretical perspective the proposed study was undertaken to contribute to the existing body of knowledge in the broader career management and public health and social psychology disciplines.

The study firstly intends to test the application of the TPB in a South African career management context. An overview of existing South African literature currently does not include this theory as a predictor of career choice and as such the body of knowledge in the career psychology discipline will be expanded (Stead & Watson, 2006:94-109).

Secondly, although various studies have examined career choice as a rural physician (Green *et al*., 2006:15b, Lambert *et al*., 2003:194, Newton *et al*., 2003:1182, Nichols, Worley, Toms & Johnston-Smith, 2004:6, Price & Weiner, 2005:419), it has been difficult to generalise from these studies because they have not utilised a theoretical framework. The TPB supports the identification of key variables to test vocational choices.

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Thirdly, it is believed that the proposed study will contribute to a better understanding of the career intentions of South African medical students across a range of diverse demographic variables, also observing these intentions within the context of the strategic objectives of the NDoH, particularly with regard to the focus on primary and rural healthcare which is directed away from the more traditional approach which supported specialisation in and the promotion of tertiary healthcare.

Fourthly, the study outcomes could influence and give direction to the nature of career counselling to be given to undergraduate medical students whilst still at university to prepare them better for the world of work and clarify their expectations of medical practice in various settings, including rural practice.

Fifthly, the study applied a qualitative research design to test the TPB. According to Renzi and Klobas (2008:2) few published studies of the theory involved a qualitative study and there seems to be little information available about the actual process and methodology adopted by the researchers to obtain and test results of the study. This study provides a comprehensive description of the methodology that was used to generate broad themes for the investigation of an extended TPB model as well as how results were obtained and analysed.

1.7 DEFINITION OF KEY CONCEPTS AND ABBREVIATIONS

Key concepts and definitions to be used in this study are listed in Table 1.

Table 1: Definitions of key concepts

Concept	Meaning
Career decision	Refers to occupational or vocational choice
Physician	Refers to “A person qualified to practice medicine” (Oxford Dictionaries Online, 2015). It is not a conventional term used in South Africa, however is used in North America and other parts of the world to refer to all medical doctors. For the purposes of this thesis the term refers to all medical doctors, including specialists.
Rural environment	Refers to geographical areas outside of major urban centres, i.e. metropolitan areas, large cities and provincial capitals
Rural physician	Refers to general practitioner or specialist medical doctor, registered with the Health Professions Council of South Africa, who practices in a rural environment.
Theory of Planned Behaviour	Refers to a theory that proposes the intention to perform certain behaviour is influenced by three variables, namely attitude, subjective norms and perceived control over the planned behaviour.

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Table 2 contains the main abbreviations used in this study.

Table 2: Abbreviations

Abbreviation	Meaning
ANC	African National Congress
DCST	District Clinical Specialist Teams
HHRPF	Health Human Resources Planning Framework
HIV/AIDS	Human immunodeficiency virus infection and acquired immune deficiency syndrome
HPCSA	Health Professions Council of South Africa
HRH	Human Resources for Health
NDoH	National Department of Health
NDP	National Development Plan
NHA	National Health Act, No. 61 of 2003
NHI	National Health Insurance
PHC	Primary health care
RDP	Reconstruction and Development Programme
RuDASA	Rural Doctors Association of South Africa
SADC	Southern African Development Community
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
WHO	World Health Organisation

1.8 OUTLINE OF THE STUDY

This study is divided into six chapters. The introductory chapter sets out the background, purpose, research objectives, the delimitations and assumptions associated with the study and lastly the importance and potential benefits of the study.

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The second chapter is dedicated to a comprehensive literature review which serves to describe, contextualise and discuss the following main topics in order to equip the researcher with a thorough understanding of related themes, prior to implementing the research methodology:

- The South African health sector and in particular health human resources strategies and challenges in the public health sector and more specifically in the rural health sector. Extensive focus is placed on South African government policy pertaining to health and rural health in particular, as the initial career plans and decisions of young physicians are assumed to be influenced by the public sector health environment where they are required to perform registrarships, compulsory community service and registrar training;
- Career decision theory and models; and
- The TPB in basic and extended format and particularly with regard to its employability as a career decision making model as well as its utility in qualitative research.

Chapter three outlines the research paradigm and methodology that will be followed in the study. The results and findings are presented in chapters four and five, whilst the last chapter will make concluding remarks about the research process and findings of the study.

The achievement of research objectives will be discussed together with the main contributions and strengths and limitations of the study. The researcher will lastly suggest themes and areas for future research that may flow from this study.

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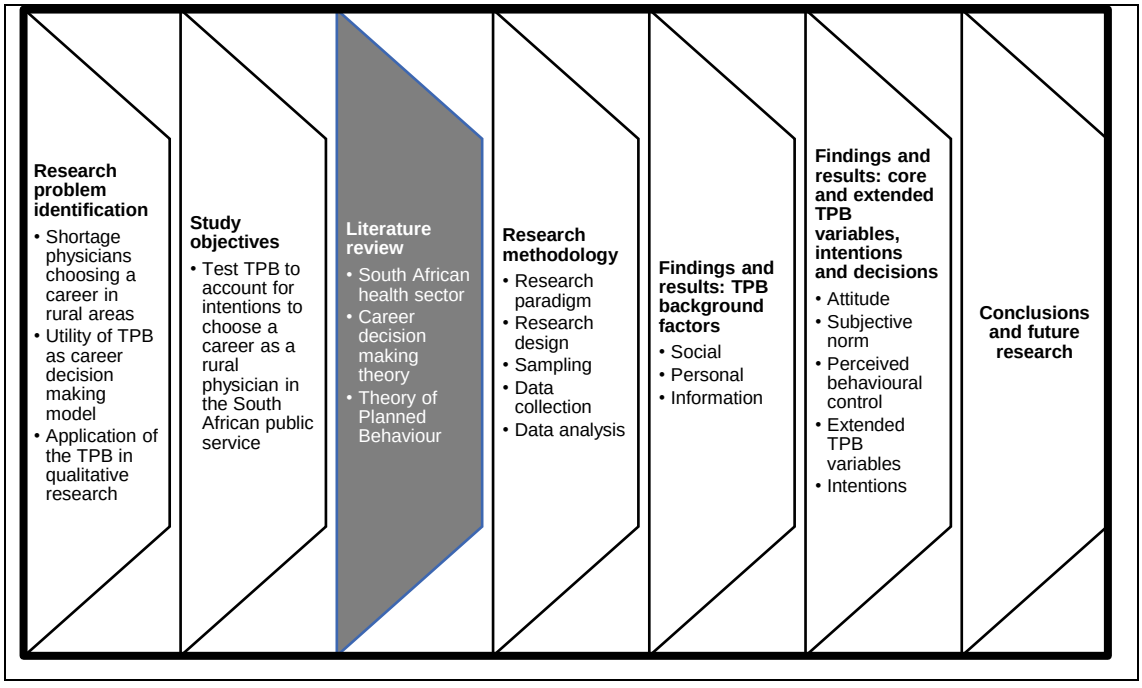
CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

As reflected in Figure 2, the second chapter presents an overview of three main themes that were explored by means of a literature review in order to equip the researcher with a thorough understanding of the following topics prior to implementing the research methodology:

- The South African health sector and in particular health human resources strategies and challenges in the public health sector and more specifically in the rural health sector;
- Career decision theory and models; and
- The TPB, particularly with regard to its employability as a career decision making model as well as its utility in qualitative research.

Figure 2: Overview of Chapter 2



Source: Researcher's own summary.

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2.2 THE SOUTH AFRICAN HEALTH SECTOR

2.2.1 The health system

2.2.1.1 Introduction

South Africa's health system reflects a dysfunctional history as it was fragmented, racially biased and largely benefitted a small proportion of the population. Coovadia, Jewkes, Barron, Sanders and McIntyre (2009:817) state that: "The roots of a dysfunctional health system and the collision of the epidemics of communicable and non-communicable diseases in South Africa can be found in policies from periods of the country's history, from colonial subjugation, apartheid dispossession, to the post-apartheid period. Racial and gender discrimination, the migrant labour system, the destruction of family life, vast income inequalities, and extreme violence have all formed part of South Africa's troubled past, and all have inexorably affected health and health services."

The first democratic government of South Africa, which was elected and appointed in 1994, inherited a health system that faced substantial challenges which were created over many centuries. It was estimated that prior to 1994, up to 55% of the population of South Africa were living in extremely poor conditions with limited or no access to basic health and other services such as clean water and sanitation (Department of Health, 1997). At the time more than half of poor people in the country lived in rural areas. In addition, at the onset of democracy, South Africa presented (and still does) a unique, but similar health profile than that of its neighbours in the Southern African Development Community (SADC) which includes four concurrent epidemics namely communicable diseases, non-communicable diseases, perinatal and maternal disease and injury related disorders (Bradshaw, Nannan, Laubscher, Groenewald, Joubert, Nojilana, Norman, Pieterse & Schneider, 2006:11). Furthermore, the wide spread impact of South Africa's high HIV/AIDS epidemic emerged as a particular challenge at that time and the country inherited a system where the previous Government mainly focused its health funding towards tertiary, urban and high technology medical training and treatment, resulting in a dismal health system in the poor and underdeveloped areas of South Africa (Breier & Wildschut, 2007:99).

Since 1994, the South African Government has attempted to deal with the disparities and to create an integrated health system, however, reforms in the area of healthcare financing have actually entrenched the country's current two-tiered system which is

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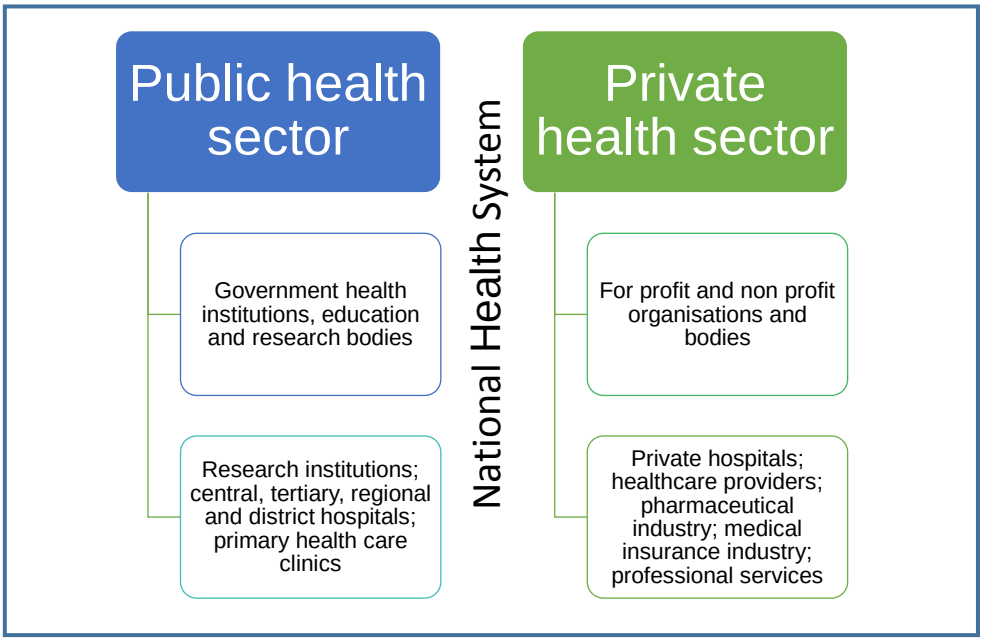
reflected in Figure 3 (Naidoo, 2012:149). It is an inequitable, costly and unfair system which is based on socio economic status and is not sustainable in the long term (Department of Health, 2011a).

Figure 3: The South African Health System



Source: Department of Health (2006:21) and Department of Health (2011:4)

It is estimated that the public health sector, which is funded through the fiscus, services about 85% of the population (who are mostly poor and disadvantaged), whilst the private sector, which is funded mainly through medical schemes, various hospital care plans and out of pocket payments, only serve about 15% of the population (Rispel & Setswe, 2007:4; Naidoo, 2012:150). These statistics reflect ongoing challenges for the South African health system, particularly with regard to equality and distribution of health services. Breier and Wildschut (2007:1) comment that: “Despite numerous reforms since 1994, the South African health system remains divided: first world private care that ranks with middle-income countries internationally at the one end, and at the other extreme, in the rural sector in particular, conditions that are superior only to the poorest of African countries.”

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The placement of traditional medicine as a component of the South African health sector seems to be absent from the above model which generally addresses the funding of healthcare in an orthodox or "Western" healthcare context, however, the NDoH has recognised the need to incorporate African traditional healers into the larger government regulated health system by passing the Traditional Health Practitioners Act, No 22 of 2007 (Moagi, 2009:116). Moshabela, Pronyk, Williams, Schneider and Lurie (2011:842-852), assert that traditional healers largely function outside the formal health system, however, their fee for service approach can be quite expensive. Although poor people with limited health care options seem to be the mainstay of the primary healthcare system in South Africa, traditional healers are deemed to be a common source of healthcare for South Africans (Moshabela *et al.*, 2011). Traditional healers and medicine are discussed in more detailed in Section 2.2.3.6 of this study.

2.2.1.2 Health system reform: 1994 to 2009

The historical context, health conditions and system described in the previous section presented very difficult challenges for the newly elected government and various health system reforms have subsequently been proposed and/ or implemented by the NDoH with the objective of making health care available and accessible to the broader population of the country as well as improving the quality thereof. Various authors listed the following health care reform objectives that have directed the strategic planning of the NDoH for the first fifteen years after the advent of democracy in 1994 (Department of Health, 1997; Hall & Erasmus, 2003:525, McCoy, Harrison, Bamford, Donohue, Nxumalo & Radebe, 1998 and Rispel & Setswe, 2007:4):

- Creation of a unified health system to replace a system which was previously characterised by fragmentation and wide disparities in health spending, inequitable distribution of health care professionals, poor access and quality of care between and within provinces; between racial groups; urban and rural areas; and the public and private health sectors;
- Streamlining of regulatory systems in the health sector to support better planning and management of healthcare resources in the country;
- Promotion of equity in the accessibility and utilisation of health services by increasing access to integrated health care services for all citizens and focusing on improving services to rural, peri-urban and urban poor and aged people;
- Addressing health human resources challenges by implementing the following:
    - Distributing health personnel throughout the country in an equitable manner;

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  - Redirecting the training of physicians on primary health care and also focussing on the country's specific health and social challenges such as HIV/AIDS, malnutrition, tuberculosis, malaria and poverty;
  - Implementing measures to increase the recruitment and retention of physicians in underserved (including rural) areas;
  - Promotion of equality in terms of access to training and transforming the race and gender profile of physicians; and
  - Promoting a caring and compassionate culture in the health sector.
- Fostering community participation across the health sector by involving them in the planning and provisions of health services and encouraging them to take responsibility for their own health promotion and care;
- Improving health sector planning and monitoring by means of health information systems and health surveillance programmes as well as capacity building at all spheres of government: and
- Implementing a district health system throughout the country which aims to provide comprehensive and integrated health services to the people of well-defined geographical units through a decentralised management structure.

These objectives mainly originated from the African National Congress (ANC)'s health plan which was published in 1994 and which was anchored in the concept of primary health care as promoted by the Alma Ata Declaration which was adopted at the International Conference on Primary Health Care in September 1978 (Coovadia *et al*., 2009:828). The Alma Ata Declaration expressed the need for urgent action initially by third world countries, but later all countries of the world, to protect and promote the health of all people. It was the first international declaration that highlighted the importance of primary health care and since then, the member countries of the World Health Organisation (WHO) have adopted primary healthcare as the key to achieving the goal of "Health for All" (World Health Organisation, 1978 and World Health Organisation, 2010). The Alma Ata Declaration furthermore provided a framework of how services at a primary level of care should be organised, delivered and managed. It promotes the concept of decentralised healthcare to lower spheres of government as well as the involvement of citizens in setting healthcare priorities (Cleary, Molyneux & Gilson, 2013:320).

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Although the first fifteen years of democracy saw many remarkable achievements by the South African government, especially in the areas of poverty reduction, housing and the provision of other basic and essential services, this period was also associated with much controversy around the country's approach towards HIV/AIDS (Kleinert & Horton, 2009:759). It is argued that the South African history of HIV/AIDS is perhaps the most controversial of any country as a result of the country's failure to act appropriately and its decision to support pseudoscience which caused considerable conflict between politicians, scientists and organisations representing HIV and AIDS interests. For an extended period, the government, civil society and the medical profession were at loggerheads regarding policy development and implementation (Schneider & Stein, 2001:723). In addition, President Thabo Mbeki, supported by the then Minister of Health, Manto Tshabalala Msimang denied the causal link between HIV and AIDS and thus denied hundreds of thousands of HIV positive people access to anti-retroviral treatment because these were deemed ineffective and toxic (Mbali, 2004:106). During the Mbeki era the HIV/AIDS prevalence rate spiralled from about 7.6% in pregnant women (1994) to 20,5% of pregnant women diagnosed with HIV/AIDS in 2000, with rural communities in KwaZulu-Natal reporting infection rates as high as 50,8% in 2001 (Karim, Churchyard, Karim & Lawn, 2009:923).

In addition, South Africa made insufficient progress, and even reversed progress in some instances, towards achieving its Millennium Development Goals (MDG's) pertaining to maternal and child health, HIV/ AIDS, TB and malaria (Chopra, Lawn, Sanders, Barron, Karim, Bradshaw, Jewkes, Karim, Flisher, Mayosi, Tollman, Churchyard & Coovadia, 2009:1023-1031). According to the website of the United Nations there are eight MDGs which range from addressing extreme poverty rates to reducing the spread of HIV/AIDS and providing universal primary education, all by the target date of 2015. The MDG's represent a plan that has been agreed to by all the world's countries and development institutions and they have spurred extraordinary efforts to meet the needs of the world's poorest people (United Nations, n.d.).

It has furthermore been reported that life expectancy in South Africa has been reduced by almost 20 years since 1994, mainly due to the rise in HIV/AIDS related deaths. In addition, the proportion of the global burden of disease borne by South Africans is deemed high compared to countries that have higher populations and a worse degree of poverty. Apart from contributing to the high morbidity rates related to HIV/AIDS, the

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quadruple burden of disease faced by the country is resulting in very high mortality results due to violence and injury, chronic diseases, mental health disorders, and maternal, neonatal, and child mortality. “The combination of acute and chronic diseases spanning all age-groups and socio economic groups imposes a massive burden on an already weak and underdeveloped public health-care delivery system.” (Chopra *et al*., 2009:1023). By 2009, South Africa required decisive leadership and comprehensive interventions to improve health and healthcare for its 49 million citizens (Kleinert & Horton, 2009:759).

The “post Mbeki” administration faced enormous challenges which were highlighted in a collaboration effort between The Lancet and academic centres in South Africa. The Lancet published a series of papers in 2009 that discussed a range of issues describing the status of health and health care in the country and highlighting areas that required intervention in order to turn around the challenges faced in the health sector. It also called the South African government to action to address these challenges and listed particular areas that required immediate action in order to turn around the sad state of affairs as far as health and healthcare is concerned (Lawn & Kinney, 2009). The topics of the papers included the following:

- The health and health system of South Africa: historical roots of current public health challenges (Coovadia *et al*., 2009);
- Saving the lives of South Africa's mothers, babies, and children: can the health system deliver? (Chopra, Daviaud, Pattinson, Fonn & Lawn *et al*., 2009a);
- HIV infection and tuberculosis in South Africa: an urgent need to escalate the public health response (Karim *et al*., 2009);
- The burden of non-communicable diseases in South Africa (Mayosi, Flisher, Lalloo, Sitas, Tollman & Bradshaw, 2009);
- Violence and injuries in South Africa: prioritising an agenda for prevention (Seedat, Van Niekerk, Jewkes, Suffla & Ratele, 2009); and
- Achieving the health Millennium Development Goals for South Africa: challenges and priorities (Chopra *et al*., 2009b).

The key themes that emerged from these papers are presented in Table 3. The researcher included the themes in this study as majority of these topics shaped the country’s health policy and programmes since 2009 and will continue to have an impact on South Africa’s long term health outcomes (Motsoaledi, 2009).

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Table 3: The Lancet series on health in South Africa: key messages

Lancet paper	Key messages/ themes
The health and health system of South Africa: historical roots of current public health challenges	• Freely elected governments are the minimum condition for effective health policies. The health and social consequences of despotic, unelected, or poorly functioning elected governments can be long-lasting. • The will of the people, expressed through resistance to oppression or mobilisation against failed policies in democracies, is the best investment for a healthy future. • Programmes that directly address social determinants of health and development, such as discrimination and stigma, subordination of women, poverty and inequality, violence and traditional practices, are essential for promoting health and reducing disease. • Macroeconomic policies that promote growth alone are insufficient; an economic architecture should allow the development of programmes that reduce poverty, unemployment, and inequities. • Good leadership, stewardship, and management of health and related services are crucial to achieving health for all people. • Innovative approaches to health service delivery are needed in developing countries that are affected by both communicable and non-communicable diseases.
Saving the lives of South Africa's mothers, babies, and children: can the health system deliver?	• At the present trajectory, South Africa will fall well short of achieving Millennium Development Goals (MDGs) 4 and 5, related to reducing child and maternal mortality. • HIV/ AIDS and poor implementation of existing packages of care are the main reasons for the lack of progress towards the MDGs. • Full coverage of key packages of interventions such as treatment and prevention of HIV infection and provision of comprehensive maternal and neonatal care would put South Africa on track to achieve MDG 4 and make substantial progress towards MDG 5. • To achieve high coverage of priority care for mothers, neonates, and children is financially feasible, requiring a 2·4% increase in expenditure, but this money must be spent strategically. • Strengthening of leadership, accountability mechanisms, and high quality of care interventions are also required
HIV infection and tuberculosis in South Africa: an urgent need to escalate the public health response	• Worldwide, South Africa has the highest number of people living with HIV/ AIDS, representing a quarter of the disease burden in sub-Saharan Africa and a sixth of the global disease burden. • South Africa has one of the worst tuberculosis epidemics in the world, with high disease burden, incidence rates, and HIV co-infection rates, and growing epidemics of multidrug-resistant and extensively drug-resistant tuberculosis. • Although South Africa has well formulated and broadly accepted Strategic Plans for HIV/ AIDS and tuberculosis, insufficient political will and inadequate capacity to deliver on many of the urgently needed health-care interventions are major deficiencies in the country's response to the epidemics. • The HIV/ AIDS epidemic will continue to shape the South African health service. The successful scale-up of anti-retro viral therapy provision, leading to the creation of the world's largest HIV/ AIDS treatment programme, is key to stimulating innovation to strengthen the overall health service. • The newly elected South African government has the opportunity to actively support and adequately resource the implementation of an evidence-based public health policy to effectively control the HIV and tuberculosis epidemics.
The burden of non-communicable	• The burden of non-communicable diseases is rising in rural communities, disproportionately affects poor people living in urban settings, and is resulting in an increase in the demand for care for chronic diseases.

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Lancet paper	Key messages/ themes
diseases in South Africa	• The rising burden of non-communicable diseases is shown by an increasing number of deaths from diabetes, chronic kidney disease, and cancer of the prostate and cervix, and by the increasing proportion of disability-adjusted life years attributed to neuropsychiatric disorders. • The number of deaths attributable to stroke, chronic obstructive airways disease, and lung cancer has fallen in the past 2 years. We need to understand the reasons for these trends, with a view to informing prevention efforts. • The rising demand for chronic care for communicable and non-communicable diseases needs an integrated model of care at all levels of the health system, supported by a robust surveillance system. • We urge the launching of a national initiative to establish sites of service excellence in urban and rural settings to develop, implement, and assess integrated care interventions for communicable and non-communicable diseases.
Violence and injuries in South Africa: prioritising an agenda for prevention	• Violence and injuries are the second leading cause of death and lost disability-adjusted life years in South Africa. • South Africa's injury death rate is nearly twice the global average. • The high injury death rate is driven mainly by interpersonal and gender-based violence, followed by traffic injuries, self-inflicted injuries, and other unintentional injuries arising from fires, drowning, and falls. • Violence is profoundly gendered, with young men (aged 15–29 years) disproportionately engaged in violence both as victims and perpetrators. Half the female victims of homicide are killed by their intimate male partners and the country has an especially high rate of rape of women and girls. • The social factors driving the problem include poverty and unemployment, patriarchal notions of masculinity, vulnerabilities of families and exposure to violence in childhood, widespread access to firearms, alcohol and drug misuse, and a weak culture of enforcement and failure to uphold safety as a basic right. • The government should identify reduction in violence and injuries as a key goal and to develop and implement a comprehensive, national inter-sectoral, evidence-based action plan.
Achieving the health Millennium Development Goals for South Africa: challenges and priorities	**We urge the South African government to:** • Restate commitment towards achievement of all MDGs, and make this target a focus of the planning commission to ensure multi-sectoral actions to address the social and environmental determinants of health • Reaffirm the comprehensive primary health-care system as the framework for achievement of health for all • Implement all provisions of the National Health Act (2004), including the development of a decentralised district-based primary health-care system, and establishment of structures for community accountability • Substantially scale-up HIV prevention actions • Openly discuss options for health funding with special attention to antiretroviral treatment and national health insurance • Increase resources for training and retention of health workers in the public sector • Strengthen surveillance, monitoring, and assessment of public health programmes, with special attention to inequalities • Link together and benchmark financial and health indicators to ensure cost-effective use of resources • Ensure increased accountability of policy makers, managers, and health personnel at all levels by strengthening participatory structures and establishing a strong culture of service • Provide inclusive leadership that engages with all stakeholders **We urge universities, training institutions, health councils, and researchers to:**

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Lancet paper	Key messages/ themes
	• Restate commitment to a person-centred comprehensive primary health-care system, and take action to reorder priorities within institutions • Accelerate production of fully trained nurses and mid-level health workers • Review training programmes for medical specialists to provide an effective service for the public sector, with increased support for generalist doctors and peripheral facilities • Review curricula for training of health workers to work in a system focused on primary health care • Increase resources for research to support implementation and assessment of health interventions • Increase the priority of actions to address countrywide inequities **We urge civil society to**: • Ensure governance and accountability at all levels of the system (envisaged in the National Health Act) by active participation in clinic committees, hospital boards, and district, provincial, and national health forums • Strengthen comprehensive primary health care by advocating integration of social determinants of health in programmes and polices • Engage with communities and their structures during all stages of planning and implementation of primary health-care programmes • Engage in employment practices that ensure long-term sustainability of the health system • Support improved working conditions for health personnel in the public sector • Ensure that provincial and district AIDS councils are established and function effectively • Use their resources to complement the eff orts of the formal public health system

Sources: Coovadia *et al.* (2009); Chopra *et al. (*2009a) ; Chopra *et al*. (2009b) ; Karim *et al*. (2009), Mayosi *et al*. (2009) and Seedat *et al*. (2009)

The next section discusses subsequent health reforms and the strategies with associated challenges experienced by the current South African government in this regard.

2.2.1.3 Current health reforms and beyond

As far as health is concerned, the South African government is guided by sections 9, 27 and 28 as well as Schedule 4 of the Constitution of the Republic of South Africa, 1996, to progressively realise socio economic rights, including access to health care (Department of Health, 2014:7). In addition, the National Health Act, No. 61 of 2003 provides a framework for the creation of a structured uniform health system within South Africa, taking into consideration constitutional obligations and other laws at various spheres of government that are related to health services. The objectives of the National Health Act (NHA) are to:

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- “Unite the various elements of the national health system in a common goal to actively promote and improve the national health system in South Africa;
- Provide for a system of co-operative governance and management of health services, within national guidelines, norms and standards, in which each province, municipality and health district must address questions of health policy and delivery of quality health care services;
- Establish a health system based on decentralised management, principles of equity, efficiency, sound governance, internationally recognised standards of research and a spirit of enquiry and advocacy which encourage participation;
- Promote a spirit of co-operation and shared responsibility among public and private health professionals and providers and other relevant sectors within the context of national, provincial and district health plans.” (South Africa, 2004:2).

The current NDoH commitment and contribution to achieving the overall government strategy and more specifically achieving the objectives of the NHA is summarised in Table 4. The key health priorities of the country are informed by the National Development Plan (NDP), the negotiated service delivery agreement signed between the President and the Minister of Health, the NDoH’ s strategic plan for 2009 to 2014 and the country’s commitment to achieving the Millennium Development Goals, particularly with regard to maternal health, child mortality and reducing the impact of HIV/ AIDS, malaria and other diseases (Chopra *et al.*, 2009; National Planning Commission, 2011:295; The Presidency, 2009 and Health Systems Trust, 2010)

An analysis of the current healthcare priorities for the NDoH proposes that the initial healthcare reform priorities (discussed in the previous section) continue to inform the strategic planning approach of the NDoH, however, a much more robust and urgent reform framework has been adopted to provide quality, affordable and accessible healthcare to all citizens, most notably the implementation of a national health insurance system which is aimed at creating a more efficient, equitable and sustainable health system in South Africa. In addition, the country has re-affirmed its commitment and efforts to meet the MDG’s (The Presidency, 2009).

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Table 4: Summary of South African health priorities: 2010 to 2014

South African health priorities: 2010 to 2014	
National development plan: health goals, indicators and action points towards the 2030 vision	• Average male and female life expectancy at birth increases to 70 years. • Progressively improve TB prevention and cure • Reduce maternal, infant and child mortality • Significantly reduce prevalence of non-communicable chronic diseases • Reduce injury accidents and violence by 50 percent from 2010 levels • Complete health systems reforms • Primary health care teams provide care to families and communities • Universal health care coverage • Fill posts with skilled, committed and competent individuals
Negotiated service delivery agreement outputs: 2010-2014	• Increasing life expectancy; • Decreasing child and maternal mortality rates • Combating HIV and AIDS and STIs and decreasing the burden of disease from Tuberculosis • Enhancing health systems effectiveness
National department of health: 10-point plan 2009-2014	• Provision of Strategic leadership and creation of a social compact for better health outcomes • Implementation of National Health Insurance (NHI); • Improving the Quality of Health Services; • Overhauling the health care system • Improving Human Resources, Planning, Development and Management; • Revitalisation of infrastructure • Accelerated implementation of HIV and AIDS and Sexually Transmitted Infections National Strategic Plan, 2007-2011 and reduction of mortality due to TB and associated diseases; • Mass mobilisation for better health for the population • Review of Drug Policy; and • Strengthening Research and Development
Health related millennium development goals: 2000-2015	• MDG Goal 4: to reduce child mortality • MDG Goal 5: to improve maternal health • MDG Goal 6: to combat HIV/ AIDS, malaria and other diseases

Source: Parliamentary Monitoring Group (2013a)

Schaay, Sanders, Kruger and Olver (2011:2) postulate that: "The objectives of any health system are to deliver accessible, equitable and good quality health services which are both responsive to community demands and based on the principle of intersectoral collaboration." In light of this, Schaay *et al.*(2011:2) propose that a health system should be able to perform the following basic functions in order to improve health and health equity of a nation:

- Ensuring responsible planning and management of resources;
- Developing human resources for health;
- Mobilising and allocating adequate finances and other key resources;

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- Developing and maintaining a well-functioning health information system; and
- Ensuring equitable access to essential medical products, vaccines and technologies.

Since 2010, the South African government has initiated a number of reforms to address challenges pertaining to equity and inequality in the health sector and to create a health system that perform the functions outlined in the previous paragraph. According to Schaay *et al.* (2011:9-18) the current health reforms take place in the context of overall public sector reforms which focus on an outcome-based approach to monitoring and evaluation. These include the following:

- The implementation of a **National Health Insurance (NHI)** system as a financing mechanism to fund universal healthcare coverage;
- **Primary Health Care (PHC) re-engineering** which focuses on strengthening the district health system and the delivery of community-based health services, taking into consideration the social determinants of health;
- Renewed focus on **quality assurance and improvement** which include the development of core national standards for healthcare and institutional capacity to monitor and fast-track the attainment of quality standards across all health facilities;
- **Governance reforms** which are aimed at assessing and improving the competencies of district and health facility managers;
- The **establishment of institutional capacity** to manage the registration, regulation and control of health products in South Africa; and
- **Performance management reform** initiatives which include the organisational review of the NDoH and other initiatives aimed at strengthening the provision of quality health care by healthcare facilities

As far as progress is concerned, it should be recognised that since 2010, the NDoH in co-operation with other public sector institutions have made significant headway with the actual implementation of some of these initiatives in certain areas. A number of progressive public health legislation and policies have been produced; a unified national health system is underway; infrastructure at primary health care level is being revitalised; social support grants are now available; immunisation coverage have increased steadily; and the country implemented the world's largest HIV/AIDS treatment programme (Schaay *et al*., 2011).

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Schaay *et al*. (2011:26) are of the view that despite progress, the South African health sector still faces significant challenges which include a quadruple burden of disease, economic and social inequity, overcoming barriers to accessing health services, inequitable distribution of health resources and continuing human resources and leadership capacity needs. Coovadia *et al*. (2009a:824) concur with this view and state that a key remaining challenge for the current government is to reduce health inequities and interprovincial and urban–rural differences in access to health and related services. The global financial crisis creates challenges to address this need and as such government would be required to review its spending on health, education, and social services in order to ensure a better redistribution of resources and achievement of health system objectives.

The following four sections provide a more detailed overview of some of the focus areas that are being implemented by the NDoH as part of the strategic overhaul of the health sector. These are the NHI, re-engineering of PHC, quality improvement and hospital management.

2.2.1.4 National health insurance (NHI)

"South Africa has embarked on a bold and new direction with its National Health System following the publication of its Green Paper on the NHI on the 11 August 2011. The NHI intends to ensure that everyone has access to appropriate, efficient and quality health services." (Naidoo, 2012:149).

The NHI is based on the principle that health is a human right and that access to health care should not be dictated by affluence or whether an individual is employed or not. The NHI thus ultimately aims to provide the whole population access to quality healthcare services that are free at the point of use (Department of Health, 2013a:2). An argument in favour of the NHI is that it will promote a healthier nation with longer life expectancies. This will benefit the country by ensuring the availability of productive people and less pressure on the fiscus in terms of health expenditure (Child, 2011). These objectives are in line with international policies to healthcare as highlighted by the Minister of Health, Dr Aaron Motsoaledi, in his Budget Vote Speech to Parliament on 15 May 2013 (Parliamentary Monitoring Group, 2013b). During the same address, the Minister presented a very strong view on the intention of the South African government to implement the NHI – he is quoted verbatim: "You are well aware Honourable Speaker,

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that our flagship programme to change the efficiency and the effectiveness of the healthcare system in this country is the NHI – the National Health Insurance system. While South Africans have been throwing mud at each other about NHI, I need to indicate that we need to stop wasting our time. NHI has gone global. The World Health Organisation (WHO), the United Nations (UN), the World Bank, prestigious institutions of high learning such as the Harvard University, have recently entered the fray in support of NHI and in giving well researched guidance to countries on how to get about to implement NHI – not to debate whether it is needed or not. The world has gone far beyond that stage." He went on to explain: "It is of course not called NHI in every country. The World Health Organisation and all the UN agencies are calling the generic term, Universal Health Coverage. We will stick to the term NHI. The Prestigious British medical journal, The Lancet has launched a series since late last year to allow academics, health activists and researchers to write articles to guide countries about this concept of Universal Health Coverage. It doesn't matter what you call it – the concept is the same i.e. every citizen has a right to access to good quality, affordable health care, and that the access should not be determined by the socio-economic condition of the individual. Hence whether you call it NHI as we are doing here in South Africa, or NHS as they do in England, or Seguro Popular as they say in Mexico or Obama Care as the Americans call theirs, the concept is the same." (Parliamentary Monitoring Group, 2013b).

The NHI will be implemented over a period of fourteen years and entails major changes in the service delivery structures of health care as well as required administrative and management systems (Department of Health, 2011b:4). The pilot implementation commenced in 2012 in eleven health districts in various provinces of South Africa. The purpose of piloting the system in a small group of districts is to test the NHI strategies and plans in areas where communities have poor access to health services (Department of Health, 2013a:12).

Whilst a lot of focus has been placed on the public health sector, the NHI Green Paper proposes that similarly to the public health system, the private sector also has its own problems albeit these are of a different nature and mainly relate to the costs of services, i.e. pricing and the utilisation of services. It is argued that the private health sector will not be sustainable over the medium to long term (Department of Health, 2011b:9). The Minister of Health stated in his 2013 budget speech that: "Universal Health Coverage, like any other health system, must be accountable for the quality of its outcome and the

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compassion of its care. The emphasis should be on responsiveness to service users, rather than on profit for shareholders. It is very clear Honourable Speaker and Honourable Members that the whole world, and not only our country is gearing to rid itself of archaic healthcare financing systems that cater for the privileged few, and punishes the poor, in favour of healthcare systems that will benefit all – and all citizens of a country." (Parliamentary Monitoring Group, 2013b).

The South African government has, however, acknowledged that the public health system has to improve considerably for the NHI to be implemented effectively. The initial years of implementation will be challenging and particular focus need to be placed on the radical improvement of public sector health facilities (which have either "deteriorated" since 1994 or have "remained poor"), the development of infrastructure (health and social), addressing healthcare quality, health human resources planning and development as well as leadership and administrative capacity in the public sector; developing a capable and credible health information technology system and establishing the NHI fund as a public entity (Child, 2011; Naidoo, 2012:149 and Schaay *et al*., 2011).

A number of commentaries and criticism on the NHI as it is currently proposed, have been published to date. In this section, the researcher only highlights the main comments and concerns that are deemed relevant to the theme of this study:

- The South African Medical Association (SAMA) advised that the numerous new terms used in the document must be defined and described to ensure common understanding in the South African context (South African Medical Association, 2011:29). In addition, SAMA felt that the Green Paper "lacks detail" and particular concern has been raised about the anxiety created around the proposed creation of a single health system which physicians assume to mean that the current private and public sector systems would have to "merge" in order achieve such single system (South African Medical Association, 2011:9).
- Van den Heever (2011:89) shared concerns that the centralised approach, which effectively excludes the provincial powers and structures, is risky. He stressed the concern that the NHI will not solve current weaknesses in the public health sector, but rather aggravate it because of the centralised approach rather than devolvement of management authority and supply chain processes that seems to be proposed by the NHI.

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- It is suggested that the Green Paper presents factually incorrect and misleading statements regarding the availability of health workforces of the public and private health sectors. Van den Heever (2011:52) pointed out that according to the Human Resources Strategy for Health, published by the Department of Health (2011c), the distribution for both professional nurses and general practitioners are nearly equal between the public and the private sector. The NDoH has, however, released a pamphlet on the NHI (in all official languages) to coincide with the Green Paper reflecting workforce information known to be incorrect and contradictory to data produced in independent studies and its own human resources strategy. In addition, Van den Heever (2011:55) explains that the reason for the lower proportion of specialists in the public sector compared to the private sector is the result of the NDoH' s own policy since 1994 to focus on primary health care rather than public hospital services. He argues that if specialists did not set up private practices they would have needed to emigrate to find employment. This distribution thus reflects a government policy choice in terms of the public health system rather than an equity distortion.
- Mokhobo (2011:858) raised a concern that the NHI's focus on the private health sector is inappropriate and it weakens the need to focus energy on restructuring, re-engineering and overhauling the public health system. He proposed that the public health system should be developed to a level where it can compete with the private health sector in terms of providing a more efficient, effective, accessible and user friendly service. This will ensure that patients have a broader choice of healthcare options.
- Lastly, the proposed NHI does not seem to give recognition to the large urban-rural disparities that exist in the current health system (Mokhobo, 2011:858 and Rural Doctors Association of South Africa, Rural Health Advocacy Project, Wits Centre for Rural Health, UKZN Centre for Rural Health, Ukwanda Centre for Rural Health, UCT: PHC Directorate; Africa Health Placements & Rural Rehab South Africa, 2011:20) A more comprehensive discussion about the relationship of the NHI and rural health is presented in Section 2.2.3.3 of this study.

More than four years has passed since the Green Paper on the NHI was published for comment. Based on the above commentaries which reflect only a small portion of public comment on the proposed policy, it is clear that the Minister of Health needed to invest significant effort through research, investigations and extensive consultations to enable

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the production of a credible NHI. The next step in the process towards entrenching the NHI as government policy would be the release of a White Paper on the NHI which is supposed to have considered all comments by various stakeholders in order to take the process forward. Various reports by the media and the Minister of Health himself indicated that the release of the White Paper on National Health Insurance is imminent (Jadoo, 2014 and Kahn, 2014a), however, at the time of concluding this study, the White Paper on NHI was still due to be released. It may well be that some of the concerns raised and other contributions by commentaries have been incorporated into the revised NHI approach.

2.2.1.5 Primary health care (PHC) re-engineering

PHC has been a core component of South African government health policy since the advent of democracy in 1994 and represents a key focus area of the Reconstruction and Development Programme's (RDP) health policy (The Presidency, 1994:49). The NDoH adopted a re-engineering strategy for PHC that focus mainly on health promotion, preventative care and quality curative and rehabilitative health services (Feucht, 2013). The District Health System which is recognised as the fundamental building block of the country's unified health system (McCoy *et al.*, 1998) will be the mechanism through which all PHC is delivered in the country (Department of Health, 2011b).

According to the NHI Green Paper, the strengthening of the health system in pursuit of current and future health strategy will be based on a PHC approach (Department of Health, 2011b:24). This follows the philosophy of the Alma Ata Declaration in 1978 which resolved that: "Governments have a responsibility for the health of their people which can be fulfilled only by the provision of adequate health and social measures. A main social target of governments, international organizations and the whole world community in the coming decades should be the attainment by all peoples of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life. Primary health care is the key to attaining this target as part of development in the spirit of social justice." (World Health Organisation, 1978 & World Health Organisation, 2010).

Schaay *et al.* (2011:10) comment that the renewed global interest in PHC as a strategy for organising health care systems aimed at improving health outcomes is best reflected in publications on successful PHC interventions by the World Health Organisation and

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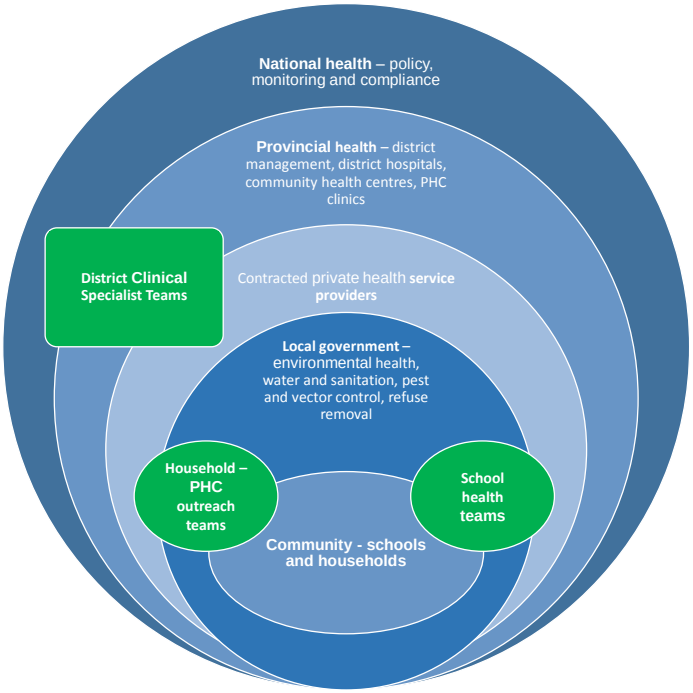
The Lancet that coincided with the 30th anniversary of the Alma Ata Declaration. According to Pillay and Barron (2012:1) the Minister of Health gathered valuable lessons from the Brazilian system during a visit to that country in 2010 and used some of these learnings to formulate a strategy on strengthening the PHC system in South Africa.

Pillay and Barron (2012:2) describe the proposed primary health care re-engineering model in terms of Figure 4 below. As a first step it remains important for district management, sub-district management and health facility management to develop district health plans, to strengthen health facilities and to use existing information systems to monitor and improve service delivery. In addition, districts remain responsible and accountable to improve quality of healthcare through better supervision and clinical governance.

Figure 4: Prioritised PHC re-engineering model



Source: Adapted from Pillay and Barron (2012:2)

Furthermore, according to Pillay and Barron (2012:2), districts must deliver improved PHC services through three streams, namely district based clinical specialist support teams supporting delivery of priority healthcare programmes at a district; school-based

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PHC services and municipal ward-based PHC agents. These are described in more detail as follows:

- The **District Clinical Specialist Teams** (DCST's) will be deployed in each of the fifty-two health districts in the country to strengthen clinical governance of district based maternal and child health services at hospitals, community and primary health care facilities and home based levels in order to promote the well-being of the population within a geographical catchment area. A DCST will comprise four medical specialists (family physician, obstetrician and gynaecologist, a paediatrician and an anaesthetist) and three advanced nursing professionals (advanced PHC nurse, advanced midwife and an advanced paediatric nurse). It is proposed that the DCST's will ensure that the correct treatment guidelines and clinical protocols will be applied by health professionals in a district and that essential medical equipment is available and used correctly. In addition, DCST's will be required to engage with private sector providers and facilities working in the PHC space to improve health outcomes in their districts. Feucht (2013) states that "DCSTs are bridge-builders, forming a vital link within a fragmented health system and thereby promoting equal access to and a continuum of care." Through the deployment of DCST's it is the NDoH' s intention to address the unacceptably high infant, child and maternal mortality at a district level in an attempt to achieve the government's commitments towards MDG's (Department of Health, 2012a:123). The NHI Green Paper emphasises that DCST's are not outreach teams which tends to be the norm for specialist health services in South Africa. They will be an integral and permanent feature of health service delivery in South Africa (Department of Health, 2011b:24)
- The revitalisation and strengthening of the School Health Policy of 2003 will take place in partnership with the Department of Basic Education and Social Development and it is the intention to provide a predetermined range of basic health services by school health nurses. The **Integrated School Health Programme** will target children in lower grades to ensure that they are fully immunised, whilst older children will be assisted with life skills programmes to educate them on sexual and reproductive health and prevention of substance and alcohol abuse (Department of Health, 2011b:25).
- The **municipal ward based PHC agents**, commonly known as community health workers (CHW's) will be deployed to every municipal ward and will be tasked with facilitating community involvement in health related matters. It is anticipated that each ward would have one or more PHC outreach team, depending on population

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size and these teams will include a professional PHC nurse, environmental health and health promotion practitioners and a few CHW's. According to Schaay *et al.* (2011:11) the use of CHWs to visit families of patients and trace TB contacts has improved case findings in the TB programme. It is anticipated that these outreach teams will strengthen health care and improve access and health outcomes.

Dookie and Singh (2012) highlight the fact that a number of factors are inhibiting the successful implementation of South Africa's PHC system. They identify resource constraints, migration and unequal distribution of health professionals, poor managerial capacity and the widening gap between private and public health sectors specifically with regard to co-ordination and resource allocation as areas of particular concern. In addition, Dookie and Singh (2012) argue that there seems to be multiple and interchangeable references to "primary care" vs. "primary health care" which may explain why implementation challenges are experienced. **Primary care** refers to services provided by health professionals as the "first point of entry" in the health system and allows for early diagnosis, treatment and or referral to more specialist care. **Primary health care** represents a public health strategy that is developed to address the unique needs of a particular health system and considers social determinants of health. It is important to understand the difference between these two terms to ensure that expectations regarding service delivery and health outcomes are realistic (Dookie & Singh, 2012).

2.2.1.6 Quality of healthcare in South Africa

Other health reform initiatives that have been introduced since 2009 include the development of health quality norms and standards through an Office of Health Standards Compliance which is aimed at improving the quality of care in the public health sector (Mayosi *et al*., 2012:2036). The Office of Health Standards Compliance (OHSC), which is a statutory body that reports to the Minister of Health through a Board, came into effect when the President of South Africa signed the National Health Amendment Act, 2013 into law on 24 July 2013 (Department of Health, 2013b). The Minister appointed the Board of the OHSC in January 2014 and the Office has been performing its mandated functions since 1 April 2014.

According to Makholwa (2014) the successful implementation of the NHI depends on whether health facilities in the public health sector will be able to provide improved quality

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of care. The Green Paper on the NHI (Department of Health, 2011b:31) states that the OHSC will be tasked with evaluating compliance and monitoring progress with regard to the implementation of health quality norms and standards. Health facilities will be certified in terms of compliance to core standards that form part of a comprehensive quality package. These standards already existed in most instances, however, the NDoH has developed revised and updated guidelines to assist health establishments in their efforts to create safe and decent facilities (Department of Health, 2011). The purpose of the standards is to:

- "Develop a common definition of quality of care, which should be found in all health establishments in South Africa as a guide to the public and to managers and staff at all levels;
- Establish a benchmark against which health establishments can be assessed, gaps identified, strengths appraised; and
- Provide a national framework to certify health establishments as compliant with standards." (Department of Health, 2011:2).

Figure 5 represents a layout of the core standards which are intended to be commonly applicable to all health facilities, both in the public and private sectors. They represent seven cross cutting areas where quality or health service delivery pose potential risks. The cross cutting areas are based on the principles of PHC (Schaay *et al*., 2011:13).

As an interim measure, whilst the process to establish the OHSC was underway, the NDoH commenced with a baseline audit to evaluate 3 880 public health facilities (hospitals and clinics) against the core standards (Visser, Bhana & Monticelli, 2012). According to Mapumulo (2014) only one of 394 hospitals audited in 2011 and 2012 met all the acceptable standards. The outcomes of the audit reflected a dismal state of affairs in South Africa's health facilities, however, present useful findings that can be used to inform evidence-based health strategy in pursuit if the overhaul of the public health sector (Visser *et al*., 2012).

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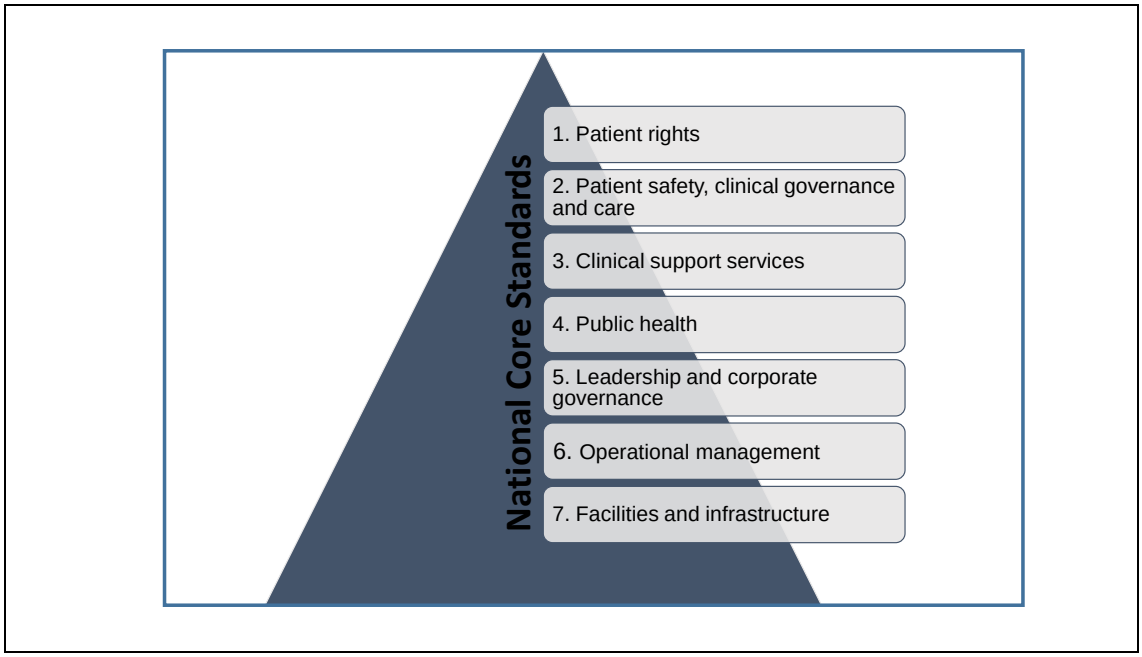
Figure 5: Seven Domains of the National Core Standards



Source: Department of Health (2011:3)

2.2.1.7 Hospital management

A further initiative introduced by the NDoH to strengthen the health system in preparation of the NHI, is the release of a policy on regulating the management of hospitals in the public sector which is aimed at improving the overall functionality of hospitals in the public health sector (Department of Health, 2012b:33).

Through this policy, the NDoH strives to ensure that public hospitals appoint competent and appropriate managers, that management is devolved to lower levels to improve decision making and accountability and to ensure that managers receive management and governance training (Department of Health, 2012b:33).

The policy provides for the classification of health facilities into five levels namely small (50 to 150 beds), medium (150 to 300 beds) and large district hospitals (300 to 600 beds), regional hospitals, tertiary hospitals, central hospitals and specialised hospitals (psychiatric, tuberculosis, rehabilitation). The classification of a hospital determines the package of service offered by that facility which ranges from PHC, general specialist, and sub-specialist to highly specialised tertiary health care services. Hospital

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classification also determines the type and level of management to be appointed in that facility (Department of Health, 2012b:34).

Doherty (2013:4) comments that current discussions regarding hospital management reform revolves mainly around how much management authority should be devolved to hospitals on lower levels. She argues that whilst this is necessary to improve overall hospital functionality, it should be borne in mind that the focus should be on decision making that directly affects quality of healthcare which is generally found at lower levels of the management hierarchy and secondly performed by health professionals who are involved in diagnosis, treatment and care of patients, and not administrative managers. She further states that clinical decision making is largely unpredictable and health professionals require discretion to enable individual and responsive decision making. Traditional management approaches are therefore not completely applicable to public hospitals. Doherty (2013:21) proposes that hospital management need to involve clinical managers in the decision making process of the health facility. This will support the achievement of the much needed organisational change that is necessary to overhaul hospital functioning and efforts geared towards compliance with the national core standards and improving quality health care.

The next broad section presents an overview of South Africa's health human resources strategy which will largely determine the success or failure of the NHI and other crucial health reforms. It will also provide a context for the literature review on career decisions of physicians which follows later in this study.

2.2.2 Health Human Resources

2.2.2.1 Introduction

Lloyd, Sanders and Lehmann (2010:172) state: "The success or failure of a NHI scheme will rely on the availability, skills and motivation of health workers." In line with this they propose that planning for the implementation of the NHI should address the maldistribution of health professionals, among other outcomes.

According to the HRH Strategy for the Health Sector: 2012/13 to 2016/17 (Department of Health, 2011c:72), the first fifteen years of democracy was characterised by health workforce redundancy and vacancy freezes, shortages of health professionals, graduate

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unemployment and cuts in education and training provision. In an attempt to turn the dismal situation around, the NDoH introduced the National Human Resources for Health Planning Framework (HHRPF) in 2006 to facilitate and guide the supply and retention of human resources to support the implementation of national health system reforms. The purpose of the Health Human Resources Planning Framework (HHRPF) was to provide a plan and national guidelines for human resources policy and planning which spans the entire health system, including private and public sector, of South Africa (Department of Health, 2006:15).

The main objectives of the framework are summarised as follows (Department of Health, 2006:62):

- The NDoH must assume stewardship for health care in the country;
- South Africa must have a reliable supply of competent and qualified health care professionals;
- The planning and development of health human resources must be linked to the needs and demands of the health system;
- There must be balance and equity in the distribution and use of health care professionals to promote access to health service;
- Health professionals should be competent and empowered to ensure quality service delivery;
- Health work environments should support quality service delivery;
- South Africa must play a leadership role in the international health arena;
- South Africa's contribution to the global health market should support skills development of health professionals;
- Funding must be made available to support implementation of the framework; and
- The NDoH must provide technical expertise to lead planning for health human resources in the country.

The most notable objective of the HHRPF as it relates to this study, was to increase health professional output from Higher Education Institutions from 1 300 MBChB graduates to 2 400 graduates per annum. This growth did not materialise (Department of Health, 2011c:136).

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In 2011, the NDoH released an updated plan for health human resources that is aligned with the overall health vision going forward. The Minister of Health introduced the strategy as follows: “We have a vision to improve access to health care for all and health outcomes in the short and medium term, with a particular focus on improving maternal and child health. To realise this vision we require the human resources to implement re-engineered Primary Health Care and ensure the service capacity for a health system with improved financing through National Health Insurance. It is necessary to develop and employ new professionals and cadres to meet policy and health needs, to increase workforce flexibility to achieve this objective, to improve the working lives of the existing workforce, to improve retention, increase productivity and revitalise aspects of education, training and research. This Health Human Resources (HHR) Strategy document is a guide to action.” (Department of Health, 2011c:72).

The HRH Strategy lists eight priority areas for South Africa’s health human resources planning going forward (Department of Health, 2011c). These are to:

- Provide and improve leadership, governance and accountability;
- Develop health workforce information and health workforce planning systems and capacity;
- Re-engineering of the workforce to meet health service needs;
- Revitalise health education, training and research;
- Create the infrastructure for workforce and service development (academic health complexes and nursing colleges);
- Strengthen and professionalise the management of human resources and prioritise health workforce needs;
- Ensure professional quality care through oversight, regulation and continuing professional development; and
- Improve access to health professionals and health care in rural and remote areas.

The next three sections provide an overview of typical health human resources challenges in South Africa. A large portion of the literature is drawn from the 2006 and 2011 versions of the NDoH strategies for health human resources.

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2.2.2.2 Distribution of physicians

Data pertaining the distribution of physicians and other health professionals seem to be a contentious matter as various data sets are seemingly used to justify a range of policy proposals. Van den Heever (2011:18) points out that the NDoH presented misleading information regarding the distribution of health professionals between the private and public health sectors in an undated pamphlet that was meant to educate the general public on the NHI after the Green Paper on the NHI was published for comment. The said publication suggests that 30% of registered practitioners work in the public sector, whilst 70% work in the private sector. In addition, the publication stated that 35% of specialists work in the public sector, serving 70% of the population, whilst 65% of specialists are therefore presumed to working for the private sector. These numbers do not correspond with information presented in the Human Resources for Health Strategy of the Department, which was issued shortly after the Green Paper on the NHI (Department of Health, 2011c) where numbers presented in table 2 on page 22 of the main report and table 1 of Annexure A to the report state the total combined number of medical practitioners and specialists working in the public sector as 16 177 physicians out of a total of 27 784 physicians in the country, which means 58% of physicians in South Africa serve the public sector. This information stands in stark contrast to the 30% number stated by the NDoH in the NHI educational pamphlet.

The researcher acknowledges that data from various sources may be inaccurate and should be interpreted with caution, however, this contrast in information published by the same institution, albeit for different purposes lead to a decision by the researcher to access more trustworthy data in order to establish distribution patterns (past and present) of physicians practicing in South Africa. In this regard, the researcher used data sources such as the South African Health Review which is published annually by the Health Systems Trust and accredited as a peer reviewed journal (Health Systems Trust, 2014) as well as the professional register of the Health Professions Council of South Africa to do her own basic calculations in order to present a perspective on the distribution of physicians in the country and what percentage of South Africans physicians serve the public sector.

Table 5 provides a breakdown of physicians per province in the years Y2000, Y2010 and Y2013. The Y2000 numbers represent a baseline number whilst the Y2010 presents a status at the onset of the current and future health reform period. In this regard, the

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Y2013 number is intended to reflect progress since Y2010. As pointed out by the South African Medical Association (2011), the figures in Table 5 must be interpreted taking into consideration that it is difficult to establish exactly how many physicians work in the public or private health sectors due to:

- Physicians working in both sectors as a result of dual practice (commonly referred to as "remunerated work outside the public sector" ("RWOPS") which allows public servants to work in the private health sector) and many physicians with private practices do sessional work for the public health sector;
- Incomplete or unavailable information regarding whether private health sector physicians work full-time or part-time;
- Although the professional register of the HPCSA reflects all physicians, no details are provided as to whether they are inactive or retired;
- Although physicians can remain registered with the HPCSA and practice elsewhere in the world, it is not clear how many work in foreign countries for short periods every year, doing locums, meaning they are not available to serve the South African population on a full-time basis.

Table 5: South African physicians by province, Y2000 to Y2013

Province	Public Sector Physicians			All Physicians			Percentage serving the public sector		
	2000	2010	2013	2000	2010	2013	2000	2010	2013
Eastern Cape	905	1 563	1 710		2 149	2 707		73	63
Free State	795	947	1 082		1 559	1 858		61	58
Gauteng	3 193	4 201	4 847		11 524	13 640		36	36
KZN	2 408	3 646	4 437		5 670	6 950		64	64
Limpopo	652	1 069	1 306		937	1 352		114	97
Mpumalanga	450	771	974		1 819	1 466		42	66
Northern Cape	212	341	433		403	567		85	76
North West	407	529	758		631	1 277		84	59
Western Cape	2 450	2 671	2 990		7 086	8 668		38	34
South Africa	**11 472**	**15 738**	**18 537**	**29 788**	**31 778**	**38 485**	**39**	**50**	**48**
Foreign/ unknown					5 134	1 362			
Total registered	**11 472**	**15 738**	**18 537**	**29788**	**36 912**	**39 847**	**39**	**43**	**47**

Source: Health Systems Trust (2014) and HPCSA (2006) in Breier (2008)."

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The reported numbers for Limpopo and Mpumalanga appear somewhat distorted for Y2010 – the researcher did not investigate this discrepancy, however, it is suspected that the distortion can be ascribed to the transfer of the densely populated Bushbuckridge Municipality from the Limpopo Province to the Mpumalanga Province in the period from Y2000 to Y2010 and it is possible that the professional register for physicians and/or the public service payroll system may not have reflected the transfer or absorption of physicians in those two provinces correctly. The numbers reported for Y2013 appears to have stabilised. More importantly, however, the following overall trends can be derived from the information presented in Table 5:

- In Y2013, 48% of registered physicians worked for the public health sector compared to 39% working for the state in Y2000 (the Y2013 percentage is based on the total number of registered physicians excluding those who have indicated that they are practicing outside the country or are inactive at this stage). This means that almost half of the physicians practising in South Africa at this stage, work for the public service. This is in line with findings in the Econex report on numbers of physicians in South Africa (Econex, 2010).
- The actual number of physicians on the HPCSA professional register have increased from 29 788 in Y2000 to 39 847 in Y2013 which represents an increase of 16% over the 13-year period. The South African population has, however, increased with 18% over the same period (Statistics South Africa & Human Sciences Research Council, 2007) and (Statistics South Africa, 2013) which implies (in very basic terms with no statistical adjustments) that South Africa still has a shortage of physicians and the supply of physicians remained stagnant during the last 13 years or so.
- More than 60% of all physicians registered in provinces with large rural districts such as Eastern Cape, Limpopo, North West, KwaZulu-Natal and Mpumalanga serve the public sector in these provinces.
- 66% of all public sector physicians in South Africa jointly serve the Western Cape, Gauteng and KwaZulu-Natal whilst the other third serves the rest of the nine provinces with Northern Cape and North West served by less than 4% of the total number of public service physicians.
- Only a third of registered physicians in Gauteng (which is mainly a large urban area) and the Western Cape serve the public service.
- 66% of public sector specialists are based in Gauteng and the Western Cape. This is probably due to the fact that four of the country's nine medical schools are based in these two provinces. Ashmore (2013) states that specialist physicians are

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inequitably distributed between urban and rural areas and between public and private sectors.

- The HPCSA register shows that 14% of physicians were inactive or working outside South Africa in Y2010, however, this reverted to about 3.5% of the workforce in Y2013. The researcher is unsure whether the change is due to error or improved reporting. According to the Health Human Resources Strategy, the Statutory Councils have agreed to adjust their data and change the process for reporting annual registrations so as to better reflect the current realities and provide informative data on the health workforce. The effect of these changes will hopefully reflect in future reporting on the health workforce (Department of Health, 2011c:63). It is also possible that physicians returned to the country during this period as the remuneration of physicians, particularly in the public sector, have improved significantly compared to ten years ago. Much of this can be ascribed to the introduction of the Occupation Specific Dispensations (OSD's) which provide differentiated remuneration dispensations across different sectors of the public sector health service, cater for the unique needs of the different occupations, and prescribe grading structures and job profiles to eliminate inter-provincial variations. OSD's also provide adequate and clear salary progression and career-pathing opportunities.

Table 6 presents information pertaining to the ratio of general practitioners and medical specialists per 10 000 of the population who are regarded as "uninsured", thus not members of medical aids. It is estimated that around 84% of the population in South Africa is dependent on the public health service for healthcare (Department of Health, 2011b:9). Even if half of the country's health professionals are employed by the state the supply of physicians is still uneven and inequality prevails between the two sectors of South Africa's health system.

The ratio of general practitioners per 10 000 population was as low as 1.3 per 10 000 people in certain provinces in Y2005. This stands in stark contrast to the relatively high physician / population ratio in predominantly urban provinces such as Gauteng and Western Cape which is on par with the acceptable ratios for middle income countries (Breier & Wildschut, 2007:14). It is encouraging to see that the overall ratio for physicians per 10 000 of the public service dependant population has increased between Y2005 and Y2010. A study by Econex proposed that this ratio is even higher than what the government policy makers believe. The adjusted higher ratios provide for the fact that

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about 15% of the population who are seen by private sector specialists are non-medical aid patients (Econex, 2010).

Table 6: Physicians (public service) per 10 000 of uninsured population: 2005 and 2010

Province	2005		2010	
	General practitioners	Specialists	General practitioners	Specialists
Eastern Cape	1.58	0.23	2.24	0.41
Free State	2.07	1.38	2.41	1.55
Gauteng	2.59	1.83	3.15	2.19
KZN	2.42	0.62	3.32	0.64
Limpopo	1.43	0.15	2.01	0.22
Mpumalanga	2.15	0.05	2.25	0.2
Northern Cape	3.65	0.25	3.29	0.21
North West	1.36	0.19	1.60	0.16
Western Cape	3.61	2.91	3.42	3.15
South Africa	**2.19**	**0.88**	**2.73**	**1.07**
South Africa adjusted (Econex)			**3.5**	**1.0**

Source: Health Systems Trust (2014)

In analysing the data presented in Table 5 and Table 6, the following observations are made regarding the distribution of physicians in South Africa:

- The unequal distribution of physicians is highlighted by the fact that large rural provinces such as Limpopo, North West, Mpumalanga and the Eastern Cape experience the worst shortages of both general practitioners and specialists as indicated by the low physician / population ratios in those areas. KwaZulu Natal has a high ratio of general practitioners which compares favourably with the more urban provinces which suggests that the province has made good progress with rolling out a doctor led primary health care system, whilst the Free State has a high ratio of specialists which again compares favourably with urban provinces. This is probably due to the large number of specialists present at the medical school in the province;
- Gauteng and the Western Cape employ the majority of public sector physicians, however, have significantly more doctors in the private sector versus the public sector, thereby further increasing the gap in the availability of health care services between affluent and poor communities within the geographic areas;

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- Provinces with large rural areas have seen an increase of physicians at general and specialist level per 10 000 of the uninsured population; and
- Provinces with large urban areas have seen a decrease of physicians per 10 000 of the uninsured population.

The information in Table 5 and Table 6 provides context to the complex health human resources challenges experienced by the country and in particular the public health sector. The shortages, inequity and maldistribution of physicians across various geographical areas and health employment sectors are aggravated by the migration of skills from South Africa to other countries which are perceived to be offering better career prospects and quality of living (Hall & Erasmus, 2003:523).

2.2.2.3 Migration of physicians

The migration of health professionals has been a concern for quite some time as it has a very negative impact on health systems in poor and developing countries and "…widens the gap in health inequities worldwide…" (Pang, Lansang & Haines, 2002:499).

The performance of health systems depends on the adequate supply of health professionals. The migration or "brain drain" from developing countries to developed countries as well as from rural to urban areas within countries is a long standing occurrence in the health human resources arena and South Africa has also suffered greatly on this front (Marchal & Kegels, 2003:S89). Pang *et al*. (2002:499) comment that South African universities estimated the country were losing a third up to half of its medical graduates due to emigration to the developed world towards the end of the millennium. Breier (2008:18) indicates that it is difficult to quantify the degree of emigration because of possible underreporting and inaccurate data. She reports that by Y2003, the country was experiencing a net loss of 156 health professionals (including nurses and allied health professionals) compared to net gains of almost 300 in Y1992. In addition, Breier (2008:20) further states that a report by the World Health Organisation in Y2006 suggested that up to a third of South Africa's doctors are working abroad.

The HHRPF document that was issued by the NDoH in Y2006 (Department of Health, 2006) refers to a study performed by the Organisation for Economic Cooperation and

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Development (OECD) which proposed reasons for why South African physicians are leaving the country. These include the following:

- “Insecurity and crime;
- Affirmative action;
- Deteriorating public education;
- Uncertainties about the future, especially for children;
- Perceived fragility of the South African economy;
- The transferability of SA qualifications in OECD member countries;
- Integration into a knowledge-based global economy with sharply increased competition for skills;
- Foreign recruitment;
- Higher rates of pay abroad; and
- Deteriorating conditions in the public sector.”

The researcher could not find recent studies to establish whether migration to developed countries is still a major challenge for health policy makers, however, noted that Dr Kgosi Letlape, Acting Registrar and Chief Executive Officer of the HPCSA informed members of Parliament in February 2012 that South Africa is losing more doctors than it is producing, with 50% of new graduates leaving within the first 5 years of their careers. He did not elaborate on whether those who left, emigrated or whether they changed careers. In addition, he suggested that many retain their registration with the HPCSA, but they are not practicing medicine and leave for jobs that pay better in other disciplines in the public or private sector (Fokazi, 2013). In addition, Africa Health Placements (AHP), a health human resources recruitment organisation that is among others endorsed by the NDoH and the HPCSA, explains the following on their website as justification for their existence and services: “The country’s eight medical schools produce approximately 1 200 doctors annually. But, over their career, half of these doctors will move overseas. This leaves about 600 doctors in South Africa. Three quarters of these doctors will work in the private sector. Only 150 doctors will be left to work in the public healthcare sector. Of those remaining in public service, the vast majority will work in urban centres. This leaves as few as 35 doctors from any single year of graduation to serve the rural areas of South Africa” (Africa Health Placements, 2014).

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The last sentence of the above excerpt is relevant for this study. Dussault and Franceschini (2006) state that all countries, whether developed or not, experience challenges with the distribution between and migration to urban and wealthier areas as supposed to rural or poorer areas. They argue that, unlike poor or developing countries, the wealthier countries can mitigate the effects of maldistributed health resources through technological and infrastructural strategies. Dussault and Franceschini (2006) furthermore state that health professionals often choose urban areas for the following reasons:

- Better career opportunities;
- Educational advancement opportunities;
- Easier access to private practice;
- Lifestyle related services and amenities;
- Better access to education opportunities for children; and
- Perception that positions in urban areas are more prestigious.

It has also been observed that in countries where urban areas report an oversupply of health professional staff, many of these professionals would opt to leave the country rather than moving to the rural areas in that country where job opportunities may exist (Dussault & Franceschini, 2006).

2.2.2.4 Training of physicians

To become a medical doctor in South Africa currently is associated with strong competition to gain entry into one of South Africa's eight medical schools, high study costs, long and challenging training periods as well as a compulsory community service in mostly inadequate public health facilities. In addition, the recruitment and training of undergraduate medical students are taking place within the context of South African transformational objectives to increase the selection of students originating from previously disadvantaged groups and geographical areas (Breier & Wildschut, 2007:1).

Following formal studies of five or six years, newly qualified physicians have to complete an internship and a period of compulsory community service to complement their academic training and ensure they develop competencies in various fields before they may practice medicine independently. According to Sein and Tumbo (2012:10), medical internships are managed by the HPCSA and physicians have to rotate through among others internal medicine, obstetrics/gynaecology, paediatrics, surgery and family

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medicine. The compulsory community service is a government initiative which also aims to ensure that physicians are better able and more equipped to serve patients in all spheres of the South African Health system (Nkabinde, Ross, Reid & Nkwanyana, 2013:932).

In addition, South African physicians must train to adequately prepare them for a working environment and medical practice that is increasingly characterised by the following:

- Patients reflecting South Africa's quadruple burden of disease, i.e. high infant and maternal mortality, tuberculosis, HIV/Aids, interpersonal violence, road traffic injuries, an ageing population, mental diseases, alcohol dependence and the emerging cardiovascular and diabetes burden observed among the population;
- The requirement to focus on preventative measures to create healthy lifestyles and prevent disease over and above the current curative approach; and
- Challenging and inhumane working conditions in under resourced health facilities (Department of Health, 2011c).

In response to the above, South African health sciences faculties have transformed physician training programmes over the last two decades to ensure that medical graduates are produced that are "…fit-for service in post-apartheid South Africa…" (Seggie, 2010:8). The curriculum changes were mainly informed by the PHC approach adopted by Government and demanded physicians who can combine preventative, promotive, curative and rehabilitative healthcare in their medical practice and who would "…demonstrate an understanding of the patterns, aetiology and natural history of common diseases and disabilities in rural and urban South Africa." (Seggie, 2010:8).

Although the health sciences faculties at South African universities have made progress with the preparation of physicians as far as curriculum is concerned, it should be noted that the current production of 1 300 medical graduates per annum for the country as a whole, falls short quite significantly from the HHRPF objective of 2 400 medical graduates per annum by 2014 (Department of Health, 2006:62). According to the NDoH, health professional output from universities have stagnated in the first fifteen years of democracy and the planned growth has not taken place, meaning the supply of health professionals have not kept up with population growth or health care needs (Department of Health, 2011c:85). Table 7 represents the number of graduates per annum up to 2008. (The researcher could not access similar information post 2008).

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Table 7: Medical graduates per annum: 1999 to 2008

Year	UCT	UFS	Limpopo	UKZN	UP	US	WSU	WITS	Total
1999	182	110	306	114	197	146	38	216	**1 309**
2000	134	110	235	90	203	140	26	193	**1 131**
2001	162	115	249	116	212	140	43	192	**1 229**
2002	167	109	243	132	203	129	48	181	**1 212**
2003	155	88	283	165	184	177	56	188	**1 296**
2004	159	167	238	178	180	148	119	205	**1 394**
2005	150	106	294	298	197	150	69	247	**1 511**
2006	185	105	239	201	207	170	89	170	**1 366**
2007	160	129	200	189	198	149	97	175	**1 297**
2008	164	109	153	224	200	167	103	189	**1 309**

Source: Department of Education HEMIS database (2004) in Breier and Wildschut (2007:25) and Department of Health (2011c)

As far as the gender profile of medical graduates are concerned, Breier and Wildschut (2007:25) state that South Africa is increasingly producing more female doctors, thus following the international trend in this regard. Table 8 details the gender breakdown of medical graduates between Y1999 and Y2005 and shows that 50% of graduates in this period are females. By Y2005 more than 55% of medical graduates were females. Looking at enrolments for medicine in Y2005, 56% of undergraduate enrolments were females, indicating that the upwards trend of more female physicians are continuing (Breier, 2008:25).

It is clear that South Africa is training physicians and producing an increasing number every year, however, not enough to meet the demand and targets set by the NDoH. In addition, the gender profile of medical graduates is becoming more feminine and this observation may have a significant impact on eventual career choices of graduates as will be investigated and demonstrated in this study.

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Table 8: Medical graduates between 1999 and 2005: gender in numbers and percentages

Year	Female	%	Male	%	Total	%
1999	610	46.6	699	53.4	1 309	100.0
2000	554	49.0	577	51.0	1 131	100.0
2001	621	50.5	608	49.5	1 229	100.0
2002	594	49.0	618	51.0	1 212	100.0
2003	639	49.3	657	50.7	1 296	100.0
2005	848	56.1	663	43.9	1 511	100.0

Source: Department of Education HEMIS database (2004) in Breier and Wildschut (2007:31); Breier (2008:73)

In an attempt to accelerate the output of physicians in the country, the NDoH implemented a government to government agreement with Cuba to increase the number of physicians to counter the effect of stagnated training output by the universities and to particularly increase physicians working in rural and poorly resourced areas of South Africa. The first Cuban physicians arrived in South Africa in 1998 and at some stage there were reportedly over 400 Cuban doctors working in South Africa, however, this number has dropped again and by June 2005 there were just under 200 physicians on the programme (Breier, 2008:46).

In addition to sending physicians to South Africa, Cuba has also assisted South Africa by offering South African students an opportunity to study medicine in Cuba. The NDoH reported that by July 2007, a total number of 470 students were enrolled and/ or studying in Cuba of whom 91 had qualified as medical practitioners (Department of Health, 2006). Reports indicated that by July 2013, there were 1 003 students training in Cuba and it was anticipated that the programme would grow further in support of the Health Ministry's aim to increase medical graduates (whether locally of foreign trained) from 1 300 to 3 600 per annum (Hirsch, 2013). Bateman (2013a:603) indicate that this programme is expected to increase tenfold in the next five years and it is anticipated that nearly a 1 000 Cuban trained final year medical students will join their local counterparts at South African medical schools on an annual basis until Y2018 to align their skills with South

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African medical practice requirements prior to competing their studies and internship in order to register with the HPCSA as medical practitioners. The students who are selected for the SA-Cuba training programme generally hail from rural and underserved areas and upon registering as a medical practitioners, have to complete a five year employment contract in a rural or underserved health facility in the public health sector. Bateman (2013a:603) continues to point out that although the programme is ambitious and a much needed crisis intervention to address the physician shortages experienced by the country, there are many respected health professionals who are sceptical about the ability of these young doctors to function effectively in the current South African health environment which is characterised by the quadruple burden of disease – an unknown entity in Cuba. It is, however, argued that their skills, which are preventative health focused rather than curative, are exactly what will be required for the effective implementation of the NHI.

Once a medical doctor has graduated and registered as a general practitioner with the Health Professions Council of South Africa (HPCSA), he / she has to make challenging career decisions which may involve choosing to practice in the public or private sector as a general practitioner, further studies towards specialisation, alternative employment or emigration (Breier & Wildschut, 2007:1). The researcher discusses career decision making of physicians in Section 2.2.4 of this study.

The next section provides an overview of the rural health sector in South Africa to give context to the social, working and physical environment associated with “ruralness” and rural medical practice.

2.2.3 Rural health sector

2.2.3.1 Introduction

The White Paper on Reconstruction and Development (The Presidency, 1994:7) states that: “The economy was built on systematically enforced racial division in every sphere. Rural areas were divided into underdeveloped Bantustans and well-developed, white-owned commercial farming areas; towns and cities were divided into townships without basic infrastructure for blacks and well-resourced suburbs for whites. Segregation in education, health, welfare, transport and employment left deep scars of inequality and

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economic inefficiency. Violence has had a devastating effect on our society and the need to restore peace and a sense of community security, is paramount."

According to Molefe (1994:21) a large portion of the population lived in rural areas at the commencement of democracy in South Africa. These areas were characterised by inadequate or lack of resources such as water, educational facilities and employment opportunities. As a result, primitive agriculture, low income and a lack of finances and technical skills prevailed in rural areas, especially among black people. The inequitable distribution of resources in South Africa during the period up to 1994 is seen as the main contributor to the dire situation that the new government faced at the time.

2.2.3.2 International and local definition of "rural" health and environments

De Vries and Reid (2003:790) state that the scope of what constitutes "rural" is problematic to define both in South Africa and internationally. Diab, Flack, Mabuza and Reid (2012) confirm the lack of consistency about the criteria used to define urban and rural areas in health research and policy internationally, but point out that South African government policies generally refer to rural areas as those that are "non-metropolitan".

In an attempt to unpack the term "rural" in a general sense as well as from a healthcare point of view, the researcher explored characteristics of rural areas as described in various international and local studies. A summary of these studies follow here:

Wilson, Couper, De Vries, Reid, Fish and Marais (2009) list a range of variables that are recognised internationally to define and determine the concept of "rural". These include the following:

- Isolation and remoteness (Australia);
- Limited support and availability of general and specialist health and other social services (Australia);
- Distance from urban centres and long travel time to outlying areas (United States of America, Canada, Australia);
- Number of people per square mile or kilometre (United States of America);
- Population living on "the fringes" or areas outside of urban areas (Canada);
- Lesser skills and lower income in community (Canada); and
- Physician and other professional occupational perceptions of rurality (United States of America).

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From a South African perspective, Molefe (1994:22) lists the following generic characteristics of rural environments as identified by Djukanovic and Mach (1975):

- Economic stagnation;
- A lack of agricultural development;
- A lack of alternative employment opportunities;
- Poor quality of life caused by the lack of access to essential services and money;
- Isolation caused by distance and lack of access to communication and technology;
- Unhealthy environments which expose the population to communicable and uncommunicable diseases as well as mal nutrition; and
- Inadequate health care facilities and lack of sanitation.

According to the National Treasury (2011:191) communities in rural areas are generally poorer than in urban areas and they depend on a combination of subsistence agriculture, social grants and remittances from family members working in the cities or mines. Rural household assets are often tied to traditional forms of land tenure and this complicates the ability of rural households to leverage their assets to generate wealth. The challenges of poverty and unemployment are compounded by limited access to basic municipal services such as water, sanitation and electricity, as well as a lack of good quality social services (education, health and ambulances) and transport services (roads and buses).

Meyer (2014:618) provides a useful South African categorisation of rural and urban areas which is summarised as follows:

- ***Deep rural area***: located in a compromised geographical location and isolated in terms of distance and access; examples include central and southern parts of Kwazulu-Natal and remote areas in Eastern Cape and North West provinces;
- ***Rural area:*** isolated in terms of distance and access, but less than deep rural areas; for example, southern Free State
- ***Peri / fringe rural area***: located on the fringe of an urban area; allows for economic opportunities other than agriculture; for example, northern Free State
- ***Urban to metropolitan area***: mainly urban areas in the metropolitan centres with rural areas along the periphery of the area; less than 30% of economic activity is agriculture; examples are Gauteng, Durban functional areas and the Cape Town / Cape Flats area.

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As far as rural quality of life is concerned, the researcher felt that the following experience and description by Khaya Dlanga give some perspective and insight into the everyday existence of rural communities. Dlanga (2013) described a visit to a rural area as follows: "I went to the Transkei to my cousin's funeral in the village of Ngwegweni, not far from Mount Ayliff, this past weekend. It is one of those typical villages where the people's way of life hasn't changed much over the past fifty years. The difference now is that they can see that other people's lives have changed drastically, while their lives have largely remained the same. Ngwegweni is not unlike the other villages that I know well, like Dundee and Dutyini. My mother is from Dutyini, where I grew up there, and I often visited my father's village of Dundee. The romantic view of life that people who no longer live, or have never lived, in a village have is far from the truth. Poverty is common and accepted. Although life has remained largely the same, the people haven't. There is an unspeakable and disproportionate violence that the villagers experience. A sense of hopelessness is palatable among the young and inflicted on those around them. These young men drink too much and there is talk of them taking drugs."

With regard to the characteristics of healthcare in rural environments, Versteeg (2013) points out that rural communities in South Africa face many hardships on a daily basis. These include high rates of unemployment, lack of access to clean water and sanitation, inadequate education and poor nutrition. Versteeg (2013) further states that a failing healthcare system intensify the social challenges experienced by rural communities. The healthcare system in rural areas seem to share two characteristics namely difficulties for rural people to access public health care in the first place and secondly dealing with poor health services and lack of alternative services in cases where service delivery is poor or absent.

Looking at the contributions by various authors, it can be concluded that the term "rural" is very complex. For the purposes of this study, the researcher described "rural" in terms of the following characteristics:

- Remote, isolated and far from urban areas;
- Low and underdeveloped skills levels and capacity;
- Poverty due to economic stagnation, limited property ownership and poor employment prospects;
- Vulnerable population, i.e. aged people, single mothers, child-headed families;
- Lack of, disintegrated or poor access to infrastructure;

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- Lack of or poor municipal, social and transport services;
- Depletion of physical environment due to underdeveloped agriculture and incorrect use of land;
- Degradation of social systems due to violence, substance abuse and sexual abuse;
- Worse health outcomes than urban areas due to the significant impact of quadruple burden of disease (child and maternal deaths, violence, communicable diseases and non-communicable diseases such as HIV/ AIDS and others).

As far as rural populations are concerned, the Development Bank of South Africa (DBSA) estimated in than Y1994, 22 million (58% of the population) people lived in urban areas compared to 16 million (42% of the population) living in rural areas (African National Congress, 1994). Trading Economics, a website that provides its users with accurate statistical information and economic indicators for 196 countries in the world, indicate that the rural population in South Africa dropped to 38.3% of the population in Y2010 (Trading Economics, 2014). This trend is confirmed by the National Planning Commission who recognised that there is a significant rural to urban move taking place in South Africa. In this regard it is estimated that 80% of the country's population will be urbanised by 2050, mainly as a result of declining agricultural employment, depopulation and disintegration of small towns, environmental degradation, extreme poverty and failed government rural development programmes (National Planning Commission, 2011:19).

In addition, it should be noted that in addition to the rural to urban migration pattern, there is movement within some rural areas which are becoming more densely populated and as a result peri-urban areas are created. These areas are actually a merger between former rural areas and informal settlements in urban areas and are generally characterised by good transport access unlike deep rural areas which tends to be remote and isolated (National Planning Commission, 2011:84). Of importance also is the fact that the Western Cape Province is the fastest growing province having grown 29% between 2006 and 2011 and Gauteng have grown by 31% in the same time. Around 1 million people moved to Gauteng from other provinces in the last 10 years, confirming the National Development Plan's observations regarding the population flow from rural to urban (SouthAfrica.info, 2014).

In conclusion, it could be argued that based on the fact that the rural population in South Africa is dwindling, lesser focus should perhaps be placed on the future development of

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these areas, however, it is important to recognise that two thirds of people living in rural areas in South Africa are deemed extremely poor and vulnerable (National Treasury, 2011:191). Rural populations are thus dependant on the government's support for their daily survival. In addition, observations by Steinberg (2015) imply that vulnerability and dependency of rural communities may actually give them strong political power in South Africa. As such, rural people have an influence on shaping the future of the country, including health and other social policies.

The next section presents an overview of rural health strategy in the country, noting the definition of "rural", the characteristics of rural environments, and migration patterns between urban and rural areas as discussed in this section.

2.2.3.3 Rural health challenges and strategy

The population mobility patterns discussed in the previous section are important for health policy makers and whilst one may argue that the need for health capacity in the rural areas is likely to reduce because it is anticipated that a smaller percentage of the population will be living in rural areas in future, and that perhaps the healthcare focus should move to peri-urban areas, the challenge to supply sufficient and appropriate physicians and ensure access to quality health care, be it in rural or peri-urban areas, remains critical. Eagar (2014) points out that access to healthcare and the quality thereof are still very dependent on income and where the person lives. He argues that the barriers to healthcare access is more acute in a rural context.

Generally, rural populations continue to experience higher levels of deprivation than urban people. According to Massyn, Day, Barron, Haynes, English and Padarath (2013:105), the ten most deprived health districts in South Africa are all rural which means that people living in these areas have less access to education, piped water, sanitation, electricity, adequate nutrition than the average person in the country and in general are very poor and vulnerable In addition, it was established that the cost of transport was the most significant factor in determining if or when rural people accessed health care. Additional costs in relation to food, childcare and communication, as well as greater opportunity costs associated with longer travel times, make it even more expensive for rural people to access health care that their urban counterparts (Harris, Goudge, Ataguba, McIntyre, Nxumalo, Jikwana & Chersich, 2011:S103).

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RuDASA (2011:4) states that rural communities experience several barriers to access health care. These are the following:

- Accessing the point of health care delivery is a challenge because of the small number of health facilities available in rural areas as well as the distances that people must travel to reach these facilities.
- The quality and availability of healthcare at the point of delivery is poor in rural areas because of understaffed rural health facilities and weak management. This creates situations where patients wait for long times, receive poor quality heath delivery, avoidable deaths occur, patients are “lost” in the system and no follow up takes place.
- The acceptability of healthcare services provided are outside the influence of rural patients as they generally don’t have a say in deciding what services would be available in rural health facilities.

Noting the characteristics of “rural” as discussed in Section 2.2.3.1 as well as the typical barriers to health care experienced by rural communities (listed in the previous paragraph), the researcher investigated whether South Africa has a policy approach towards addressing the specific and unique issues related to rural health. Upon investigation, it appears that although South Africa has implemented a range of initiatives to address the maldistribution of resources between urban and rural areas (refer Section 2.2.3.4), the country does not have a dedicated rural health strategy. It is thus assumed that the general policy direction and more specifically the PHC re-engineering strategy of the government includes strategies and objectives to improve rural health services, outcomes and resourcing, including human resources for health.

Upon further investigation, the researcher observed that the term ”rural” appears once in the NHI Green Paper under the discussion of DCST’s (Department of Health, 2011b:24). In addition, a word search of the term “rural” also revealed that other health policy and strategy documents such as the 10 point plan and the national service delivery agreement for outcome 2: ”A long and Healthy Life for All South Africans” do not refer to rural health strategy or objectives in particular (Health Systems Trust, 2010 and The Presidency, 2009). This may be interpreted as a policy direction by the NDoH to view rural health as part of the broader primary healthcare approach within the district health system and where no special focus or recognition of the unique differentiators of rural health are stated expressly. Cooke, Couper and Versteeg (2011:107) raise the concern that government policy initiatives seem to lack an acknowledgement of the uniqueness

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of rural health care and it appears as though the NDoH seem to believe that the implementation of the District Health System will solve challenges that are distinctive to rural health.

RuDASA (2011) submitted a comprehensive set of comments and proposals regarding the NHI, including the fact that the NHI should specifically address the disparities between urban and rural health as a rural strategy going forward. These are summarised as follows:

- Rural health districts should be prioritised for NHI implementation to allow for a longer lead time to build capacity to ensure that access, quality and equity issues are addressed;
- Transport costs of rural patients should be subsidised to enable access to health facilities;
- The PHC re-engineering plan is supported, however, the teams on rural health districts should be resourced more extensively than those in urban areas;
- Rural communities and health professionals should be consulted specifically in shaping the benefit structure of the NHI;
- The funding model of the NHI should consider the fact that rural communities are generally poorer and more vulnerable than peri-urban or urban communities and therefore should not be expected to pay user fees.

Noting RuDASA' s plea for specific attention to rural health in the NHI, the researcher is encouraged by the reference to rural health in the NDoH' s progress report on the implementation of the NHI in the first eighteen months since it was initiated (Department of Health, 2013a:18). The report highlights the need to ensure that "…under-served populations, such as those in deep rural areas and informal settlements, get specific attention…". The researcher is of the view that this statement appears to reflect some form of acknowledgement by the NDoH that specific focus should be placed on the health strategy for deep rural and peri-urban areas and that unique features of these areas should be recognised in the country's health strategy. This creates an expectation that the White Paper on the NHI might contain a more specific approach towards rural health within the broader health strategy of the country.

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2.2.3.4 Health human resources strategy for rural areas

As mentioned in the previous paragraph, South Africa has implemented a range of initiatives to address the maldistribution of resources between urban and rural areas, although seemingly in the absence of an overall strategy that is dedicated to improving health care and outcomes in rural areas. Ditlopo, Blaauw, Bidwell and Thomas (2011:S82) summarise various initiatives taken by the South African government between 1994 and 2011 as far as addressing the maldistribution of human resources between rural and urban areas. Table 9 details these initiatives.

Table 9: South African policy initiatives for rural health (1994 to 2011)

Year	Policy initiative
1996	Government recruited first group of Cuban doctors and initiated training of medical doctors in Cuba
1997	Government released White Paper for the transformation of the health system, containing recommendations on equitable health professional distribution
1998	Government introduced community service for doctors and for allied health professionals, making it mandatory for these health professionals to work in under-served areas (rural or urban) for a 1-year period
2004	• Government introduced a rural allowance to attract and retain certain health professionals in rural facilities and a scarce skills allowance to attract and retain certain categories of health professionals in the public health sector • Government released a policy on the recruitment and employment of foreign health professionals restricting recruitment to persons with verified qualifications and competencies to work in under-served areas • Government finalises a bilateral agreement with Iran to allow Iranian doctors to work in rural South African health facilities
2005	Government promulgated the National Health Act No. 61 of 2003 with a certificate of need provision for health professionals wishing to establish a private practice to decrease the concentration of health professionals in urban areas. (This controversial clause was not enacted at the time, however promulgated in April 2014, only to be postponed again in July 2014. It is anticipated that the NDoH will further review this matter in light of the NHI roll out. (Kahn, 2014b)
2006	• Government releases a National Human Resources for Health Framework to address the critical shortage of health professionals. • Activists developed a Draft Rural Health Strategy for South Africa to improve health services in rural areas in the period 2006–2009
2007	Government signed an agreement to allow recruitment of Tunisian medical practitioners for temporary employment in rural areas
2008	Government introduced community service for nurses, making it mandatory for nurses with 4-year diplomas or degrees to work in the public sector and under-served areas for a 1-year period
2008 to 2010	Government introduced occupation specific dispensation (OSD's) salary categories specific to each occupational category in the health sector. In a study by (Fisher, 2013) it appears that although remuneration of employed doctors improved and led to higher retention of physicians, it did not serve as sufficient attraction mechanism as the vacancy rate of the hospital where the study took place did not decrease.

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Year	Policy initiative
2010	World Health Organisation launched a set of recommendations on increasing access to health workers in remote and rural areas through improved retention in Johannesburg, South Africa.
2011	Government introduced the Human Resources for Health South Africa: HRH Strategy for the Health Sector: 2012/13 – 2016/17 which included improving access to health professionals and health care in rural and remote areas as a health human resources priority area.

Source: Ditlopo *et al*. (2011:S82) and Department of Health (2011c)

As mentioned in Section 2.2.2, the NDoH introduced the Human Resources for Health Strategy in 2011 to guide human resource development in the sector going forward. Contrary to the lack of "rural" references in other policy documents of the NDoH, this strategy includes multiple references to rural health (Department of Health, 2011c). The strategy lists specific plans to address issues of supply of health professionals, access to health professionals, maldistribution of health professionals and training of health professionals in rural areas. The strategy further seems to acknowledge that the unique characteristic of deep rural areas, namely remoteness, require specific plans to ensure the attraction and retention of health professionals in such areas.

Strategic priority 8 of the Human Resources for Health Strategy states that access to health professionals in rural and remote areas will be addressed as a matter of priority. The document lists the following specific issues that indicate the need for a special plan on accessing to health professionals in rural and remote areas (Department of Health, 2011c:77).

- Access to health professionals in rural and remote areas have changed little since 1994 and health outcomes in rural areas have actually worsened;
- South Africa does not have a history or culture to incorporate rural areas into mainstream health professional training and only a few health science faculties are including long term rural training in their mainstream training programmes;
- Administrative staff lack insight and understanding into recruiting and retaining health professionals and even their value as a scarce skill;
- 34% of births in urban areas are handled by physicians compared to 13% in non-urban areas, contributing to the high maternal mortality rates in rural areas.

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Some of the specific plans that have been proposed to address access to health professionals in rural areas are (Department of Health, 2011c:123):

- Agree on a definition for rurality and remoteness which can guide health policies;
- Consider an approach to “rural proof” health policies to ensure that specific and unique issues related to rural health are adequately covered in policies;
- Adopt a human resources plan specifically for rural areas;
- Increase the training of health professionals in rural areas – training should occur in rural health facilities;
- Provide support and incentives for rural health professionals; and
- Expand attraction of rural health professionals to include suitably trained foreign health professionals and mid-level health workers such as clinical associates.

The next section hones in on the working environment of rural physicians with a particular focus on how rural medical practice is different from other areas.

2.2.3.5 Rural physicians and medical practice

Based on the description of rural environments and specifically the characteristics of rural health care, it is clear that working in a rural environment and specifically practicing medicine in such environment is quite different from working in an urban environment.

Jaques, Reid, Chabikuli and Fehrsen (1998:1) state that the role and practice of the generalist physician in rural community hospitals in South Africa is extremely wide, however, poorly defined and recorded. They furthermore comment that rural physicians tend to perform a generalist role where they perform clinical duties ranging from primary care to emergency surgical operations, as well as are involved in other tasks such as administration, teaching and leadership within the hospitals / clinics where they are employed. De Villiers, De Villiers and Kent (2006:18a) concur and propose that rural physicians are likely to require training covering surgery, emergency and trauma, in and out-patient care at primary health care level, public health skills, health care in a rural context and team work including working with a variety of health professionals.

Jaques *et al*. (1998:17) also highlight the fact that rural physicians need to be self-confident to be able to work more independently compared to a general practitioner who is based in a large teaching hospital where experienced senior colleagues can be

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consulted in cases of uncertainty. This aspect suggests that the personality profile of a medical graduate that is likely to choose a rural career may differ from one that chooses to practice in an urban environment. The researcher could not find evidence of research conducted on the personality profile of rural physicians in South Africa, however, an Australian study by Eley, Young and Schrapnel (2008:12) propose that rural physicians have a strong sense of self direction, are caring and cooperative people, are objective and tenacious. These characteristics are probably valid in a South African context.

It appears as though documented research to provide greater insights into the typical working environment and medical practice of a rural physician in South Africa is limited.

The researcher felt that the following reflection of a former rural physician is invaluable in gaining some insights into the everyday lives of rural physicians. It is quoted verbatim from an article that was published in the South African Medical Journal in 2012. "…*A baby cried. There was a collective sigh of relief from the surrounding faces, seen by the flickering light of a candle. The rest of the caesarean section proceeded uneventfully, now by the light of a torch. A torch often arrived just too late to herald in the arrival of a new baby. The anaesthetic machine checklist in a rural hospital should also include a torch with working batteries, candle and matches! After working for 10 years at a rural district hospital, these types of caesarean section still cause me tachycardia! However, the art of appearing calm slowly developed, thanks to the example set by a senior doctor, who never appeared flustered and was always ready to help in any crisis.*

I had arrived at Mseleni Hospital immediately upon finishing my internship at Edendale Hospital in Pietermaritzburg. The nurturing environment provided by the 3 other doctors, the nursing staff and community members enabled my ongoing learning of medical skills, but also learning about people, and accountability to the community in which I was working. Thankfully, the dramas in theatre were not an everyday occurrence. Instead, more time was spent in the outpatient department and at the outlying clinics, interacting with patients and family members. Initially, this was as unfamiliar as theatre! Medical knowledge was refined and new skills were learned. Other skills, such as team work, conflict resolution, and cultural sensitivity, were cultivated. To work effectively within a small team, these 'soft skills' were found to be equally important as the clinical skills. Wise mentorship had enabled my medical training to blossom. I had learnt to think on my feet, to remain calm in crises, to realise the importance of communicating in a

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person's mother tongue, and to regard every human life I encountered with dignity and respect. It felt as if university was just the beginning of learning ...” (Nash *et a*l., 2012).

Based on the above excerpt, the researcher concludes that medical practice in a rural environment is both challenging and enjoyable. In achieving the objectives of this study, the researcher wil among others explore perceptions and realities in this regard.

The next section discusses the relationship between rural physicians and traditional healers. Although rural physicians interact with a wide range of health professionals and are confronted with a plethora of medical procedures on a daily basis (Jaques *et al*., 1998), the researcher decided to include a short discussion about their relationship with traditional health providers and medicine due to the unusual and often controversial nature thereof.

2.2.3.6 Rural physicians and traditional medicine

The Human Resources for Health Strategy states that traditional healers play an important role in the health care system as they often serve as the initial line of healthcare in many parts of the country (Department of Health, 2011c:31). It is unclear what percentage of the population opts to consult traditional healers as reported utilisation rates vary from 80% to as low as 1.5% (Wilkinson, 2013). Barker, Millard, Malatsi, Mkoana, Ngoatwana, Agarawal and de Valliere (2006:673) found that 74% of rural patients with TB indicated they visited a traditional healer before seeking medical assistance at a hospital. This figure was much higher than reported figures in prior studies. Barker *et al*. (2006:671) suggested that access to healthcare is limited in rural areas, whereas traditional healers are more readily available. In addition, the participants in their study had a trust relationship with the data collection team and may have been more amenable to admit that they had previously visited traditional healers.

According to King (2012:1175), South Africa’s health system is characterised by a long standing parallel functioning of traditional healers and Western health providers. The NDoH states that: “African Traditional Medicine is a body of knowledge that has been developed over thousands of years which is associated with the examination, diagnosis, therapy, treatment, prevention of, or promotion and rehabilitation of the physical, mental, spiritual or social wellbeing of humans and animals.” (Department of Health, 2008:5).

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Traditional healers are seen to provide an alternative culturally rooted system of healthcare and include diviners ("Sangomas"), herbalists ("inyangas") and faith healers ("umthandazis"). Prior to 1994, African traditional healers were prohibited from practicing as health practitioners, however, since then the government has introduced legislation, regulations and guidelines to recognise traditional healers and to integrate them into the formal health system of the country (Campbell-Hall, Petersen, Bhana, Mjadu, Hosegood & Flisher, 2010:613).

Moshabela *et al*. (2011:843) postulate that the variety of competing options has the potential to result in medical pluralism, which refers to the diverse ways in which illness can be perceived, understood and treated. Patients often switch between orthodox and traditional health providers or choose to be treated by both simultaneously. This is particularly relevant in rural areas where there are far more traditional healers than physicians and they are likely to be more accessible than physicians and state health facilities (Moshabela *et al.,* 2011:843). This means that rural physicians are more likely to work with patients who are also treated by traditional healers than what may the case in an urban setting and it would require collaboration between such physicians and healers.

Rural health physicians need to understand and appreciate that a large portion of their patients probably saw a traditional healer prior to visiting the public health facility and seeing a rural health professional and this is likely to impact on the treatment and care of these patients (Kale, 1995b).

In addition, traditional healers treat the "whole body, mind and spirit" whilst physicians focus on scientifically based treatment for specific conditions (Campbell-Hall *et al.*, 2010:612). Various studies have, however, proven that traditional healers and orthodox physicians can collaborate in the interest and to the benefit of their patients, particularly in the areas of HIV/AIDS (Moshabela *et al*., 2011). Rural physicians must appreciate that the relationship between traditional healers and themselves is complex and should develop within the broader objectives of the NDoH to strengthen the health system and recognise all role players in the system (Moagi, 2009:120).

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The next section provides an overview of the career choices of medical graduates. The section serves as an introduction and background for the discussion on the next major theme in the literature review, namely career decision making.

2.2.4 Career choices of medical graduates

2.2.4.1 Introduction

Rogers, Creed and Searle (2009) state that choosing a specialty and/or a location to practice is a complex process and dependant on various factors including exploration, decision making and eventual choice. Iserson (2003) in Rogers *et al*. (2009) postulate that choices in medical careers for medical graduates offer more options for practitioners than any other profession and this makes it very difficult for medical graduates to decide on whether to specialise and where to develop their further careers.

Lehmann, Dieleman and Martineau (2008) and Padarath, Chamberlain, McCoy, Ntuli, Rowson and Loewenson (2009) describe various "pull" and "push" factors that facilitate movement to and retention at jobs and careers in the health sector. "Pull" factors are those which attract a person to a job and typically include improved employment opportunities and / or career prospects, higher income, better living conditions or a more stimulating environment. "Push" factors are typically the opposite from “pull” factors and typically include loss of employment opportunity, poor remuneration or undesirable living conditions. “Push” and “pull” factors can furthermore be divided into exogenous factors i.e. those outside the health system and endogenous factors which are directly associated with the health system.

Padarath *et al*. (2009) furthermore describe a second set of factors that influence movement of health professionals. These are “stick” and “stay” factors where “stick” factors represent reasons for a person to stay despite persuasive reasons to move elsewhere and “stay” factors are those that prevent a person from moving back to their place of origin. The researcher is of the view that these factors are also relevant when medical graduates make initial career decisions. Table 10 presents a summary of these factors in a career decision making context, although they also impact on the migration of health professionals in a general context.

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The next section explores the career choices of South African physicians, taking into consideration the literature discussed in Section 2.2.4.1.

Table 10: "Push, pull, stick and stay" factors: career choice and migration of physicians

Category	Category detail	Factor
Endogenous to health system	**Push factors**	• Poor remuneration • Lack of job satisfaction • Unsafe work associated risks • Lack of education and career development opportunities
	Pull factors	• Attractive remuneration • More satisfying working conditions • Safer working environment • Career development opportunities • Aggressive recruitment by recipient country or area within country (i.e. province, district, health facility, etc.)
Exogenous to health system	**Push factors**	• Poor quality of life and high crime rate • Conflict or political repression • Lack of opportunities for children
	Pull factors	• Possibilities of higher quality of life • Freedom from political persecution • Educational opportunities for children • Presence of fellow citizens, relatives and friends
Stick factors		• High levels of morale among health professionals • Attractive rewards and incentives • Strong social and cultural ties • Barriers to migration such as cost and time of re-qualification, need to learn new language, different clinical practices and high cost of relocation
Stay factors		• Developed new cultural and social bonds • Risk of disrupting education of children • Reluctance to disrupt new lifestyle patterns • Inadequate knowledge of job and career opportunities elsewhere

Source: Padarath *et al*. (2009)

2.2.4.2 Career choices of medical graduates

Several international research studies conducted in recent years indicate that increasingly fewer medical students are interested in general practice as an occupation (Bland & Isaacs, 2002:266; Lambert, Goldacre & Turner, 2003:194, Newton & Grayson, 2003:1179 and Lucas, Hagelskamp & Schammell, 2008:78). The results of these studies suggest that many current general practitioners are dissatisfied with the profession and seem to be demoralised and overworked. The studies furthermore found that various developed countries, notably the United States and United Kingdom have implemented efforts to expose students to generalist practice and foster interest in primary care. In addition, these countries have implemented strategies to change poor perceptions about

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general practice in an attempt to address the shortages of general practitioners and oversupply of specialists.

In cases where further specialisation is chosen, Bland and Isaacs (2002:260) point out that fewer students are interested in family medicine, paediatrics and surgery whilst more students seems to choose specialties that allow for flexible lifestyles, i.e. less hours on call, less likelihood of litigation and more control over working hours.

With regard to career choices of medical students in Sub-Saharan Africa, Burch, McKinley, Van Wyk, Kiguli-Walube, Cameron, Cilliers, Longombe, Mkony, Okoromah, Otieno-Nyunya and Morahan (2011a) found that the majority of students surveyed in the Democratic Republic of Congo, Kenya, Nigeria, Tanzania, Uganda and South Africa intended to pursue specialist physician careers and less than 5% intended to choose careers in rural medicine. Up to a fifth of the students intended to relocate to areas outside of Sub-Saharan Africa to pursue specialist careers.

2.2.4.3 Career choices of South African medical graduates

A number of South African studies, which are discussed below, give some insight into the career choices of medical graduates in a local context. These studies follow the findings of international studies that fewer medical graduates choose general or primary practice careers (Price & Weiner, 2005:414-419 and Green *et al*., 2006:15-15b).

Price and Weiner (2005:15) found that almost 60% of medical doctors, who graduated from the University of Witwatersrand between 1960 and 1994 and remained in South Africa, chose to work in the private sector, compared to 36% who worked in the public service. These numbers correlate well with the current employment profile of physicians overall in South Africa (refer Section 2.2.2.2 above). Those who pursued public service careers gave the opportunity to be involved in academic research and training as their main reasons, whilst respondents who chose a career in private sector gave income as the main reason for their choices. In addition, Price and Weiner (2005:416) found that women graduates spent 68% of their working time in the public service compared to men who only spent 36% of their time. This finding combined with the fact that only 22% of women graduates specialised, suggest that female physicians have the potential to contribute significantly in the public sector and in particular in primary health care.

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Green *et al*. (2006:15b) conducted a study amongst registrars who have already chosen their specialties and are currently studying further. The key findings of this research highlighted that 31.3% of the students chose to specialise because of the excessive workload associated with general practice as well as the fact that general practitioners are perceived to be functioning on a lower level. As the authors did not define what is meant by "functioning on a lower level", one must assume this to mean that work and scope of exposure of a general practitioner is perceived to be intellectually less stimulating and of a limited scope and diversity. About half of the respondents in the study would have considered general practitioner careers in the private sector, but the perceived limited future of general practitioners, inconvenient working hours and overregulation by government were given as reasons why they did not eventually pursue a general practitioner career. It should be noted that only 7.2% of respondents stated remuneration as a reason for their choice to specialise (Green *et al*., 2006:15b). This suggests that even if the remuneration of general practitioners, especially those in the public service, is adjusted upwards significantly, it may not be sufficient to retain general practitioners for primary care and redirect their career choices away from specialisation, private sector or alternative careers.

A study by Ross and Reid (2009:249) found that the compulsory community service system for doctors (introduced in 1998) is an effective recruitment mechanism to staff hospitals in rural areas, however, has not proven to be a suitable retention strategy. Their study sought to understand the motivation of doctors completing their community service to remain at the district hospital where they were allocated for a subsequent period after completion of the compulsory service year. The study found that only 8% of community service doctors allocated to district hospitals in the "rural" provinces of KwaZulu Natal, Eastern Cape and Limpopo continued their careers in the same hospitals. Reasons stated by the few doctors who chose to remain working in the hospitals where they did community service included the fact that these hospitals are close to home (which may suggest that they originated from that geographic area), they were personally recruited to work in these hospitals, they had bursary commitments and was allocated by the provincial health department to work in these hospitals and they were familiar with the hospital either through friends or a personal visit to the hospital when they were undergraduate students. This finding confirmed some of the serious challenges that are faced by the healthcare system, particularly in the geographic areas where such service is most needed.

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A study by de Vries, Irlam, Couper, Kornik and members of CHEER (2010:228) found that more than half of final year medical students who participated in the study, intended to work abroad for a short time period with only 7% indicating that they wish to relocate permanently. More than half the students expressed the intention to work in a rural area for a short time after specialising, however, the majority planned to eventually work in the private sector for the rest of their careers. The study further found that those students who were from a rural origin were more likely to work in rural areas, less likely to work abroad and less likely to spend the majority of their careers in the private sector. As far as speciality choices are concerned, internal medicine and surgery rated high whilst family medicine and public health rated the lowest. The main factors influencing specialty choices were plans to start a family, working hours and intellectual stimulation. The location of medical practice was influenced by safety and crime issues, opportunities for children and opportunities for partners and spouses.

In summary, the four studies discussed above, propose that medical graduates who choose careers in the public service in South Africa do so because of the opportunity to teach and be involved in research, rather than to work in general practice or in less popular specialist practice such as family medicine or public health which seems to be associated with excessive workloads, limited scope and lesser financial prestige. Although quite a large number intend to spend some time in rural medical practice upon qualification only a few choose a career in rural settings, possibly because they are from rural origin and because of forced arrangements such as community service and bursary obligations. If they do choose careers in general practice, they probably opt for the private sector due to better income prospects or possibly emigrate to fill general practitioner positions in developed countries that experience shortages in this regard (although this option seems to reflect a downward trend which is encouraging). In cases where they specialise, physicians tend to choose specialties that are associated with control over working hours and conditions and lifestyle incentives. This seems to follow international trends as discussed in an earlier section.

Taking this into consideration and looking at the study conducted by Lucas *et al.*, (2008:79) who found that medical graduates may choose to remain in general practice if they have perceived control over their working life, it is important that the health human resources strategy of South Africa promotes the principle of flexibility in general practice.

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The results of the study conducted by Green *et al*. (2006:15b), however, suggest that general practice in South Africa, whether private or public service, do not allow for sufficient flexibility and is perceived to be a poor career choice by medical graduates. This has negative implications for the successful implementation of the NDoH' s objective to increase the number of general practitioners likely to choose a career in primary health care and even more challenging to attract and retain doctors in a rural environment.

In addition and as discussed in Section 2.2.1.5, the PHC re-engineering policy of the NDoH includes a strategy to increase the presence of specialist physicians in specialities such as family medicine, obstetrics and gynaecology, paediatrics and anaesthetics in all heath districts, including rural districts In order to ensure the attraction of specialist physicians to rural areas, special consideration should be given to improve incentives for these categories of specialists in order to meet national needs in this regard (De Vries *et al*., 2010:228).

Lastly, this discussion is incomplete without investigating what the impact of the changing gender profile of medical graduates will have on career choices. As indicated in Section 2.2.2.4 above, almost 60% of current medical graduates are female. Looking at the total number of medical students, females currently represent 56% of the group, implying that more females than males are likely to graduate in years to come (Breier & Wildschut, 2007:31). A study conducted by Lawrence, Poole and Diener (2003:319-327) to determine factors that influence the career decisions of female medical graduates, list interest and flexibility as the key factors that influence their career decisions. The results found that most female medical doctors want to have children, and would like to be able to do so without a negative impact on their career progression. The study suggests that initiatives which allow and value flexible training and work practices, particularly through the years of raising children, are imperative for female medical doctors. The study by De Vries *et al*. (2010:228) confirms that gender has an influence on the career choices of South African medical graduates. The study indicates that women are less willing to work overtime and are more likely to take a break in their careers than men, mainly because of family responsibilities. In light of the findings by Price and Weiner (2005:416), Breier and Wildschut (2008:560) and De Vries *et al.* (2010:228) that female doctors are more likely to adopt a patient focused career choice and pursue careers in primary health care and the public service as general practitioners or obstetrics / gynaecology and paediatrics as specialists, the health human resources strategy of South Africa should

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promote flexibility in work practices and family support programmes if it wants to ensure that sufficient medical graduates are attracted to work as general or specialist practitioners in primary healthcare environments and in particular in rural areas.

2.2.4.4 Choosing a career as rural physician

Wilson *et al*. (2009) drew up a useful classification of typical interventions that are applied by governments to address maldistribution of health workers between urban and rural areas. The researcher deems these categories useful to provide context to the factors that influence rural career choices. The various interventions are the following:

- Selection criteria: the geographic origin, ethnicity, gender, career intentions and service orientation of medical students and physicians are presumed to influence career choice. The researcher observes that the government cannot control or regulate these variables;
- Education: the content and exposure to rural health settings through clinical rotation, fellowships and location of medical school are deemed to be strong influencers of rural career choice. The researcher is of the view that the government can control or regulate these variables through central policy and agreement with provinces and universities;
- Coercion: registration requirements such as completed community service, requiring rural experience as prerequisite for selection to specialise further and limiting foreign health professionals to only work in rural areas. The researcher is of the view that the government can control or regulate these variables through central policy;
- Incentives: providing bursaries, scholarships, additional allowances and other financial incentives (e.g. subsidised school fees and accommodation) may attract physicians towards rural practice. The researcher notes that the government can develop incentive policies centrally, however the implementation of such incentives depends on available funding in provincial health budgets;
- Support: by creating optimal conditions for further development, access to specialist services and flexible working conditions, the government may be able to attract physicians to rural employment, however the level of control over support is a function of available funds and co-operation of various stakeholders including provinces, districts, universities and hospital management.

With regard to the specific aspects that influence the career choices of physicians to practice in rural areas, Couper, Hugo, Conradie and Mfenyana (2007:1082-1086)

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conducted an in depth study by means of qualitative individual interviews which was aimed at understanding how professional health workers, of which doctors represented the dominant profession, choose to work in rural areas and how the education system influences their decisions. The research findings, which are reflected in Table 11 below, indicate that there are five key factors namely “personal, facilitating, contextual, staying and reinforcing” factors that influence the decision to work in a rural environment (Couper *et al.*, 2007:1083). Each factor is discussed in terms of key themes and sub themes that explain what is meant by the theme statement.

Couper *et al*. (2007:1083-1084) concluded that the personal attributes of professional healthcare workers such as whether they originate from a rural area and their value system are strong determinants of whether they will consider rural practice. This finding is supported by previous research conducted by De Vries and Reid (2003:792) which suggested that the South African situation is similar to the international trend which found that rural-origin medical graduates are more likely to choose rural careers in general practice than urban-origin students. Diab *et al*. (2012) however, point out that there is not a direct relationship as the majority of rural-origin physicians still choose medical practice in an urban area. They highlight the fact that career aspirations are influenced by various factors including value systems, religion, values and socio economic beliefs and that the desire to help vulnerable and poor people as well as vocational commitment seem to be the most reliable predictors of rural medical practice.

Couper *et al*. (2007:1085) further suggest that the decision to choose a rural career by medical graduates is facilitated by their previous exposure to rural practice during their training time as well as an understanding of rural community needs and exposure to role models who practice in rural communities. An Australian study by Orpin and Gabriel (2005) found that positive exposure to rural medical practice by undergraduate medical students increased the likelihood of rural career choices. Poor rural placement experiences during undergraduate training are thus likely to have the opposite effect, meaning that medical training programmes needs to be planned carefully and create an objective platform for students to make informed decisions about choosing rural careers. Ranta, Hussain and Gardiner (2006:839) postulate that specialties that are poorly represented in the training programmes of undergraduate medical students are often not considered for career decision making purposes, hence information and exposure to a

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wide variety of specialties and career options during undergraduate studies will assist students to make more informed career decisions.

Table 11: Themes influencing the decision to work and stay in a rural area

Influencing factor	Theme	Sub theme
Personal	Rural origin and community connection	Familiarity with and ability to relate with rural people and environment.
	Values	Political, religious and need for "wanting to serve".
Facilitating	Role models	Current rural health professionals who are working in rural areas and serve as an inspiration.
	Exposure to rural practice	Training opportunities such as rural electives or holiday work in rural environment.
	Rural people's needs	Awareness of the absence of rural physicians and the poor treatment of rural people.
	Dislike to urban work	Cities are regarded as unsafe, dehumanising, and associated with a pressurised lifestyle and require a specialised approach to working.
Context	Physical environment	Appreciation of the natural physical surroundings in rural environments.
	Job	Rural practice is associated with more diversity of tasks and patients as well as the opportunity to become involved in the community.
	People	Rural patients are deemed to be friendly and less demanding compared to urban patients who insist on specialist treatment and specific medication.
	Financial	Health care professionals (especially public servants) working in rural environments earn more than urban counterparts because they qualify for rural allowances and housing benefits.
Staying	Family	The ability to spend more quality time with family and friends
	Supportive team	Medical and management team in the hospital/ clinic is vital to ensure that the healthcare professional stay in a rural area.
	Training	The opportunity to train further, especially post graduate training, is an important contributor to staying in a rural area.
Reinforcing	Being a role model	The potential to uplift the community and improve rural health care by being a role model and an advocate for the broader community.
	Relationships	A close relationship with the community and feeling appreciated and recognised.

Source: Couper *et al*. (2007:1083)

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It must be noted that Couper *et al*. (2007:1082-1086) also found that the undergraduate training and education of medical professionals do not support rural career choices in general. Several respondents in their study indicated that "…their university training actively worked against rural practice, only prepared them to work in an urban, white, western society and were actively discouraged by senior people and lecturers from going to the rural areas…". The research discussion highlighted this matter as a concern which must be taken seriously and recommended further research in this regard. This observation also suggests that the training of health care professionals should be reviewed with a view of addressing the shortage of rural health workers overall.

Once they have made their career decision in favour of rural practice, contextual factors such as the nature of the work, the environment and patients they treat influence their decision to remain. The length of their stay in a rural environment will be determined by the adjustments of their families and their network of friends, the opportunity for ongoing training and development, as well as their experience of the health service management system within which they have to function on a daily basis. Personal motivation to remain in rural practice is reinforced by a positive relationship with the community, and by the ability to influence and improve healthcare in the rural environment (Couper *et al.*, 2007: 1082-1086).

The next broad section of the literature review focuses on general theory with regard to career decision making. This review will then lead to a theoretical presentation and discussion of the Theory of Planned Behaviour (TPB) in terms of its possible application as a career decision making model before it will be applied in a South African context to test its applicability by means of qualitative research what factors influence career decisions of medical graduates towards rural practice.

2.3 CAREER DECISION MAKING

2.3.1 Introduction

Choosing a career after completion of formal studies is a complex process and is dependent on a wide range of factors, including preference at the start of studies, experience and exposure during training, organisational reputation, career progression prospects, rural or urban origin as well as cultural and socio-economic aspects (De Vries

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& Reid, 2003:789, Green *et al.,* 2006:15, Van Hooft, Born, Taris & Van der Flier, 2006:156).

A career is broadly defined as the combination and progressive development of a person's work experiences, roles, activities and jobs over a period of time (Arnold, 2001:116). The roles a person fulfil in his life include among others, those of a child, student, citizen, parent, employee, spouse, or pensioner or even "less common roles such as criminal, reformer and lover". These roles impact on careers and create a multidimensional career development that spans a lifetime (Super, 1980:282). The development of a career does not necessarily follow a systematic process but is dynamic, interactive, open ended and complex (Savickas, 2002:382).

Career decision making can be defined as a process that describes or explains the choices that a person makes when selecting a particular career. Stead and Watson (2006:94) state that the process of making a career decision presupposes that the decision maker has choices and that the eventual decision will produce the most satisfying outcome. According to Jepsen and Dilley in Stead and Watson (2006:94), career decision making include the following aspects:

- An individual that must make a decision;
- A situation that requires a decision to be made;
- Availability of information that will facilitate decision making. This information can be internal to the person (i.e. personality and interest) or external (i.e. availability of funding to pursue further studies);
- At least two choices or alternative options to pursue;
- Anticipated outcomes associated with each option or choice that are based on the probability that those outcomes will materialise;
- The value and utility of the anticipated outcomes to the person that must make a decision;
- A decision making strategy that is based on organised information; and
- A commitment or intention to implement the decision.

Work is an integral part of a human being's existence and psychologists have long been interested to understand how career choices are made, what factors influence these choices, how context impact on occupational choice and what interventions can be

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developed to assist the occupational choice. Career choices are not made in a vacuum and actually reflect individual characteristic and the environment in which the individual functions (Fouad, 2007:543 and Arnold, Silvester, Patterson, Robertson, Cooper & Burnes, 2005:535).

According to Fouad (2007:544), the need to have a greater understanding of the world of work is also coinciding with a time where careers and jobs have to adjust to significant shifts within the economy and labour force globally. The modern employee comes from a more diverse demographical background and includes older workers, working mothers and people from various cultural and religious backgrounds. Changes in technology have also impacted on the way how individuals work in nearly every occupational area and most importantly the assumption that an individual works for the same organisation from the start of his career until retirement is no longer valid.

This section focuses on key career decision making theories and models as well as highlights the key factors that have an influence on occupational choice.

Fouad (2007:545) compiled a framework of major areas of research in vocational psychology. This framework represents a useful overview of career decision theory and key research findings that explain occupational choices of individuals. The framework outlines four key questions that vocational psychologists investigate pertaining to career decision making, i.e.

- What factors influence career choices;
- How people make career decisions;
- What impact do context issues have on career choices; and
- What interventions can be employed to assist people in addressing the first three questions?

Fouad's summary is presented in Table 12 and in the next section of the literature review the researcher discusses the main theories related to career decision making, whilst the last section of the career decision making theme is dedicated to exploring the possibility of applying a general decision making theory in the vocational decision making domain.

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Table 12: Framework of major areas of research in vocational psychology

What factors influence career choice			How do people make career choices?	How does context influence career choices?	How are clients effectively helped?
Matching work and personality: *Holland's theory*	Developmental process that evolves over the entire life span: *Super's theory*	Self-efficacy: *Social cognitive career theory*	• Indecision • Career decision making self-efficacy	• Gender • Race/ ethnicity • Sexual orientation • Social class	• Counselling interventions • Working alliance
• Across cultures • Relationship to personality measures	• Aspirations • Exploration • Transitions				
Cross-theoretical constructs					
Vocational interests		Barriers		Relationships	

Source: Fouad (2007:545)

2.3.2 Career decision making theory: a summary

2.3.2.1 Introduction

According to Brown (2002:4-7) theoretical approaches to career decision-making are based upon two major theoretical perspectives of career choice and development namely psychological and sociological. Psychological approaches typically explain how career decisions are influenced by individual factors such as personality, interests, aptitudes and job satisfaction whilst sociological approaches entail the development of career decision-making processes that take into consideration a variety of individual factors prior to the actual career decision-making.

For the purposes of this study, the researcher examined John Holland's career choice theory and Donald Super's theory of career development to gain understanding of the psychological perspective towards career choice and Lent, Brown and Hackett's social cognitive career theory to review a more sociological approach towards career decision making. These theories are briefly discussed in the next sections.

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2.3.2.2 Career choice theory of John Holland

According to Arnold *et al*. (2005:535) and Fouad (2007:545) Frank Parson's proposal about the requirements for occupational choice, which was formulated more than a hundred years ago in 1909, is still valid in terms of occupational choice theory in general. Parsons' proposal suggested the following three basic requirements to enable individual occupational choice:

- Self-knowledge by an individual in terms of his attitudes, abilities, interest, ambitions, resources limitations and causes thereof.
- Knowledge and understanding of the requirements, conditions and opportunities of different jobs and careers, including what constitutes success.
- "True reasoning" on the relationship between the above two aspects.

Parson's proposal served as the basis for **Holland's theory of vocational personality types** which is generally known as the RIASEC model and describes individuals in terms of one of six or a combination of interest themes (Fouad, 2007:546).

Table 13 presents an overview of Holland's vocational personality types and is based on the notion that individuals generally choose occupations that best "match" their values, career goals, talents and needs. Holland generally believed that occupational choice constitutes a process of matching occupations and people (Fouad, 2007:546 and Greenhaus, Callanan & Godshalk, 2000:129). Holland's theory is classified as a "typological-interactive" theory mainly because it defines personality and environmental models and investigates the interaction between these two constructs (Stead & Watson, 2006:35).

Holland's model has been researched quite widely in recent years and it has been concluded that there are significant similarities between the domains of interests and personality in the occupational choice arena, particularly for cultural groups similar to Caucasians (Fouad, 2007:556). Holland's theory is popular and influenced the development of a wide range of psychometric instruments in the career decision making domain, however, it has been criticised as being gender and race biased which may affect the cross cultural validity of the model (Stead & Watson, 2006:45).

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Table 13: Holland's RIASEC model

Personality type theme	Personal characteristics	Sample occupations
Realistic	Shy, genuine, materialistic, persistent, stable	Mechanical engineer, aircraft mechanic, waitress
Investigative	Analytical, cautious, curious, introverted	Economist, physicist, surgeon, electrical engineer
Artistic	Disorderly, emotional, idealistic, imaginative, impulsive	Journalist, advertising manager, architect
Social	Co-operative, generous, helpful, understanding	Interviewer, counsellor, social worker, clergy
Enterprising	Adventurous, ambitious, energetic, domineering, self-confident	Real estate sales person, market analyst, attorney, personnel manager
Conventional	Efficient, obedient, practical, calm, conscientious	File clerk, typist, teller

Source: Greenhaus *et al*. (2000:129)

2.3.2.3 Donald Super's theory of career development

Super's theory is based on the thinking that although occupational choice is influenced by an individual's personality and interest, such decision does not take place at a single point in time, but is the result of a developmental process that evolves over time (Greenhaus *et al*., 2000:131). "The movement away from conceptualising career choice as a one-off event towards viewing it as an ongoing process is regarded as "Super's single most important idea" (Super, Savickas, Super, 1996:122 in Stead & Watson, 2006:51).

Super also placed much focus on the principal role of "self-concept" in the career development process. During the development of his theory, he refined the definition and context of self-concept many times and his "catch phrase" of "until you know who you are, you won't know what you can become" has been well developed over many decades (Stead & Watson: 2006:52). Greenhaus *et al*. (2000) state that Super believed people "implement" their self-concepts when choosing a career as they develop beliefs about occupations and then take steps to enter the occupation that is deemed most compatible with their self-concepts.

Savickas (2005:42) updates Super's theory and suggests that careers represent an individual person's sense of reality, career development represent an individual's

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continuous adaptation to changes in the environment; individuals develop their careers based on their past experiences and dreams about the future and individual career development is based on "making meaning, not discovering pre-existing facts". In practice, this means that people develop their careers in various contexts which include their physical environment, culture, race and ethnicity, family background and even the era in which they are living (Stead & Watson, 2006:60).

Fouad (2007:556) postulates that children's career dreams do not accurately predict their eventual occupational choice as this decision is influenced by socioeconomic status, education and training opportunities and life exposure. Aspirations may mediate the effects of an impoverished background and upbringing. Fouad (2007:556) further postulates that successful career exploration depends on the career adaptability, positive relationships, openness to new experiences and the "social and psychological capital" of individuals.

Social Cognitive Career Theory (SCCT) promotes the notion that an individual's belief in his/ her ability to achieve the goals and tasks associated with certain careers, especially non-traditional careers, are critical predictors of career choice (Fouad, 2007:549). This theory builds on the work of Holland and Super, but suggests that an individual has very strong control in career decision making rather than being "…victims of intra psychic, temperamental or situational forces; and that behaviour is often flexible and susceptible to change forces…" (Lent, Brown & Hackett, 2002:255). SCCT is discussed in more detail in the next section.

2.3.2.4 Social cognitive career theory

SCCT is based on Bandura's social cognitive model which has been developed into a comprehensive model that predicts career interest, choices and performance. Bandura (1991:248) postulates that behaviour is motivated and regulated by ongoing self-influence which includes self-efficacy. Self-efficacy beliefs influence decisions and effort to achieve decisions despite obstacles.

The SCCT was developed by Lent, Brown and Hackett (2000:36-49) and mainly focuses on the interrelationship between variables pertaining to people, their environment and their behaviour. It is hypothesised that these variables influence the processes through which people develop career interests, make career decisions and achieve performance

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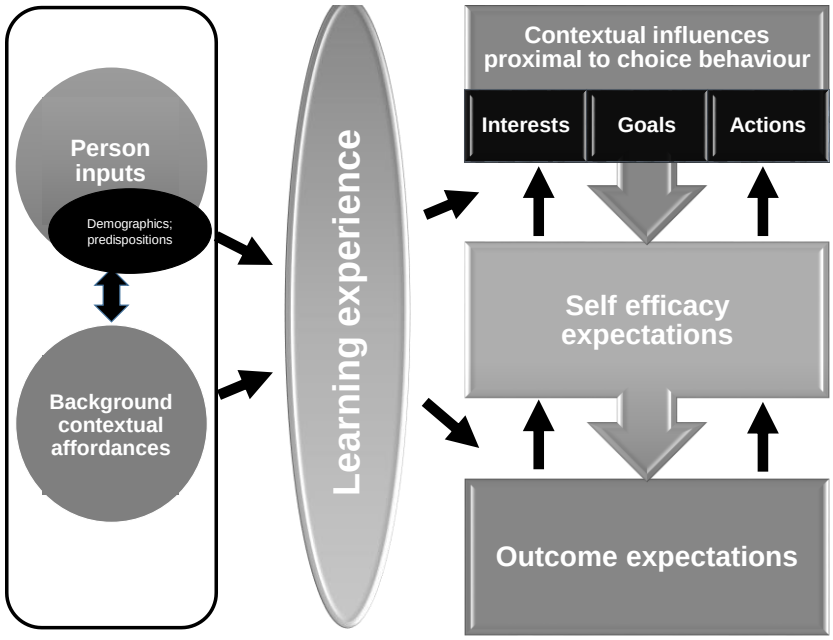
in the careers they choose (Fouad, 2007:549). The main reason for the development of this theory was to address the debate on theoretical merging in vocational psychology (Stead & Watson, 2006:23). According to Lent *et al*. (2002:267) the SCCT intended to "help construct useful bridges" by identifying and linking major career decision making related constructs and processes and in essence create a career management model that guides career decision making across a person's lifespan.

Since its original introduction, the SCCT model has been extended and applied in numerous studies to improve the practical value of the theory (Lent & Brown, 2013). The theory is depicted in Figure 6.

Figure 6: Social cognitive career theory



Source: Lent and Brown (2013)

A brief explanation of the elements of SCCT follows here:

- **Person inputs**: this construct typically includes race/ethnicity, gender, physical appearance, health status, special abilities such as intelligence (Hackett, 2013).
- **Environmental conditions** refer to socioeconomic status, job and training opportunities, perceived outcomes of various occupations, employment legislation, availability and demand for natural resources, technological developments, family training experiences and resources, neighbourhood and community influences (e.g.,

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family religion, values, expectations, women's roles, availability of models, etc.) and the education system (Hackett, 2013).

- **Goals** are described as the need of the decision maker to maximise the accuracy of the decision, minimise cognitive effort on making the decision, minimising negative feelings about the decision and maximising the justifiability of the decision (Sauermann, 2005:287). According to Lent and Brown (2006:29) goals are indicative of the type of activity a person wants to pursue and often represent predictions of what they actually do, especially in cases where the goals are "…stated clearly, are set proximally to the behaviour, refer to actions that are subject to personal control, and meet several other criteria…" (Ajzen, 1988 and Bandura, 1986 in Lent & Brown, 2006:29). It is assumed that major goals are affected by the presence of contextual factors such as social background and the relative absence of barriers which will weaken self-efficacy (Fouad, 2007:549).
- **Contextual influences (support and barriers)** are described as "external conditions or internal states that make career progress difficult". Examples of barriers include lack of parental support for occupational choice, lack of resources to pursue further studies, sexism and racism (Fouad, 2007:550).
- **Self-efficacy expectations** refer to beliefs in one's capability to perform in a certain manner or to achieve certain goals. Bandura (in Stead & Watson, 2006:29) states that people develop expectations about their capabilities through direct experiences of success or failures, through observing the failures of success of other people, through encouragement by people who are important to them or as a result of feelings of anxiety that they may experience.
- **Outcome expectations** refer to the desired consequences of a course of action taken by an individual (Lent *et al*., 2002:262). Outcome expectations, together with self-efficacy, predict interests which in turn predict action steps or actual behaviour in the form of a career decision (Fouad, 2007:549).

The value of the SCCT lies in its potential to predict career decision based on the understanding that if an individual believes he or she has the capability to take up a specific career and that such decision would lead to positive outcomes, the person is more likely to show an interest in such a career. The difference between this theory and earlier career decision making theories is the fact that SCCT also recognises the critical role of personal background factors and barriers in career decision making and as such it is a more dynamic career decision making theory (Stead & Watson, 2006:24).

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2.3.3 Extending career decision making theory

In the previous sections, the researcher highlighted the key career decision making theories that have been researched extensively. It is noted that the theories presented in this proposal are not extensive and excludes theories such as Krumboltz's social learning theory of career choice, Miller-Tiedeman and Tiedeman's career decision making model, Gottfredson's career theory of circumscription and compromise and Amundson's "interactive model of career decision making" (Stead & Watson, 2006:94). An analysis of these theories, however, also identifies aspects such as career and occupational interest, previous exposure and learning, background, self-belief and external influences as key factors that influence career decision making. The analysis furthermore confirms the belief that social learning theory has been the most influential theory for the development of a variety of sociological approaches to career decision-making. According to Abbott (2001:74) social learning theory seeks to explain human behaviour in terms of the relationship between the social environment and the way people learn, behave, and respond within specific social environments.

In addition, Fouad (2007:543) postulates that various assumptions in the vocational theory domain must be challenged and researched to extend the vocational psychology field. This includes the following:

- The assumption that "…everyone has the ability to make work choices" is not true as there are many people who do not have alternative options and employment opportunities may never present themselves. There is little understanding of the vocational behaviour of poor people for whom work is a means to survival.
- The assumption that "…work is a contained part of people's lives…" is a misconception as work is often interwoven with other aspects of people's lives. Self-conception, family needs and motivation to work may impact on whether people are working and what they are doing.
- It is untrue that "…the world of work is predictable…". The world is ever changing (globalisation, technological advances, demographic changes, organisational changes, etc.) and this impacts on every aspect of work, the workforce and the careers chosen by people.
- The assumption that "…an individual will make one career decision early in life…" is no longer relevant in modern times. Most research tends to focus on decisions made

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> by young people, however, individuals change jobs and careers throughout their lifetime and their available "psychological, cognitive and social resources" have an impact on their work choices not only when they made their first career choice, but also later on in life.

As stated in the introduction of this proposal, one of the key objectives of this study is to contribute to the body of knowledge in the vocational psychology discipline. As such the researcher investigated the possibility of expanding the available range of career decision making theories to include a more general decision making theory which has been used extensively in theory and research on a wide range of human behaviour, but to a lesser extent in the vocational theory (Arnold *et al.*, 2006:375). It is the researcher's view that based on available literature, the TPB which was developed by Icek Ajzen (Ajzen, 1991:179), can be regarded as a useful model to predict career choice and development. The theory fits in well with the aspects for career decision making models as identified by Jepsen *et a*l. in Stead (2006:94) and which were described in Section 2.3.2 above. In addition, the researcher is of the opinion that the TPB could be incorporated into or deemed as an extension to the broader scope of SCCT (SCCT) as discussed in Section 2.3.2.4 above. Lent and Brown (2006:29) refer to the principles of the TPB in a discussion on conceptualising and assessing social cognitive constructs in career research which may indicate the possibility of extending the SCCT to also include TPB constructs in vocational decision making models.

Furthermore, as stated by Rogers *et al*. (2009:334) many studies that are concerned with the career choices of medical graduates and practitioners do not employ theory based measures to predict such choices. Although the theory of reasoned action (TRA) has been applied in the medical graduate career domain (Gorenflo, Ruffin & Sheets, 1994:570-576), the researcher could not find any studies that used the TPB in this domain and in particular in the South African context. The researcher is therefore proposing to include TPB in the body of knowledge of career decision making models.

The TPB as well as recent literature pertaining to its application in the vocational psychology arena will be discussed extensively in the next section.

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2.4 THEORY OF PLANNED BEHAVIOUR (TPB)

2.4.1 Introduction

The TPB was developed by Icek Ajzen in 1985 and has since become one of the most cited and influential theories used to predict human behaviour (Ajzen, 2011b:1113). The TPB is an extension of the theory of reasoned action (TRA) which was developed by Ajzen and Fishbein in 1967 and revised and expanded in the early 1970's (Ajzen, 1991:179). The main difference between the TRA and the TPB is that the TPB includes perceived behavioural control as a construct that impacts on intentions and behaviour. Ajzen (2011b:75) explains that the TPB was developed "…in response to observed lack of correspondence between general dispositions, such as racial or religious attitudes, and actual behaviour...".

The TPB proposes that the intention to perform certain behaviour is influenced by three variables, namely an individuals' favourable or unfavourable evaluation of the behaviour (attitude towards the planned behaviour), subjective norms which represent the individual's perception of social pressure to perform the planned behaviour and thirdly the person's perceived capability to perform the behaviour (control over the planned behaviour or self-efficacy) which would reflect the individual's perception about the relative ease to implement the behaviour (Ajzen, 1991:181). Figure 7 represents the basic theory in the form of a structural diagram.

The TPB proposes that the amalgamation of attitude towards the behaviour, subjective norm and perceived behavioural control lead to the development of behavioural intentions. (Ajzen, 2011b:75). In general, the more favourable an attitude and subjective norm is perceived to be and the greater the perception of control is, the more likely a person would be to perform a certain behaviour.

The variables of the TPB are discussed in more detail in the next four sections.

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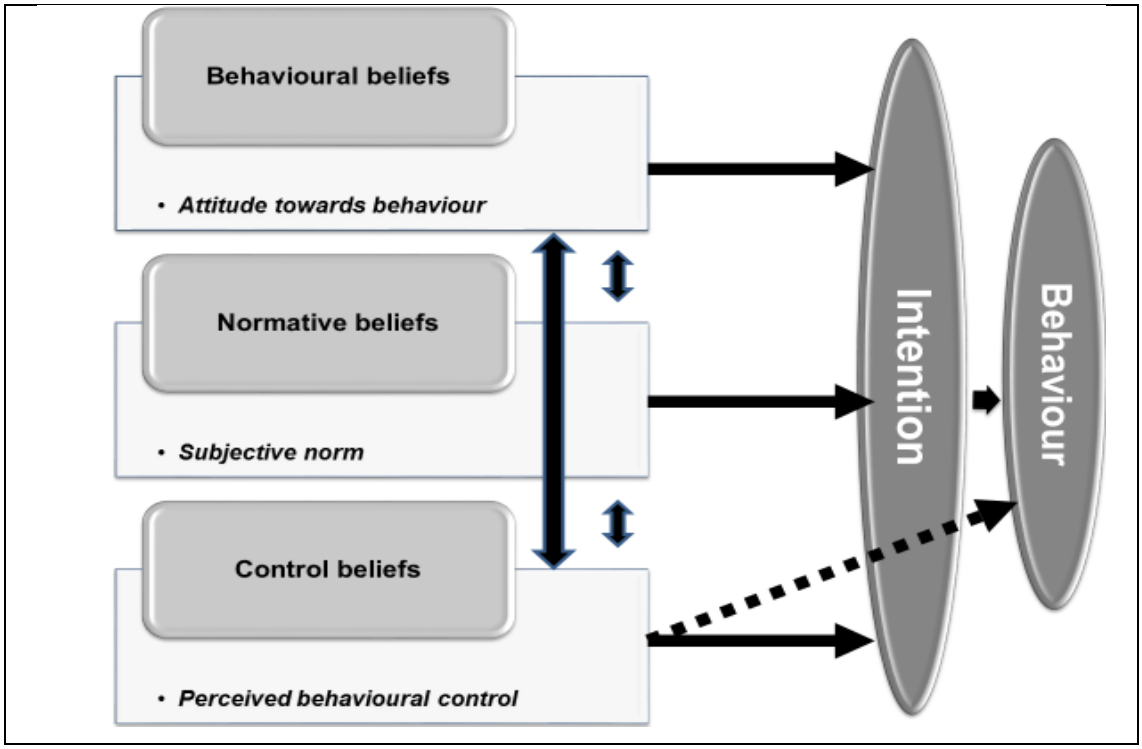
Figure 7: The theory of planned behaviour



Source: Ajzen (1991:181)

2.4.1.1 Attitude

The TPB proposes that a person's attitude towards the behaviour represents his/ her positive or negative evaluation of performing the particular behaviour of interest (Ajzen, 2005:118). Attitude towards a behaviour thus represents the degree to which implementation of the behaviour is valued (either positively or negatively).

Attitude is generally influenced by behavioural beliefs which link the behaviour to various outcomes. Ajzen (2011b:77) proposes that humans are able to formulate and hold many beliefs about any given behaviour, however, are likely to only remember a small number of these beliefs. He postulates that these few prominent beliefs are assumed to be the main determinants of eventual behaviour. It is thus useful to explore what people's salient beliefs are in order to generate strategies to change their behaviour.

2.4.1.2 Subjective norm

In TPB theory, subjective norm represents a person's perceptions of the expectations of their family, friends and society in general to perform or not perform certain behaviour.

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Subjective norm suggest that social influence has a strong impact on whether a person will implement a certain behaviour or not (Ajzen, 1991:188).

Subjective norm is influenced by "normative beliefs" which represent perceived expectations of important referents of the decision maker. The strength of normative beliefs are determined by the individual's motivation to comply with the perceived social pressure of a particular group or individual referent (Ajzen, 2011b:77).

2.4.1.3 Perceived behavioural control

Ajzen (1991) states that locus of control represents a generalised expectancy that do not change in various situations, perceived behavioural control can vary across different contexts.

Ajzen (2005:140) explains that perceived behavioural control is most compatible with Bandura's concept of self-efficacy which was described in Section 2.3.2.4 above. According to Ajzen (2005:140) various research investigations have demonstrated that people's behaviour is strongly influenced by their confidence and self-belief in their ability to perform certain behaviour. Self-efficacy beliefs are seen to influence choice of behaviour, preparation for certain behaviour, effort applied during implementation of certain behaviour as well as the cognitive and emotional patterns and reactions of an individual during implementation of behaviour.

Perceived behavioural control are based on significant control beliefs and may include beliefs about the presence or absence of skills, abilities, availability of resources, co-operation of others, etc. which will impact on the relative ease of implementing a behaviour (Ajzen, 2011b:77). Perceived behavioural control can serve as a "proxy" for actual behavioural control if it represents the "truth" in which case it can be used to improve the prediction of behaviour.

2.4.1.4 Intentions

Central to the TPB is an individual's intention to perform a specific behaviour. According to Ajzen (1991:181) intentions are assumed to represent the motivational factors that have an impact on behaviour and it is considered to be the immediate precursor of behaviour. They are indicators of how hard a person is willing to try or how much effort he will put in to implement certain behaviour. Thus, the stronger the intention to

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implement certain behaviour is, the more likely it is that an individual will perform such behaviour.

Intention is based on attitude toward the behaviour, subjective norm, and perceived behavioural control, with each predictor weighted for its importance in relation to the behaviour and population of interest. Changes in any factor should produce changes in behavioural intentions (Ajzen, 2006)

2.4.2 Extended TPB model

The TPB assumes that behaviour is normally planned and that people consider the potential consequences of the behaviour, the expectations of important people and factors that are likely to facilitate or inhibit the implementation of the behaviour when they plan the behaviour. According to an extended version of the TPB, the ***informational foundation*** of the thee core variables of the TPB comprise behavioural beliefs (an individual's belief about consequences of particular behaviour), normative beliefs (an individual's perception about particular behaviour, which is influenced by the judgement of significant others) and control beliefs (an individual's beliefs about the presence of factors that may facilitate or impede performance of the behaviour (Ajzen, 2005:127). Ajzen (2011b:76) commented that: "Although the behavioral, normative, and control beliefs people hold may sometimes be inaccurate, unfounded, or biased, their attitudes, subjective norms, and perceptions of behavioral control are thought to follow spontaneously and reasonable from these beliefs, produce a corresponding behavioral intention, and ultimately result in behavior that is consistent with the overall tenor of the beliefs."

Furthermore the TPB give recognition to the importance of ***background factors***, which are divided into personal, social and informational categories, to account for an individual's intention to implement certain behaviour (Ajzen, 2005:134). Although both background information and foundational information assists the understanding of the rationale behind certain behaviour, it must be noted that background factors and beliefs are not necessarily connected (Ajzen, 2005:134). Background factors represent the origin of beliefs and are influenced by many factors such as age, gender, ethnicity, socio economic status, education, nationality, general attitudes and values, intelligence and past experiences, among others. Ajzen (2011b:82) acknowledges the importance of

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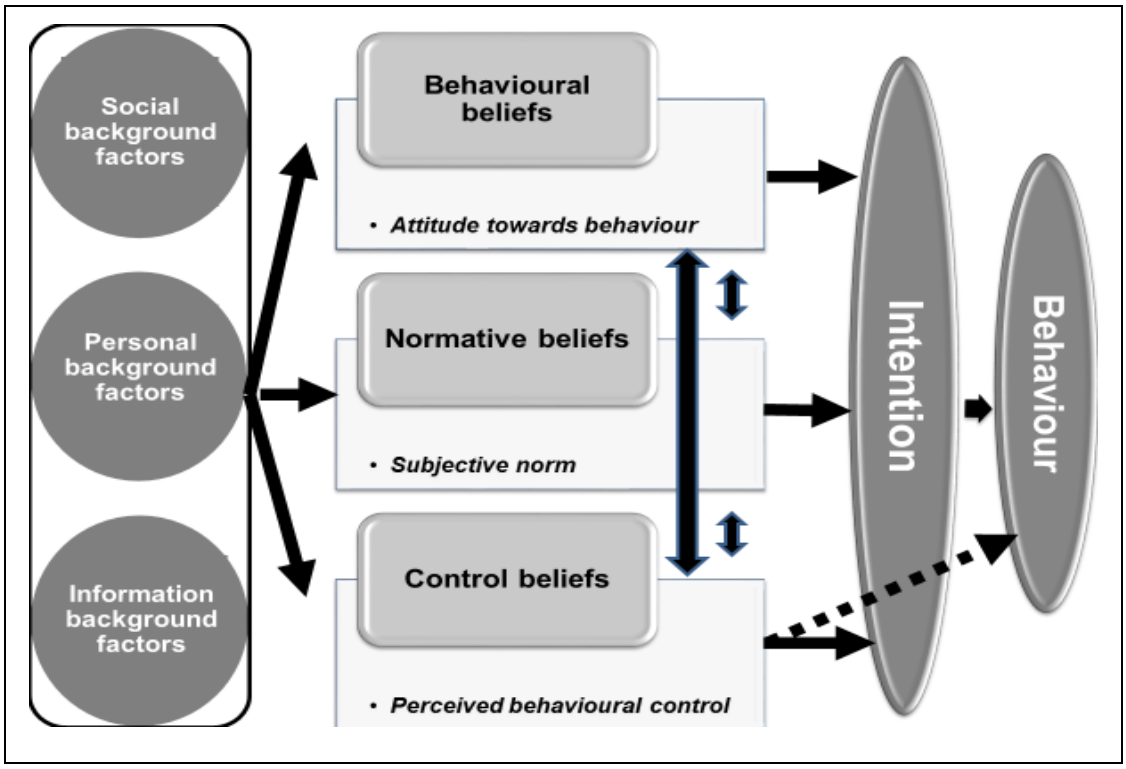
these factors, however, challenges whether they have a significant impact on beliefs. He proposes that it may be useful to identify background factors to extend understanding of the determinants of behaviour and suggests that "…the theory postulates that background factors exert their influence on intentions and behaviour indirectly by affecting the beliefs that provide the basis for the formation of intentions and thus for performance of behavior…". It is thus possible that individuals or groups with different demographic profiles will reflect different beliefs about the same behaviour which will in turn produce different attitudes, subjective norms and perceptions about control. The diagram in Figure 8 represents an extended version of the TPB and gives context to the informational foundation and background factors that impact on the intention to implement certain behaviour.

Figure 8: Extended TPB model



Source: Ajzen (2005:135)

Various authors such as Conner and Armitage (1998:1429), Arnold *et al*. (2006), Van Hooft *et al*. (2006) and Picazo-Vela, Chou, Melcher and Pearson (2010), among others, propose the addition of further variables to enhance the predictive validity of the TPB. These additional variables range from past behaviour, habits, moral norms, self-identity,

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identification with behaviour, affective beliefs to conscientiousness. As discussed in Section 2.4.3.2 below, Ajzen (2014:2) welcomes the addition of new predictors and he states that adding additional variables may improve the predictive value of the TPB.

The extended version of the TPB as presented in Figure 8 served as a basic model to test the applicability of the TPB in a career decision making context in this study.

The next section highlights some of the applications of the TPB in various contexts and serves as an introduction for the discussion on the application of the theory in a vocational context.

2.4.3 Application of the TPB

2.4.3.1 Introduction

According to Ajzen (2005:119) the TPB has been tested in hundreds of studies in a wide variety of disciplines since the theory was first introduced in 1985. A comprehensive collection of research publications, books and other documents is available on Icek Ajzen's website. The researcher established there are 1 430 documents listed on the said website, as at 18 April 2014 (Ajzen, 2014a). McEachan, Conner, Taylor and Lawton (2011:98) ascribe the popularity of the TPB to the fact that it is well researched and proven, and provides clear guidelines on how to measure, analyse and develop interventions in applying the theory. Sniehotta, Presseau and Araújo-Soares (2014:2) state that "The TPB has shaped psychological theorising…" through confirming that intentions and perceived control are consistent predictors of behaviour.

Ajzen (2005:120) postulates that researchers have generally found strong support for the applicability of the theory to predict behaviour in a wide variety of disciplines. Table 14 reflects the results of a representative sample of studies, where researchers applied multiple linear regression or structural equation analyses to determine, in terms of a multiple correlation (R), the predictive ability of the three TPB variables as well as the relative contribution of each variable to the overall prediction of behaviour.

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Table 14: Prediction of intentions from attitude towards the behaviour (AB), subjective norm (SN) and perceived behavioural control (PBC)

Intention	Correlation coefficients			Regression coefficients			
	AB	SN	PBC	AB	SN	PBC	R
Physical exercise (Courneya, 1995)	0,51	0,47	0,48	0,22	0,17	0,18	0,62
Hunting (Hrubes *et al*., 2001)	0,91	0,89	0,75	0,58	0,37	0,07	0,93
Recycling of glass (Ludemann, 1997)	0,68	0,62	0,62	0,44	0,17	0,39	0,77
Dropping out of school (Davis *et al*., 2002)	0,47	0,47	0,62	0,22	0,28	0,44	0,71
Engaging in leisure activities (Azjen & Driver, 1992)	0,61	0,70	0,80	0,28	0.10*	0,66	0,89
Buying stocks (East, 1993: Study I)	0,54	0,54	0,44	0,23	0,29	0,35	0,71
Contributing to a scholarship fund (Azjen *et al.* 2004, total sample)	0,51	0,59	0,72	0,13	0,27	0,51	0,77
Donating blood (Giles & Cairns, 1995)	0,55	0,22	0,73	0,25	0,11	0,61	0,78
Attending class (Ajzen & Madden, 1986)	0,51	0,35	0,57	0,32	0,16	0,44	0,68
Using cannabis (Conner & McMillan, 1999)	0,70	0,55	0,69	0,42	0,11	0,43	0,81

Note: * Not significant; all other coefficients $p<0.05$.

Source: Ajzen (2005:121)

2.4.3.2 Limitations of the TPB

Ajzen (2011a:1114) states that although the TPB has grown much in popularity since it was first introduced in 1985, the theory has also been criticised in a number of research publications. Most critics appears to have accepted the TPB's basic reasoned action assumptions but question the theory's sufficiency to predict behaviour. The following criticisms and limitations are summarised by Sniehotta *et al*. (2014):

- The TPB is less predictive of behaviour in longitudinal than "shortitudinal" studies;
- The few experimental tests of the TPB did not support the theory's assumptions as available evidence was inconclusive to confirm the usefulness of the theory to change behaviour;
- The static explanatory nature of the TPB fails to clarify demonstrated effects on perceptions and future behaviour;

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- The assumption that background factors such as age, socio economic status, and external environments are mediated through the TPB is “empirically and conceptually indefensible”;
- Evidence exist to prove that habits, regrets, identity, self-regulatory processes such as planning can predict behaviour over and above TPB measures;
- The TPB does not lend itself well to experimental tests and as such limited the opportunity for researchers to test two possible hypotheses against each other – little new knowledge has been added in the TPB research arena for a long time;
- “In practice, the field has already moved on. Scientists now use “extended” forms of the theory, add self-regulatory behaviour change strategies to their interventions and elaborate around the theory. By doing so, they indicate that they do not believe that the TPB as it stands provides an acceptable explanation for human behaviour and that it needs to be changed or extended.”

Ajzen (2014:1-7) responded to criticism by Sniehotta *et al.* (2014:1-7) by indicating that the TPB is “…alive and well…” and the model promotes continuous testing, extension and development of the theory. Ajzen (2014:2) welcomes the addition of new predictors as the TPB was actually developed by adding an additional variable to the TRA, namely perceived behavioural control. According to Azjen, evidence exist that adding additional variables may improve the predictive value of the TPB and as such the development of the theory is an ongoing and open process. Côté, Gagnon, Houme, Abdeljelil and Gagnon (2012:2291) support this statement and comment that various authors have found that additional variables have proven to significantly increase the theory’s predictive ability.

Ajzen (2014:3) also responds to the criticism that the TPB fails to change behaviour by stating that the TPB is not a theory of behaviour change, but rather it is meant to explain and predict human intentions and behaviour. It can, however, serve as a useful framework for designing behaviour change interventions.

The TPB has also been criticised for being overly focused on individual decision-making and it may therefore be of limited use in non-Western cultural contexts. Marks (2008:978) states that the TPB does not sufficiently reflect the complexity and interplay among social, cultural, economic and political factors that influence behaviour.

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Despite the above limitations and criticisms, it would seem that the theory has broad application possibility and as such there is strong support for the application of the theory in a vocational sphere which is the intention of this study. The next section is dedicated to key research conducted with regard to the application of TPB in the career decision making and vocational psychology arena.

2.4.3.3 Application of the TPB in career decision making

Although limited research has been conducted in this area, the TPB and its predecessor, the theory of reasoned action (TRA), has been found to be a valid predictor of career choice in studies conducted so far. These studies have generally demonstrated the application of the theory in core and extended forms to include other variables such as ethnic and gender differences in job applicants, moral obligation towards employment in a public sector organisation and identification with such an organisation (Arnold *et al*., 2006:375, Van Hooft *et al*., 2006:157).

For the purposes of this study, the researcher focused on the findings of a few studies pertaining to the application of TRA and TPB in the vocational setting.

Montano, Neighbor, Carline, Wright and Phillips (1988:830) applied the TRA to establish a framework for a survey to determine whether and how attitudes and social support influence the choices of fourth year medical students to choose a career in family practice. They interviewed medical students to establish their views about the outcomes of a career in family practice and important people who might influence their career decisions. Through this process the researchers compiled a list of beliefs related to a career in family practice. The students were then requested to list their preferred specialities and then value the beliefs in terms of chosen careers. The researchers found that the theory and in particular the attitude scale was useful to discriminate between choices of family practice and other specialities.

Felton, Dimnik and Northey (1995:2) applied the TRA in the examination of career choice of accountants. Students were asked to indicate how strongly their beliefs were that a career as chartered accountant would have certain consequences. A pre-determined list of possible outcomes associated with a chartered accountant career was used to test the strength of their beliefs. The researchers found support that students choose accountancy careers because they have positive attitudes towards the career and its

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associated outcomes which include benefits such as good long-term earnings, advancement opportunities and job flexibility. The researchers proposed that the results provided some counsel for policy makers and educators as it could be used to shape interventions to promote the benefits of a chartered accountant career. Felton *et al*. (1995:17) identified the need for further research using the TRA model to determine what factors affect decision making for and against choosing accountancy careers in order to attract the most suitable candidates to the profession.

In another study to test the applicability of TRA in a vocational context, Van Hooft *et al*. (2006:156-166) found that career decisions in the form of job applications, may vary depending on applicant characteristics such as gender and ethnic backgrounds. Women were found to be more sensitive to subjective norm influences. The study did not highlight significant variances in terms of the intentions of various ethnic groups in terms of job applications. The study results support the extended version of Ajzen's TPB theory (refer Figure 8 above) where race and gender have been included as "background factors" that have an impact on intentions towards implementing certain behaviours, which represents job applications in this case.

In a study conducted by Arnold *et al*. (2006:374-390), the researchers examined the application of the core and some extended variables of the TPB to predict the career choices of nurses, physiotherapists and radiographers to work for the National Health System (NHS) in the United Kingdom. They conducted the study among three groups, comprising of those who are not professionally qualified, those who are in training in the three medical occupations and those who are already qualified in one of the three medical occupations, but not working for the NHS. Overall, the three core variables accounted for highly significant proportions of the variance in intention, after controlling for demographic variables. *Arnold et al*. (2006:385) concluded that the TPB has utility in the context of predicting occupational choice as it successfully explains the significant variance in intention between three different groups ("professionally unqualified", "in training" and "professionally qualified") regarding the ease of implementation to become professionally qualified and the motivation to be employed by the NHS. The researchers also concluded that vocational psychologists should consider further testing and utilisation of the TPB in the career decision making realm. They have also suggested further research to be conducted to assess the differences between individuals and groups in terms of relative ease to implement occupational decisions as well as looking

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into external obstacles that may exist independently of perceived behavioural control, but impact on career decision making (Arnold *et al.*, 2006:387).

Van Gelderen, Brand, Van Praag, Bodewes, Poutsma and Van Gils (2008:538-559) applied the TPB to explain entrepreneurial career intentions by business students. The study involved the use of qualitative research prior to the main study to elicit modal beliefs to be tested in the main TPB model used for the study. This is customary practice in TPB research methodology (Ajzen, 2002). Van Gelderen *et al*. (2008) found the TPB to be useful in explaining the entrepreneurial intentions of business students and correlated with results of previous studies conducted to measure entrepreneurial intentions.

In summary, it can be concluded that the TPB is a promising theory to predict career choices in the settings where it has been tested, however, available literature suggest further research should be conducted to test the various constructs of the theory in more settings (Arnold *et al*., 2006).

2.4.3.4 Application of TPB in qualitative studies

The TPB methods that have been developed over the years for use with the theory are largely quantitative in nature, however, qualitative research is normally applied to generate behavioural, normative, and control beliefs to be tested with quantitative methods (Ajzen, 2014b).

The researcher has, however, identified a few published studies that tested the TPB with qualitative research. These are discussed briefly here. The methodology used by the researchers will be explored in more detail in the research methodology section of this study.

Dunn, Mohr, Wilson and Wittert (2008:331-334) used a qualitative design to test the rationale behind people's decisions to either choose or avoid fast foods. The typical TPB question format as specified by (Ajzen, 2002) was used to construct a set of interview questions to test the core constructs of the theory and participants were requested to describe their thoughts and beliefs in their answers. The study was useful to create a predictive framework that would serve as the basis of further quantitative exploration and design of interventions to fast food consumption behaviour.

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Renzi and Klobas (2008) published a paper which describes their methodology to test the TPB with qualitative research. They state that TPB is mostly used with quantitative research, however, there may be a need to test the theory with a qualitative research design due to the nature of available data (e.g. interviews) or the availability of only a limited number of cases where statistical analysis may not be possible. The purpose of their paper was to provide a detailed description of qualitative coding and analysis, interpretation and presentation of data using the TPB in a qualitative study to explore the factors which influence university teachers to adopt teaching models based on online social interaction when an e-learning platform is used to complement undergraduate classroom teaching. The researchers found the combined TPB framework and qualitative research method to be useful to provide insights into teaching model adoption.

Zoellner, Krzeski, Harden, Cook, Allen and Estabrooks (2012:1774-1784) used the TPB in a qualitative study to investigate the core variables of the TPB that are culturally specific in terms of the consumption of sugar sweetened beverages, water and artificially sweetened beverages. The study served as the formative stage to explore the utility of a TPB-guided framework to understand and intervene on behaviours related to sugar sweetened beverage consumption. The researchers collected data by means of focus group questionnaires that were grounded in the core variables of the TPB. The transcripts were coded to generate key themes with positive and negative connotations. The researchers then applied quantitative methods to analyse the themes and draw results. The study was deemed useful to provide a framework for exploring the main influencers of beverage consumption patterns and identifying key interventions that could be considered in the design of programmes to reduce sugar sweetened consumption. The researchers recommended that future studies should include the use of "…theory- grounded qualitative approaches…" in the formative phase of TPB research.

Duncanson, Burrows, Holman and Collins (2013:227-236) investigated child feeding behaviours and attitudes of parents with small children within a TPB framework. The researchers used semi-structured interviews to collect data and once coded, emergent themes were mapped onto an intuitively coded TPB framework with its core constructs. The researchers found the application of the TPB in a qualitative context to be useful to explain disparity between intentions and behaviours and to generate solutions to change behaviours in child feeding practices.

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The most recent TPB study that used the TPB in a qualitative context is research conducted by Robertson, Mullan and Todd (2014:157-164). The study explored factors that are relevant to controlling weight in overweight and obese people in two groups, namely young adults and older adults. Semi-structured interviews were conducted with participants in the two groups and a mixed deductive – inductive approach was structured around TPB constructs, however, not limited to the TPB. The TPB was seen as a useful framework to inform weight loss interventions for the two groups.

These studies suggest that testing predictions of the TPB constructs by means of qualitative research may be useful to generate practical frameworks that could create better understanding of beliefs and behaviour as well as inform interventions aimed at influencing or changing behaviour. The researcher believes that further studies in terms of using the TPB in qualitative research may add value to the body of knowledge in this regard as it may generate new variables to consider when testing the model.

2.4.3.5 Application of the TPB in South Africa

Upon investigation, the researcher found a small number of South African studies that employed the TPB to predict health and sexual related behaviour, but it appears the theory has not been tested in any other South African domain as yet (Boer & Mashamba, 2005:590-602; Aarø, Flisher, Kaaya, Onya, Fuglesang, Klepp & Schaalma, 2006:150-156; Saal & Kagee, 2011:1-9 and Protogerou, Flisher, Aarø & Mathews, 2012:15-35). These studies recognised that the TPB could potentially be limited as it employs Western social cognition models and proposes that additional variables such cultural processes, societal factors and constraints and social environments be considered in studies that test the TPB in South African contexts. Protogerou *et al*. (2012) have, however, found that the predictive ability of the TPB to test sexual risk intentions of South African youth in urban, rural, and traditional African settings, compare favourably to those obtained in the international literature. These outcomes question arguments against the TPB's application in non-Western settings.

2.5 CHAPTER SUMMARY

In this chapter the researcher critically examined and discussed literature on the main themes of the study in order to equip her with a thorough understanding of the main

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themes that informed the research questions of the study. The literature review and key findings are summarised here.

South Africa has a dysfunctional health system which is rooted in the country's history. In many cases the challenges remained or were exacerbated after the onset of democracy in 1994. The factors that historically have an influence on the health system of South Africa include:

- Racial and gender discrimination;
- Migrant labour system;
- Destruction of family life;
- Vast income inequalities;
- Violence; and
- A large portion of the population live in extreme poverty with limited access to social service including health services.

These factors in general resulted in the following health system challenges:

- Fragmented health system where access to health care is determined by socio economic status and location.
- Apart from contributing to the high morbidity rates related to HIV/AIDS, the quadruple burden of disease faced by the country is resulting in very high mortality results due to violence and injury, chronic diseases, mental health disorders, and maternal, neonatal, and child mortality. The HIV/Aids pandemic is seen as a particularly tragic outcome because of South Africa's refusal to recognise the causal link between HIV and Aids which denied hundreds of thousands of citizens the right to have access to anti-retroviral treatment with resultant deaths. In addition, life expectancy in the country dropped by almost 20 years in the last two decades.
- Inequity and maldistribution of health professionals (including physicians) across various geographical areas, health sectors as well as race and gender distribution and aggravated by the migration of skills within and from South Africa to urban areas, the private medical sector, and other countries and out of the profession. The researcher noted various reports about actual percentages of physician representation in the various sectors – these are not debated here as the principle remains: less health professionals (including physicians) are available to serve the majority of the population and such situation is not sustainable in the long run.

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- Particular challenge: attraction and retention of health professionals (including physicians) in rural and underserved areas of the country.

Numerous health reforms have been implemented over the years and these have been strengthened and revitalised in past five years to address challenges. The reforms are summarised here:

- Creation of single health system for the country and universal health coverage for all citizens through the NHI, irrespective of socio economic status;
- Creation of district health system to create decentralised health management and less dependency on central health authorities;
- Improved regulatory structures and health system information systems to support health care at all levels;
- Specific attention to primary healthcare in order to better serve poor and vulnerable sectors of the population, but also align health care policy with international trends;
- Revitalisation of health facilities and quality of healthcare and overhauling the health care system on all levels of delivery;
- Addressing health human resources challenges and inequities with specific focus on training, attraction, retention, distribution, professional development and remuneration of health professionals.

With specific reference to health human resources, the country has experienced health workforce redundancy and vacancy freezes, shortages of health professionals, graduate unemployment and cuts in education and training provision in the last 15 to 20 years. This lead to inequity and maldistribution of health professionals (including physicians) across the private and public health sector, in provinces and between urban and rural areas. Strategies have been devised to turn this dire situation around and were discussed in Chapter 2.

Of relevance to this study is the reality that people living in rural and peri-urban areas of the country, have less access to physicians (both general and specialist practitioners) than their counterparts in urban areas. People living in rural areas are particularly compromised as they have the added disadvantage of remoteness which makes access to health care very difficult compared to peri-urban people who can more easily travel to urban areas to access health care. In addition, rural people are generally poorer due to the unique circumstances of rural environments as described in Chapter 2 and do not

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have the means to travel far distances to access health care. It thus implies that rural areas should be recognised as a specific focus area to ensure that citizens firstly have access to healthcare and health facilities and secondly receive good quality health care.

Although government has devised many strategies to increase the number of health professionals and specifically physicians in rural and underserved areas over the last two decades, their efforts (which have been described in Chapter 2) have yielded little success, seemingly in the absence of a dedicated rural health strategy for the country. There seems to be a generally accepted view that out of 1 200 doctors who qualify annually in SA (thus excluding those who train in Cuba, for example), about 50% will move overseas in the first five years after qualification with 600 doctors remaining in South Africa. Three quarters of these doctors apparently choose careers in the private sector, thus leaving 150 doctors per annum to take up positions in the public healthcare sector. Of those remaining in public service, the vast majority will probably work in urban centres (often with a view of specialising further and developing a career in academia). This leaves as few as 35 doctors from any single year of graduation to potentially take up positions in rural areas of South Africa.

This dire situation was identified as an opportunity for further exploration and the research questions were informed by the researcher's curiosity to understand what approach can be followed to increase the number of physicians in rural areas, particularly in the public health sector. The focus of the research would be on the motivation of individual physicians to decide whether they want to pursue a career as a rural physician, rather than government initiatives to attract and retain physicians in these areas, although the impact of these initiatives would be considered as part of the study (e.g. bursary schemes for medical training locally and international which come with contractual obligations to work in rural areas or compulsory community service where individual physicians have little influence in terms of where they are placed).

Considerable research has been conducted to investigate the factors that influence the attraction and retention of physicians in rural areas, both internationally and in South Africa, however, the literature review revealed that none of these studies employed a theoretical model to interrogate the career choice decision making of participants. The researcher thus reviewed various career decision theories and models to establish whether any of these models could be useful to create a framework for career decision

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making that favours rural practice. In addition, the researcher critically reviewed the factors that influence career decision making of physicians, and specifically choosing a career as rural physician to gain understanding of the broad themes in this regard. The study by Couper *et al.* (2007) served as a valuable input into the research design of the study.

Although the SCCT (SCCT) was identified as a possible model to employ in the research because it recognises the importance of social and personal background factors in career decision making and would thus be flexible to cater for South African context issues, the researcher decided to explore whether a general decision making theory, namely the TPB, could be employed to test its applicability in the rural career choices of physicians as it contains a construct that caters for a person's perceived control over such decision. The research focus was to add to the body of knowledge in vocational psychology by considering whether the TPB could be a useful model to predict career choice.

An overview of the TPB and its constructs was presented in Chapter 2. The impact of these constructs on choosing a career as a rural physician was the focus of the research design of this study and informed the research questions listed in Chapter 1. Although the TPB is generally tested by means of quantitative research, a qualitative research paradigm was chosen for this study, as the researcher wanted to gain a deep understanding of the behavioural, normative and control beliefs of participants in the chosen population as well as the impact of social, personal and demographic background factors on the career decisions of physicians and specifically with regard to choosing a rural career. A quantitative study would probably have produced a verified test of the applicability of the TPB in the context, however, less understanding and knowledge would have been generated that could potentially be useful in future studies and practical applications and which may include quantitative research.

The next chapter will focus on the research design and methods that were applied in this study.

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CHAPTER 3: RESEARCH METHODOLOGY

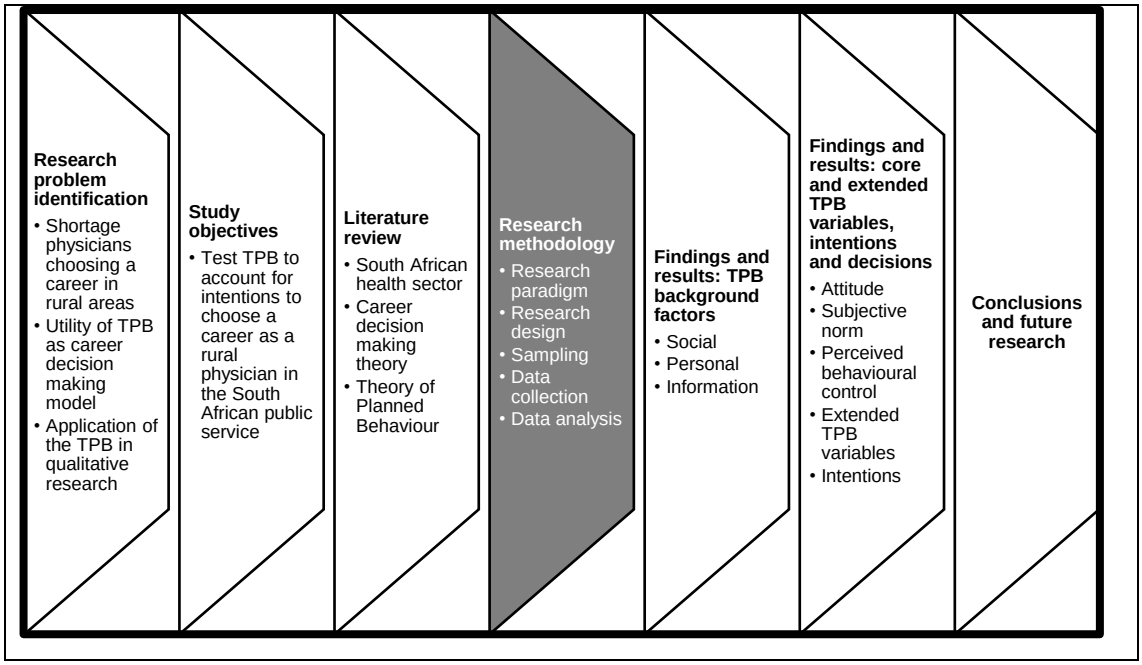
3.1 INTRODUCTION

In the previous chapter, the researcher critically examined and discussed literature on the main themes of the study in order to equip her with a thorough understanding of the following:

- The South African health sector and in particular health human resources strategies and challenges in the public health sector and more specifically the attraction and retention of physicians in the rural health sector;
- Career decision theory and models; and
- The TPB, particularly with regard to its employability as a career decision making model as well as its utility in qualitative research.

As indicated in Figure 9, the researcher discusses the chosen research paradigm and design in this chapter. She furthermore presents an overview of the methods used and her experiences during the sampling, data collection and data analysis processes of the study.

Figure 9: Overview of Chapter 3



Source: Researcher's own summary.

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3.2 RESEARCH PARADIGM/ PHILOSOPHY

3.2.1 Introduction

According to Babbie (2007:33), paradigms play just as a fundamental role in scientific investigation as they do in everyday life. Researchers generally base their work on a series of philosophical beliefs or assumptions when they undertake research. Creswell (2012:16) defines philosophy as the use of abstract ideas and beliefs that inform research. He further states that the “axiomatic“ issues introduced by Guba and Lincoln in 1988 have guided philosophy in research (Creswell, 2012:19) They are beliefs regarding reality (ontology), the nature of the information and how it can best be interpreted (epistemology) and the role and place of values in the research process (axiology). According to Ponterotto (2005:130), these terms attempt to answer the following questions:

- **Ontology**: “What is the form and nature of reality and what can be known about that reality?”
- **Epistemology:** "What is knowledge?", "How is knowledge acquired?", "What do people know?", “What is the relationship between the “knower” (represented by the research participant) and the “would-be knower?” (represented by the researcher).
- **Axiology:** “What is the role and place of personal values in the research process?”

Guba and Lincoln (1994:105-117) developed an influential classification and set of definitions for research paradigms. They identified four paradigms namely positivism, post positivism (also known as critical realism), constructivism (also known as interpretivism) and critical theory. Ponterotto and Grieger (2007:410) summarised the various categories as follows:

- Positivist research is modelled after the natural sciences and aims to obtain objective knowledge that can lead to establishing cause and effect relationships.
- Post positivism arose out of dissatisfaction with some aspects of the positivist stance. Post positivism acknowledges an objective reality that stresses “theory falsification”.
- Constructivist/Interpretivist research is regarded as an interaction between or among the researcher(s) and participant(s) in order to understand the “phenomenon” from the participants' perspective.
- Critical theory research believes that phenomena must be studied in the context of the historical, social, political, economic and other influences which have given rise to current conditions. The objective of such research is to use knowledge to enhance

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the quality of life of minorities, women, and other traditionally silenced, ignored, marginalized, and/or repressed groups.

These beliefs have since been updated, incorporating an increased understanding of original paradigms and also expanding paradigms, for example the addition of the "participatory" paradigm to reflect current thinking (Lincoln, Lynham & Denzin, 2011:249). Table 15 provides a practical summary of the above meta-theoretical frameworks as described by various authors.

Table 15: Meta theoretical frameworks

Paradigm	Ontology (nature of reality; theory of existence)	Epistemology (theory of knowledge, learning and nature of the truth)	Methodology (how to gain knowledge; theory of method)
Positivist paradigm	• One "scientific" or "real" reality, but apprehendable • Search for certainty	• Explain events through knowable facts, causes and effects • Dualist/ objectivist • True" findings • "Objective" observation • Absolute knowledge	• Mainly quantitative methods • Experimental/ manipulative • Verification of hypotheses • Predicting • Control • Generalisation
Post positivist paradigm	• Critical realism • "Real" reality but only imperfectly and probalistically apprehendable	• Modified dualist/ objectivist • Critical tradition/ community • Findings probably true occur	• Modified experimental/ manipulative • Critical multiplism • Falsification of hypotheses • May include qualitative methods
Constructivist/ Interpretivist paradigm	• Multiple subjective realities which as constructed and interpreted. • Constructed through human interactions.	• Events understood through interpretation • Influenced by interactions with social context. • Co-created findings	• Qualitative • Case studies • Understanding and interpretation of particular contexts
Critical/ Emancipatory paradigm	• Reality shaped by historical, social, political, cultural, economic, ethnic and gender values • Crystallised over time	• Understand events in social and economic context. • Emphasis on ideological critique and praxis. • Findings are value mediated and socially constructed.	• Argumentative and controversial • Aims for social justice and emancipation • Discourse analysis • Critical action research
Participatory paradigm	• Participative reality • Subjective objective reality, co-created by mind and given cosmos	• Critical subjectivity in participatory transaction with cosmos • Extended epistemology of experiential, propositional and practical knowing • Co-created findings	• Political participation in collaborative action inquiry • Use of language grounded in shared experiential context.

Source: Archer (2013), Babbie and Mouton (2001:20-39), Creswell (2012:16) and Lincoln *et al.* (2011:249).

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3.2.2 Choice of research approach

In this section the researcher defends her choice of the research approach to conduct the study. This defence is discussed in terms of the paradigms and meta-theoretical assumptions discussed in the previous section.

Although the majority of research conducted to test the TPB in various settings use quantitative studies which fall within the positivist paradigm (Ajzen, 2014b), it was deemed as an unsuitable paradigm as the researcher wanted to gain a deep understanding of the impact of the core and additional variables of the TPB as well as background factors which are unique and specific to a South African context as far as intentions are concerned. Survey questionnaires were deemed to be limiting in this regard and would not satisfy the need for exploring and understanding the beliefs, feelings and emotions of participants.

The constructivist/interpretivist paradigm was deemed more appropriate for this study because the qualitative design of the study was informed by the need for rich and in depth information (Babbie & Mouton, 2001). In addition, this paradigm seeks to understand the world in which people live and work where experiences are varied and where people give meaning to their lives based on their social and historical contexts. The researcher also needed to interact with representatives of the population to strengthen her understanding of their experiences and intentions and clarify her own perceptions and interpretations of the contexts of the participants.

From an ontological perspective the researcher was able to explore multiple context specific realities such as background factors and gain insights into the different interpretations that participants have regarding the core and additional constricts of the TPB.

As far as an epistemological perspective is concerned, the researcher was able to gain a deeper understanding of the lives and experiences of participants which shaped their behavioural, normative and control beliefs as well as intentions to choose a career as rural physician.

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3.3 RESEARCH DESIGN

3.3.1 Introduction

The researcher chose a qualitative research method to conduct her study. Saunders, Lewis and Thornhill (2007:145) define qualitative research methods as a data collection technique or analysis that generates or use non-numerical data. Van Maanen (1979:520) defines qualitative research as "…at best an umbrella term covering an array of interpretive techniques which seek to describe, decode, translate and otherwise come to terms with the meaning, not the frequency, of certain more or less naturally occurring phenomena in the social world…".

Qualitative research is typically characterised by the following (Bryman & Bell, 2007: 416-421):

- Observation of reality through the "eyes" of people who participate in the study;
- Emphasis on the description and context of the information that was analysed for the purposes of the study;
- Emphasis on processes leading up to and following an event;
- Flexibility through the ability to explore general and broad rather than narrow questions and issues (this includes allowing for the possibility of the "emergence of the unexpected" as highlighted by Ambert, Adler, Adler and Detzner (1995:883);
- Emphasis on the understanding that concepts and constructs should emerge "inductively" from data; and
- Researchers generally have their own unique set of criteria and techniques to be used to evaluate the quality and rigour of their research efforts.

Ambert *et al*. (1995:881) postulate that qualitative research is "…probably more diverse than that of strictly quantitative methods because it has its own methodological theories in addition to theories derived from substantive areas…".

Qualitative research generally commence with setting research questions after which data is collected from selected participants, usually by means of interviews or focus groups. The data is then organised and analysed in order to generate concepts and theories which will assist the researcher to identify themes and patterns. (Leedy & Ormrod, 2005:133). In addition, qualitative researchers typically use interview transcripts and recordings, personal notes, audio visual material, electronic documents, summaries

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of research findings and descriptions of processes to capture and analyse unstructured information to help them answer research questions (Leedy & Ormrod, 2005:145).

Qualitative researchers normally play an active role in their research study as opposed to quantitative researchers who remain distant and independent from their studies and strives to be as objective as possible (Leedy & Ormrod, 2005:145). Both the researcher and the participant are the subject and the object of the investigation, "…interactively linked with the values of the investigator inevitably influencing the inquiry…" (Guba & Lincoln, 1994:110). This implies that the researcher needed to acknowledge her own emotions, perceptions and the cultural context as well as those of the participants. In addition, it means she had to be aware of her own bias and pre- conceived ideas pertaining to the areas that were explored in the study.

As the construct and research questions in this study are deemed to be complex, a survey approach would probably not reflect the nuances and wide variety of beliefs of the people who participated in the study. Thus, the researcher applied an interpretive qualitative research method in this study. According to Locke and Golden-Biddle (2002:105) "…interpretive qualitative researchers frequently take a more grounded theory building approach in which the direction of inquiry moves from empirical observation to conceptualisation. Interpretive qualitative research in industrial and organizational psychology provides opportunities to investigate the different constructions and meanings that situated people make of life at work and how those meanings influence behavior. It further allows researchers to explore in detail how context shapes meaning, experience and behavior…". This approach aligns with Basit (2003:151) who states that "…social phenomena…" should not be explained statistically, but rather focus on capturing the "…quality and richness of the response to a social situation…". He furthermore argues that whilst positive or negative views about social situations may provide useful information to a researcher, the "what" and "why" of their feelings will ensure a more detailed analysis of the social phenomenon.

The research design employed grounded theory, rather than a phenomenological methodology to test the applicability of an existing theory namely the TPB in a context that has not been explored before. In this regard, the researcher did not develop a new theory, but rather presented an alternative and evolving approach towards conducting TPB research using qualitative research. Suddaby (2006:635) states that: "Although

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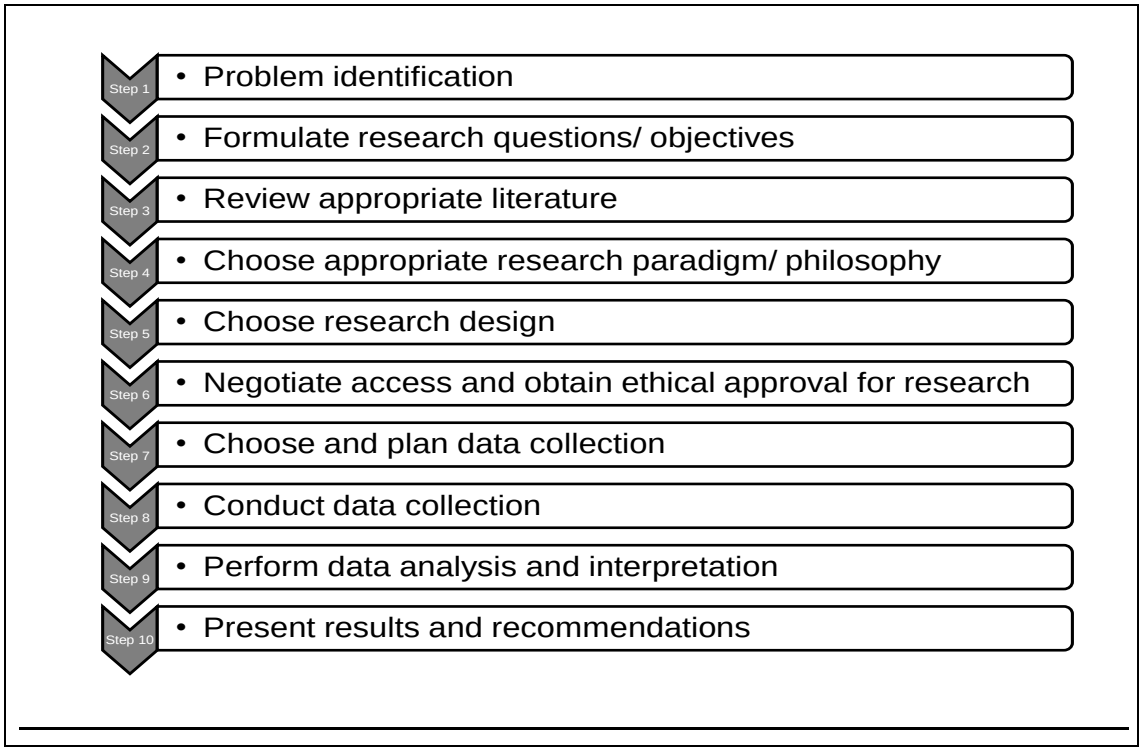
grounded theory retains some sympathy for phenomenological assumptions and techniques, researchers using grounded theory are less focused on subjective experiences of individual actors per se and are instead more attentive to how such subjective experiences can be abstracted into theoretical statements about causal relations between actors." Phenomenological studies typically use in-depth interviews as a key means of data collection and the detail and nuances of information represent the main units of analysis, whilst grounded theory interviews may start using phenomenological interest in the participants, however, this is used as a means of eliciting information on the social situation that is being studied.

3.3.2 Research process

The researcher applied the steps depicted in Figure 10 to conduct the study.

Figure 10: Broad steps in the research process



Source: Saunders *et al*. (2007:10)

According to RuDASA *et al.* (2011) rural communities in South Africa continue to experience several barriers to access health care. They state that the quality and availability of healthcare at the point of delivery is poor in rural areas because of

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understaffed rural health facilities and weak management. This creates situations where patients wait for long times, receive poor quality heath delivery, avoidable deaths occur, patients are “lost” in the system and no follow up takes place. Rural health facilities continuously struggle to attract and retain sufficient physicians to turn this dire situation around. This scenario gave rise to the ***chosen research topic and problem statement*** as the researcher was intrigued to gain an understanding of the career decision making of medical graduates and specifically their motivation to choose a career as a rural physician.

As indicated by various authors including De Vries & Reid (2003:789), Green *et al.*, 2006:15 and Van Hooft *et al.* (2006:156), the process of career decision making is a complex process which is dependent on a wide range of factors, including preference at the start of studies, experience and exposure during training, organisational reputation, career progression prospects as well as cultural and socio-economic aspects. In light of the complexity associated with career decision making, the researcher decided to use a theoretical model of decision making, specifically the TPB (Ajzen, 1991:182) to investigate the career choices of under and postgraduate medical students and ascertain their intentions and behaviour in this regard. The TPB has been found to be a valid predictor of career choice in previous research studies (Arnold *et al*., 2006:375 and Van Hooft *et al*., 2006:157), however, the researcher wanted to apply the model in a South African context as well as use a qualitative research design which is uncommon in typical research conducted to test the TPB (Renzi & Klobas, 2008:2) in order to expand on the body of knowledge in this regard. These objectives informed the ***research questions and objectives*** of this particular study.

The researcher conducted a ***literature review*** to comprehend the context of the South African health sector and current strategies, challenges and policies at an overall level and specifically with regard to rural health. In addition, multidisciplinary theories and models, namely career decision making which fall within the field of vocational psychology and the TPB which fall within the field of social psychology were studied and summarised. The literature review was an ongoing and reiterative process and served the following purposes as explained by Leedy and Ormrod (2005) and Francis, Eccles, Johnston, Walker, Grimshaw, Foy, Kaner, Smith and Bonetti (2004):

- To generate, refine and enhance original research ideas;
- To generate research objectives and specific research questions;

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- To describe the theoretical perspectives and relevant research findings by other researchers regarding the researched themes and research questions;
- To assist with identifying the research population of interest and the most suitable research methodology to answer research questions and
- To inform the design and content of a set of themes and questions to be explored in the study.

The intention was to firstly verify and possibly expand these questions and themes with experts in the public and rural health sector and secondly, to use the updated version thereof to guide discussions in individual interviews and focus groups with study participants. This approach was used

- To identify factors that influence beliefs about the matter that is being studied;
- To perform a critical review to enhance knowledge and gain deeper understanding of the researched themes and methodology applied in this regard; and
- To assist with the interpretation of research findings of the study and clarifying the value of the research in expanding existing knowledge on the subject at hand.

The researcher developed a document with themes and potential questions to be applied in the study for ***data collection*** purposes, using the core constructs of the TPB (described in Section 2.4.1 above) and a number of additional variables that apply to the South African context as well as the dimensions and elements identified by Couper *et al*. (2007:1082-1086) and described in Section 2.2.4.4 of this study, to inform these initial themes and questions. The intention was to verify this framework with experts in the public and rural health areas prior to commencing with sampling and data collection in order to focus these processes and to ensure that the chosen population are relevant for the purposes of the study. The outcomes of this "verification" process was then used to inform the content of the semi-structured questionnaire that was developed for the purposes of interviewing individuals and groups in order to test an extended model of the TPB, i.e. the core constructs of the model and additional variables that were deemed relevant in the context of the study. This approach is proposed by Ajzen (2002), particularly with regard to identifying factors that influence beliefs about the matter that is being studied.

The ***data analysis*** stage involved the organisation and collation of all collected information, including demographics questionnaires, field notes and transcripts of the

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recorded interviews and focus group sessions. This process was in line with the approach adopted by Renzi and Klobas (2008:8). Subsequently the researcher used ATLAS.ti to analyse the data in accordance with guidelines provided by a South African expert in qualitative research and computer-assisted data analysis (Archer, 2012 and Archer, 2013).

The research results and interpretation are presented in Chapter 4 and Chapter 5 of this study.

Various aspects of the research process are discussed in more detail in further sections of this chapter.

3.3.3 Other research design characteristics

According to Babbie and Mouton (2001:75) empirical studies refer to those where new information if collected, irrespective of the method that is applied, or where the researcher re-analyses existing data which was originally collected for another study or purpose. This study involved empirical research to analyse existing information, which has been described in the literature overview in the previous chapter, as well as the collection of new information to determine the factors that influence medical graduates to choose a rural career.

The study is furthermore cross-sectional as it relates to the study of a particular phenomenon at a particular time and does not span various time horizons (Saunders *et al*., 2007:148).

This study included the use of both primary and secondary data to answer research questions. According to Saunders *et al.* (2007:603-611), secondary data can be defined as information that has been collected for another purpose or research project. In this study, the researcher used multiple source secondary data which refer to data created by combining different data sets prior to accessing the data for research purposes.

This study analysed data that was generated in a study conducted by Couper *et al.* (2007:1082-1086) which was described in Section 2.2.4.4 above, complemented by findings in various TPB studies discussed in Section 2.4. This analysis was used to

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inform the content and type of semi-structured questions that were used in individual interviews and focus group discussions in the data collection section of the study.

This study was mainly explanatory in nature as it aimed to explain the causal relationship between variables, which in this case involved the variables defined in the extended TPB model as described in Section 2.4.2 (Saunders, 2007:598). The qualitative aspect of the explanations entailed expanding the TPB and its utilisation in different contexts outside the social psychology and geographical spheres applied in previous research (Arnold *et al*., 2006:388). The study also included aspects of descriptive research which is defined by Leedy and Ormrod (2005:179) as "…identifying the characteristics of an observed phenomenon or exploring possible correlations among two or more phenomena…". The aspects identified in this study represent the factors that influence career decisions by physicians to practice in a rural environment.

The next section describes the sampling strategy employed by the researcher for the purposes of data collection.

3.4 SAMPLING STRATEGY

3.4.1 Introduction

Qualitative researchers draw information from a wide variety of sources including people, objects, documents, audio-visual and electronic records. According to Leedy and Ormrod (2005:144) the sources of input selected by a researcher represent their sample and the process of selecting them is called sampling. The method of sampling depends on the research questions to be addressed on the study.

Saunders *et al*. (2007:207) identify two sampling techniques that are available to researchers namely probability (or representative) sampling or non-probability (or judgemental) sampling. Probability sampling is usually associated with survey and experimental research strategies whilst qualitative research generally applies non-probability samples for selection the population to be studied. In non-probability sampling the characteristics of the population are used as a basis for selection and the sample is not intended to be statistically representative. The units of analysis are selected to specifically reflect certain features. Non- probability sampling is generally more

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appropriate for small sale in-depth studies and was thus deemed suitable for this research study.

The next two sections provide an overview of the target population and units of analysis that were chosen for this study as well as the process to select participants from the chosen population, including how they were accessed and the size of the sample.

3.4.2 Target population and units of analysis

Target population is defined as the group of people or entities to which the findings of the sample can be generalised (Leedy & Ormrod, 2005:198). Such generalisations can only be made if the population is "truly representative" of that population. Ambert *et al*. (1995:885) propose that the sample need not necessarily be "statistically representative" as used in survey research, but could be constituted to include a relatively small population that is specific to the study, but represents the broad characteristics in terms of diversity of that population.

Terre Blanche and Durrheim (2004:37) refer to units of analysis as the entities about which the researcher wants to draw conclusions. These units of analysis can include individuals or groups of individuals.

To test the application of the TPB, a sample of undergraduate and postgraduate medical students from the Faculty of Health Sciences at the University of Pretoria was chosen as the target population for the study. The researcher followed the approach adopted by Arnold *et al*. (2006) which was discussed in 2.4.3.3 of this study to test and compare the beliefs and intentions of two groups pertaining to choosing a career as rural physician. The two groups differ in terms of past career decisions and according to Arnold *et al*. (2006:377) this would allow the researcher to also test the generalisability of the TPB in a "vocational realm". The groups are:

- Final year medical students who are enrolled for the Bachelor of Medicine and Surgery (MBChB) degree at the University of Pretoria. The researcher chose this population to represent the **"professionals in training"** referred to by Arnold *et al.*, (2006:377), as they have already chosen a career to become a physician, but probably have not yet made longer term career decisions. They still have to complete their internship and compulsory community service periods and in some cases have

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contractual bursary and training obligations to fulfil before they can make decisions such as whether to specialise further, where to practice medicine (in terms of health sector and location which may or may not include rural medical practice) or whether to exit the profession and choose a different career. The researcher wanted to gain an understanding of their beliefs and intentions to choose a rural career at this stage of their career development.

- Registrars undergoing medical specialist training at the University of Pretoria and who are currently employed in the public health sector in an academic setting. Registrars are postgraduate trainees in medical specialities and are referred to as "residents" in the United States and Europe (London, Kalula & Xaba, 2009). The researcher chose this population to represent the **"professionally qualified"** referred to by Arnold *et al*. (2006:377) as they are registered and qualified general practitioners who are currently specialising further and as such have made significant decisions about their longer term career intentions as far as medical speciality is concerned, although they may still have to decide on the location where they wish to practice. It was further assumed that a large percentage of people in this group would have had exposure to working in the South African public health sector, having completed a compulsory period of community service in a rural or primary health care setting environment, and as such would be able to articulate beliefs and intentions about whether to choose a career in a rural environment, or not, based on their past experiences and understanding of the world of work in general.

3.4.3 Sample selection, access to sample population and sample size

The researcher initially planned to use purposive sampling to select respondents for this study as far as testing the TPB is concerned. Purposive sampling is defined by Leedy and Ormrod (2005:206) as a method where people or other units are chosen for a particular purpose as they may represent the "typical" perspective of a group or an issue. Although this method could possibly be limited because participants may be biased in their views and can therefore not be assumed to be representative of the total target population, the researcher chose purposive sampling as it was deemed an appropriate strategy to select participants that could generate rich yet relevant information on the topics at hand (Bryman & Bell, 2011:442).

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Due to challenges with accessing the chosen populations, the sampling process turned out to be different for the two groups as the professionally qualified group sample was determined through a combination of purposive, snowball sampling and self-selection sampling whilst the professionals in training sample was eventually obtained through purposeful self-selection sampling.

According to Saunders (2007:232) snowball sampling is often used when it is difficult to identify or access members of the chosen population. This method works on the basis of asking people who have already been interviewed to identify other potential participants who may fit the selection criteria, however, the potential for bias is very high as participants are likely to refer to people who are similar to themselves.

Self-selection sampling occurs when people choose to participate in the research and normally takes place after potential participants have received information such as advertisements, electronic invitations or presentations on the topic to be researched and they express a desire to participate in the study (Saunders, 2007:233).

Ambert *et al.* (1995:885) state that an adequate sample is dependent upon the following aspects:

- The type of research questions involved;
- The complexity of the model or theory that is being studied;
- The availability of participants; and
- Access to the target population by the researcher (including their relationship with the participants from the population).

According to Renzi and Klobas (2008:18) sampling in qualitative research is a challenging matter. Some literature proposes that between thirty and fifty interviews be conducted whilst other authors suggest that there is no strict rule in this regard. Francis *et al*. (2004:29) propose that a sample of 25 should be chosen for the elicitation studies that are normally conducted in the first phase of TPB research to identify commonly held beliefs that may be shared by the target population. In this study, the number of participants were limited to a small population, similar to the study by Renzi and Klobas (2008:18) who found that despite the small sample involved in their study, the TPB framework combined with the qualitative research method provided very useful results and insights into the topic of their study.

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3.4.3.1 Selection of "professionals in training" sample

Once ethical approval for the study had been granted by both the Faculties of Health Sciences and Economic and Management Sciences at the University of Pretoria, the researcher approached the Faculty of Health Sciences to gain access to information such as names, race and gender profiles and contact details (i.e. telephone numbers or e-mail addresses) of the selected population groups to enable purposive sampling and direct access to chosen participants.

The Faculty of Health Sciences advised it is their policy not to make information of a personal nature available unless students have consented thereto, however, proposed that the researcher contact the class representative of the final year medical students to request his assistance with providing information that could be used in the sampling process. This proved to be a challenging process as the class representative initially did not respond to communication due to his busy academic programme, however, he eventually managed to arrange for the researcher to address the entire MBChB VI class in between two lectures in April 2013 with the purpose of advertising the study and inviting students to participate in the study. The researcher presented a slide presentation to the class which was based on the participant information leaflet that was approved as part of the Faculty Ethical approval and circulated a list in the class to collect contact details of interested participants. This process resulted in a sample of 22 students who expressed interest to participate in the study. The biographical profile of the self-selected sample is presented in Section 3.5.3 of this study.

3.4.3.2 Selection of "professionally qualified" sample

The sample for the "professionally qualified" group was initially determined using purposive sampling, and enhanced with snowball sampling and self-selection as the data collection process progressed.

In line with the policy not to make personal information such as contact detail available, the Faculty of Health Sciences initially proposed that the researcher approach registrars with the assistance of the secretaries of the various departmental heads of the different medical specialties. Their contact details were made available and the researcher communicated her requests for participants via e-mail. This process yielded no results and as such the researcher approached the Faculty management again to request

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assistance in accessing the chosen population. A list with names, job titles and specialty departments of all registrars and specialists employed on the joint establishment of the University and the public health facilities in the province was provided to the researcher who then applied a purposive sampling method to select participants representing a wide variety of departments and races using surname as a proxy for race. It was not possible to determine gender from this list as the information was not provided. Some departments did not have registrars as they did not have posts for registrars or their registrars had qualified recently and new appointments had not been made. The researcher was advised to request the contact details of the chosen participants from the various departments and then contact them directly with an invitation participate in the study. This approach yielded better results than the previous attempt to access the population group with a few departments providing the requested information and assisting with communicating the researcher's requests to the chosen participants.

The researcher extended an invitation to 35 registrars selected from a wide variety of specialties to participate in any focus group session that may suit them on proposed dates and venues at the Health Sciences Faculty between November 2012 and February 2013. The researcher was advised that the timing would be suitable for the selected target group as they do not have unusual academic requirements during the time and are generally available and working over the festive period. Only three of the invited participants sent an immediate response to the request to participate in the study and they eventually attended the first focus group session on 12 December 2012.

After conducting the interviews or focus groups, the researcher asked participants to identify other potential candidates who meet the criteria for sampling and to provide their contact details. One of the participants in the first focus group session was very helpful with providing an extensive list of names and contact details of her registrar colleagues in various departments and allowing the researcher to quote her name when contacting potential participants. She also gave the researcher valuable tips on how best to communicate with registrars – they seemingly do not read their e-mails as they are generally not office bound, however, use their cell phones extensively to communicate. She proposed that invitations for the study be sent to selected participants via short message system (SMS) or actual phone calls and voice messages.

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In the meantime, the researcher continued to follow up on her initial invites and managed to secure a few more participants. She also approached the heads of departments directly and as a result received invitations from three departments to address their registrars during scheduled morning meetings and extend an invitation to participate in the study.

A total number of 80 registrars were approached to participate in the study during four rounds of selection that took place between November 2012 and May 2013. The selection process for this target population eventually resulted in a sample of 21 registrars who agreed to participate in the study, representing different specialities and demographic profiles as presented in Section 3.5.3 of this document.

3.5 DATA COLLECTION

3.5.1 Introduction

Data collection refers to the: “Systematic gathering of data for a particular purpose from various sources, including questionnaires, interviews, observation, existing records…”. (Reference.MD, 2015).

Qualitative research generally commence with setting research questions after which data is collected from selected participants, usually by means of interviews or focus groups. The data is then organised and analysed in order to generate concepts and theories which will assist the researcher to identify themes and patterns (Leedy & Ormrod, 2005:133).

Saunders *et al*. (2007:187) state that the data collection phase of a research project is usually associated with a broad range of ethical issues that apply irrespective of the technique employed by the researcher to collect data.

Once she selected and gained access to participants in the study, the researcher collected data by means of focus groups and individual interviews on South African respondents within the parameters of the approved research proposal. In this section, the researcher describes the ethical considerations that applied in the data collection process of this study and provide an account of the actual data collection process

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3.5.2 Consent, ethical considerations and initial interaction with participants

Saunders *et al*. (2007:610) define research ethics as: "The appropriateness of the researcher's behaviour in relation to the rights of those who become the subject of a research project, or who are affected by it." Saunders *et al.* (2007:181) furthermore argue that the essence of ethical matters during all stages of the research process relate to the "…avoidance of harm…".

The following key ethical issues, as described by Saunders *et al*. (2007:181-195), were relevant to the various stages of this research project. In this regard the researcher should:

- Respect and ensure the privacy of participants at all times;
- Respect the fact that participation should be voluntary and participants have the right to withdraw at any stage of the process. Participants should not feel coerced or pressurised to participate;
- Obtain the informed consent of participants prior to their participation. Be mindful that focus group interviews may give rise to a greater scope of ethical issues and that participants should not be pressed for responses or be subjected to stressful situations;
- Maintain confidentiality and anonymity of participants and their information. In this regard the researcher should be careful not to use information that she may have stumbled upon accidentally;
- Behave and conduct herself in an objective and ethical manner, also subscribing to the ethical requirements and guidelines of the University of Pretoria;
- Ensure that she does not misrepresent collected data. This means that all results and analysis should be reported; and
- Always consider the possible impact of the research outcomes on participants.

As prescribed by the Faculty of Economic and Management Sciences of the University of Pretoria, all empirical research projects must comply with the ethical guidelines of the Faculty's Research Ethics Committee. This Committee approved the study prior to the data collection phase. As this study involved data collection through health sciences students, the researcher was also required to comply with ethical guidelines of the Faculty of Health Sciences and obtain ethical approval prior to commencing with study and interviewing participants.

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All participants were required to sign informed consent forms to confirm that the researcher has told the participant about the nature, process, risks, discomforts and benefits of the study. Participants were also required to confirm that they have received, read and understood the written information in the "Information Leaflet and Informed Consent" form (refer Appendix A) and that they are aware that the results of the study, including personal details, will be anonymously processed into research reports. Participants furthermore had to confirm whether they willingly participated in the study and that they were afforded time to ask questions. They lastly needed to indicate their understanding that there is no penalty should they wish to discontinue with the study and that their withdrawal will not have any negative consequences.

3.5.3 Biographical profile of sample

Participants were requested to provide demographic data by means of self-administered questionnaires (refer Appendix B) for the purposes of analysis such as race, gender, origin (rural/urban), home language, marital status, dependant family, age, previous work experience in the public service and family or friends working in the profession. The researcher used these units of analysis to test the application of the TPB within a South African context as well as expand on previous research that investigated the impact of demographic factors on intentions and decisions.

Table 16 and Table 17 depict the biographical data of the sample of students and registrars who participated in the study. The biographical data is presented to reflect a "snapshot" of the participants. Every participant was allocated a unique code to ensure anonymity and confidentiality. An analysis of the biographical data is presented in the next chapter as part of the research results and findings.

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Table 16: Demographic profile: professionals in training (final year medical students)

Respondent code	Prior rural exposure	Planning to specialise	Gender	Race	Age	Town where grew up	Rural/ Urban Origin	Language	Marital status	Dependent children	Dependent adults/ parents	Member of family working in rural hospital	Friend working in rural hospital	Occupation of rural friend
6FG1_AF1	Yes	Yes	Female	African	23	Kinshasa (DRC)	Rural	English	Single	No	No	No	No	Not applicable
6FG1_AF2	Yes	Not sure	Female	African	23	Kinross/ Secunda	Urban	Sepedi	Single	No	No	No	No	Not applicable
6FG1_CF1	Yes	Yes	Female	Coloured	24	Pretoria	Urban	English	Single	No	No	Yes	No	Not applicable
6FG1_WF1	Yes	Yes	Female	White	23	Pretoria	Urban	English	Single	No	No	No	No	Not applicable
6FG1_WF2	No	Not sure	Female	White	24	Pretoria	Urban	Afrikaans	Married	No	No	No	No	Not applicable
6FG1_WF3	Yes	Yes	Female	White	23	Pretoria	Urban	Afrikaans	Single	No	No	No	No	Not applicable
6FG1_WM1	Yes	Yes	Male	White	26	Ellisras/ Lephalale	Rural	Afrikaans	Single	No	No	No	Yes	Internship/ community service
6FG2_AM1	No	Yes	Male	African	N/A	Gaborone (Botswana)	Urban	Setswana	Single	No	No	No	Yes	Internship/ community service
6FG2_WF1	Yes	Not sure	Female	White	24	Pretoria	Urban	Afrikaans	Single	No	No	No	No	Not applicable

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Respondent code	Prior rural exposure	Planning to specialise	Gender	Race	Age	Town where grew up	Rural/ Urban Origin	Language	Marital status	Dependent children	Dependent adults/ parents	Member of family working in rural hospital	Friend working in rural hospital	Occupation of rural friend
6FG2_WF2	Yes	Yes	Female	White	23	Pretoria	Urban	English	Single	No	No	No	No	Not applicable
6FG2_WF3	Yes	Yes	Female	White	23	Not stated	Urban	English	Single	No	No	No	No	Not applicable
6FG2_WF4	Yes	Yes	Female	White	23	Magaliesburg	Rural	English	Single	No	No	No	No	Not applicable
6FG2_WF5	Yes	Not sure	Female	White	23	Kempton Park	Urban	Afrikaans	Married	No	No	No	Yes	Internship/ community service
6FG2_WM1	No	Yes	Male	White	23	Pretoria	Urban	Afrikaans	Single	No	No	No	Yes	Internship/ community service
6FG3_AM1	Yes	Yes	Male	African	25	Nairobi (Kenia)	Rural	Swahili	Single	No	No	Yes	Yes	Medical practitioner
6FG3_WF1	Yes	No	Female	White	24	King Williams Town	Rural	Afrikaans	Single	No	No	No	No	Not applicable
6FG3_WF2	Yes	No	Female	White	26	Pretoria	Urban	Afrikaans	Married	No	No	No	Yes	Internship/ community service
6FG3_WF3	Yes	Yes	Female	White	23	Pietermaritzburg	Urban	English	Single	No	No	No	No	Not applicable

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Respondent code	Prior rural exposure	Planning to specialise	Gender	Race	Age	Town where grew up	Rural/ Urban Origin	Language	Marital status	Dependent children	Dependent adults/ parents	Member of family working in rural hospital	Friend working in rural hospital	Occupation of rural friend
6FG3_WF4	Yes	No	Female	White	23	Hillcrest, KZN	Urban	English	Single	No	No	No	Yes	Internship/ community service
6FG3_WF5	Yes	Not sure	Female	White	23	Pretoria	Urban	Afrikaans	Single	No	No	No	No	Not applicable
6FG3_WM1	Yes	Yes	Male	White	23	Vanderbijlpark	Urban	Afrikaans	Single	No	No	No	No	Not applicable
6FG3_WM2	Yes	No	Male	White	26	Melmoth, KZN	Rural	Afrikaans	Single	No	No	No	Yes	Internship/ community service

Source: Biographical questionnaires completed by study participants prior to focus group discussions

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Table 17: Demographic profile: professionally qualified (registrars)

Respondent code	Area of specialty	Prior rural experience	Gender	Race	Age	Town where grew up	Rural/ Urban Origin	Language	Marital status	Dependent children	Dependent adults/ parents	Member of family working in public rural facility	Friend working in rural facility	Occupation of rural friend	Working experience in public health sector
RS1_IF1	Obstetrics and Gynaecology	Yes	Female	Indian	32	Uitenhage	Rural	English	Single	No	No	No	Yes	Is a medical practitioner in a rural hospital	Between 5 and 10 years
RS1_AM1	Obstetrics and Gynaecology	No	Male	African	35	Malamulele	Rural	Xitsonga	Married	No	Yes	No	Yes	Is a medical practitioner in a rural hospital	3 to 5 years
RS1_WF1	Obstetrics and Gynaecology	Yes	Female	White	30	Klerksdorp	Urban	Afrikaans	Married	No	No	No	Yes	Is a medical practitioner in a rural hospital	Between 5 and 10 years
RS2_AF1	Obstetrics and Gynaecology	Yes	Female	African	29	Durban	Urban	isiZulu	Married	Yes	Yes	No	No	Not applicable	Between 5 and 10 years
RS9_WM1	Family medicine	Yes	Male	White	44	Johannesburg	Urban	Afrikaans	Married	Yes	No	No	No	Not applicable	1 to 3 years
RS9_AM1	Family medicine	Yes	Male	African	29	Harare - Zimbabwe	Urban	English	Married	Yes	No	No	No	Not applicable	3 to 5 years
RS9_AM2	Family medicine	Yes	Male	African	37	Abuja -Nigeria	Urban	English	Married	Yes	No	No	Yes	Is a medical practitioner in a rural hospital	Less than 1 year
RS9_AF1	Family medicine	Yes	Female	African	36	Kinshasa - DRC	Urban	French	Married	Yes	No	Yes	Yes	Is a medical practitioner in a rural hospital	Between 5 and 10 years

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Respondent code	Area of specialty	Prior rural experience	Gender	Race	Age	Town where grew up	Rural/ Urban Origin	Language	Marital status	Dependent children	Dependent adults/ parents	Member of family working in public rural facility	Friend working in rural facility	Occupation of rural friend	Working experience in public health sector
RS5_WM1	Urology	No	Male	White	29	Pretoria	Urban	Afrikaans	Single	No	No	No	Yes	Internship/ Compulsory community service	3 to 5 years
RS6_AF1	Chemical Pathology	No	Female	African	28	Queenstown	Rural	isiXhosa	Married	Yes	No	No	Yes	Is a medical practitioner in a rural hospital	1 to 3 years
RS6_AM1	Chemical Pathology	Yes	Male	African	35	Between Lesotho and Free State	Rural	South Sotho	Married	Yes	No	No	Yes	Is a medical practitioner in a rural hospital	1 to 3 years
RS6_AM2	Chemical Pathology	No	Male	African	30	Mthatha	Rural	isiXhosa	Married	No	No	No	Yes	Is a medical practitioner in a rural hospital	3 to 5 years
RS3_WM1	Internal medicine	Yes	Male	White	32	Pretoria	Urban	English	Co-habit	No	No	No	Yes	Is a medical practitioner in a rural hospital	Between 5 and 10 years
RS4_WM1	Internal medicine	No	Male	White	30	Pretoria	Urban	Afrikaans	Single	No	No	No	No	Not applicable	Between 5 and 10 years
RS7_WM1	Radiology	Yes	Male	White	33	Bloemfontein	Urban	English	Married	No	No	No	No	Not applicable	Between 5 and 10 years
RS8_AF1	Paediatrics	Yes	Female	African	30	Tzaneen	Rural	Xitsonga	Single	No	No	No	Yes	Is a medical practitioner in a rural hospital	Between 5 and 10 years

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Respondent code	Area of specialty	Prior rural experience	Gender	Race	Age	Town where grew up	Rural/ Urban Origin	Language	Marital status	Dependent children	Dependent adults/ parents	Member of family working in public rural facility	Friend working in rural facility	Occupation of rural friend	Working experience in public health sector
RS8_WF1	Paediatrics	Yes	Female	White	27	Pretoria	Urban	English	Single	No	No	No	No	Not applicable	3 to 5 years
RS8_IF1	Paediatrics	No	Female	Indian	29	Durban	Urban	English	Married	Yes	Yes	No	No	Not applicable	Between 5 and 10 years
RS8_AF2	Paediatrics	Yes	Female	African	34	Thohoyando (Limpopo)	Rural	Venda	Married	Yes	No	No	Yes	Is a medical practitioner in a rural hospital	Between 5 and 10 years
RS8_WF2	Paediatrics	No	Female	White	31	Pretoria	Urban	Afrikaans	Married	No	No	Yes	No	Not applicable	Between 5 and 10 years
RS8_WF3	Paediatrics	Yes	Female	White	30	Pretoria	Urban	Afrikaans	Married	No	No	No	Yes	Is a medical practitioner in a rural hospital	Between 5 and 10 years

Source: Biographical questionnaires completed by study participants prior to focus group discussions or individual interviews

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3.5.4 Contribution of experts to theme framework

In this section, the researcher explains her approach towards the generation of themes for the data collection process and the verification of these areas with selected experts in the public and rural health environments.

3.5.4.1 Theme framework for data collection

The researcher developed a framework of themes containing statements of "beliefs" regarding the potential outcomes or benefits of rural physician careers. The research objectives and findings of the following studies were used to create the theme framework and belief statements:

- The study by Couper *et al*. (2007:1082-1086) regarding the aspects that influence the career choices of physicians to practice in rural areas (discussed in Section 2.2.4.4);
- The study by Arnold *et al.,* (2006:374-390) which tested intentions of different groups to work for the UK's National Health Service (discussed in Section 2.4.3.3; and
- More recent themes pertaining to attraction and retention of rural health professionals that came to the fore in presentations of the joint PHASA/RuDASA conference which was attended by the researcher in September 2012.

Based on her own understanding of the definitions of the core constructs of the TPB at the time of commencing the study (discussed in Section 2.4 of this study), the researcher categorised the themes and belief statements that she generated by the above listed studies into a set of core and extended variable of the TPB. She then used this framework as an initial document to start conversations with her chosen experts for theme verification, stimulate discussions and to generate questions that could be included in the semi-structured interviews and focus groups. Some themes were assigned more than one core TPB variable as the researcher wanted to explore the item in more than one context. In many instances this also reflected that fact that the researcher was still developing insights into the meaning and application of the various constructs of the TPB and that these would become clearer during the course of the study. The theme verification framework is presented in Table 18.

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Table 18: Theme verification framework

Influencing factors	Theme	Sub themes representing possible beliefs regarding to rural physician careers	Assigned TPB core and extended variable/s
Context	Financial	Health care professionals (especially public servants) working in rural environments earn more than urban counterparts because they qualify for rural allowances and housing benefits.	Attitude
Context	Job	Rural practice is associated with more diversity of tasks and patients as well as the opportunity to become involved in the community. Rural practice involves working in teams with other health professionals.	Attitude; Perceived behavioural control
Context	People	Rural patients are deemed to be friendly and less demanding compared to urban patients who insist on specialist treatment and specific medication.	Attitude
Context	Physical environment	Physicians who choose rural careers appreciate the natural physical surroundings of rural environments.	Attitude; Perceived behavioural control
Facilitating	Dislike to urban work	Cities are regarded as unsafe, dehumanising, and associated with a pressurised lifestyle and require a specialised approach to working.	Attitude
Facilitating	Exposure to rural practice	Physicians who choose rural careers had training opportunities such as rural electives or holiday work in rural environments.	Subjective norm
Facilitating	Role models	Current rural health professionals who are working in rural areas and serve as an inspiration, influence decisions to choose rural careers.	Subjective norm; Identification with rural career
Facilitating	Rural people's needs	Awareness of the absence of rural physicians and the poor treatment of rural people influences physicians to choose rural careers.	Attitude; Moral obligation
Personal	Rural origin and community connection	Familiarity with and ability to relate with rural people and environment influence physicians to choose rural careers.	Attitude; Subjective norm
Personal	Values	Physicians who choose rural careers have a political, religious and need for "wanting to serve". ("Altruism")	Subjective norm; Moral obligation
Reinforcing	Being a role model	The potential to uplift the community and improve rural health care by being a role model and an advocate for the broader community appeal to physicians who choose rural careers.	Subjective norm; Moral obligation
Reinforcing	Relationships	Rural physicians have a close relationship with the community and feeling appreciated and recognised.	Attitude; Subjective norm; Identification with rural career

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Influencing factors	Theme	Sub themes representing possible beliefs regarding to rural physician careers	Assigned TPB core and extended variable/s
Staying (retention)	Family	Rural physicians are able to spend more quality time with family and friends	Subjective norm
Staying (retention)	Training	The opportunity to train further, especially postgraduate training, is an important contributor to staying in a rural area.	Subjective norm; Perceived behavioural control
Staying (retention)	Supportive team	Medical and management team in the hospital/ clinic is vital to ensure that the healthcare professional stay in a rural area. Clinical associates relieve the burden of rural physicians. District clinical specialist teams provide leadership, supervision and training in rural environment.	Attitude; Subjective norm

Source: Couper *et al*. (2007:1083); Arnold *et a*l. (2006) and PHASA/RuDASA (2012)

3.5.4.2 Selection of public and/ or rural health experts for theme verification

The researcher selected and approached physicians and other public and/or rural health experts who are familiar with issues associated with rural health management, practice and strategy in South Africa to obtain their inputs towards the semi-structured questionnaire to be used in interviewing individuals and groups in order to answer the research objectives of this study as outlined in Section 1.4 of this study.

The researcher initially intended to interview three physicians who are currently practising in rural areas as well as two academics who have conducted and published research on factors that influence occupational choice that favours rural practice. Approval was obtained from the chairperson of RuDASA to approach practicing rural physicians, however, due to practical challenges with accessing the rural physicians, this objective did not materialise. An alternative opportunity to access the selected target group presented itself when RuDASA proposed that the researcher attend a conference held jointly by RuDASA and PHASA in September 2012 where she was able to interact informally with academics, students and other practitioners within the rural and public health sphere and through this event collect additional and contemporary literature and information on various issues related to health policy and in particular rural health issues. The information gained through attendance of presentations and informal conversations

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with delegates was used to confirm the themes and questions that were eventually included in the semi structured interviews and focus groups for data collection purposes as well as enhancing the researcher's insights and understanding of the broader policy framework pertaining to public and rural health in South Africa. The range of presentations, posters and discussions sessions are reflected in the abstract book of the conference and the researcher chose to attend those sessions deemed relevant for her study (PHASA/RuDASA, 2012).

The researcher did, however, make contact with Bryan Carpenter, a health human resources expert employed by Africa Health Placements, at the joint PHASA/RuDASA conference and subsequently interviewed him on 16 October 2012 to gain his insights on issues such as attraction and retention of rural physicians in South Africa, their working conditions and challenges, health human resources policy issues and other information that proved useful for data collection and analysis purposes. The outcome and value of this interview is discussed in Section 3.5.4.4.

The researcher was also able to interview an influential public health expert in the country, Dr Nicholas Crisp, on 25 October 2012. Apart from his extensive experience in public health policy and advisory services in South Africa and beyond the borders of the country, he also practiced as a rural physician for many years and shared extensive experience and insights in this regard. The outcome and value of this interview is also discussed in Section 3.5.4.4.

The researcher interviewed a third expert, Prof Jannie Hugo, on 29 May 2013. He is the Head of Department, Family Medicine at the University of Pretoria and has extensive experience in the management of primary health care, district and rural health services as well as rural education of physicians and other health workers. Prof Hugo also published extensively in this regard. Although this interview was meant to take place as part of the theme verification process, it only took place towards the end of the data collection phase of the study. The researcher has, however, used the valuable inputs gained from this session to reflect on her data collection process up to that stage and to interpret results produced by the study. References are made to the outcome of this interview in relevant areas of the results and analysis section of the study.

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3.5.4.3 Approach to verify theme framework with chosen experts

In line with guidelines on the construction of TPB questionnaires as detailed by Ajzen (1991:192) and Francis *et al*. (2004:10), the researcher consulted the themes and subthemes described in the above framework with chosen experts in order to elicit relevant behavioural, normative and control beliefs that could be used to generate questions for the selected target groups in the study. In this regard the researcher asked experts what their views are pertaining to the most frequently perceived advantages and disadvantages of choosing a career as a rural physician – these perceptions would inform behavioural beliefs to be generated and tested by the study. The researcher furthermore asked the experts to give their views on the most important people or other influencers who would approve or disapprove of a physician becoming a rural physician – this input would inform normative beliefs to be generated and tested by the study. The researcher lastly asked the experts to contribute inputs regarding their beliefs pertaining to perceived barriers or facilitating factors which could make it easier or more difficult to choose a career as rural physician. This would inform control beliefs to be generated and tested by the study.

The experts were also given an opportunity to contribute any other information that would be relevant to the study in a general context. These are detailed in the next section. The researcher also made reference to their contributions in the literature discussion and results of this study.

3.5.4.4 Expert contributions to data collection instrument

The first expert to be interviewed by the researcher was Brian Carpenter of Africa Health Placements (AHP). The interview took place at the offices of AHP on 16 October 2012 and lasted an hour. The outcome of the consultation with Mr. Carpenter contributed the following additional themes/belief statements for consideration in the interviews and focus groups with the target population of the study:

- Career guidance and financial aspirations have a strong impact on career choices, noting that South African public sector physicians are perceived to be well paid, especially in rural areas where the rural allowances are quite lucrative;

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- Push factors to take up rural careers include the opportunity for development of clinical skills and professional development; attractive physical environment and opportunities for private sector physicians in rural areas to perform sessions in rural facilities.
- Pull factors which direct physicians away from rural careers include strained relationships with management and poor clinical support; frustrations experienced with the public health system mainly due to absence or lack of resources (equipment, technology, medication, human resources); feelings of isolation in rural medial practice and lifestyle; cultural and religious issues (mismatch or lack of mutual respect), overcoming language barriers; having to work alongside foreign physicians where those from underdeveloped countries seem to have different work ethics than South African physicians and those from developed countries seem to believe they are better trained/ equipped than South African physicians and consequently do not treat them as equals in the profession; negative impact of corruption and medical malpractice in the health sector and workplace which is perceived to be worse in rural areas compared to urban areas.

Mr. Carpenter also raised the concern that the definition of rural health practice and care is lacking and inconsistent and proposed that this aspect be explored further in the study. He also suggested that the findings of this study may be relevant for other African and under developed countries who experience similar challenges. Other contributions made during the interview were recorded and used to support research findings of the study where relevant.

The researcher interviewed a second expert, Dr Nicholas Crisp, on 25 October 2012. The interview was conducted at the researcher's house and lasted about 45 minutes. The outcome of the consultation with Dr Crisp contributed the following additional themes/ belief statements for consideration in the interviews and focus groups with the target population of the study:

- Rural health professionals should receive inconvenience benefits using an inhospitable index to weight benefits;

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- Rural careers tend to be short term and dynamics and needs change when a rural physician gets married or starts a family;
- The culture and spoken language of the environment where the physician practices have an impact on retention of rural physicians;
- Occupational injuries and diseases seems to be more challenging in a rural environment compared to an urban environment where there are stricter protocols and better protection
- Burden of disease patterns are different for various areas in the country and have an impact on attraction and retention of physicians in certain areas;
- The personality profile of a rural physician can be described as the 3M profile i.e. “mad, mercenary, missionary”;
- The working environment and typical challenges of rural physicians which are characterised by independence, isolation, large workload, little room for error and small multi-disciplinary teams;
- Rural careers offer opportunities to combine public and private sector practice or medical practice and other careers such as farming;
- Physicians in rural areas are more exposed to working alongside traditional healers;
- Rural retention is dependent on the availability of support structures (i.e. spouses, friends, colleagues);
- Rural retention is dependent on the availability of opportunities for continuous professional development.

Dr Crisp stressed the importance of using the demographics of the sample as units of analysis to enrich the results. He also re-iterated the fact that there are degrees of “ruralness” and a “one size fits all” approach towards rural health policy and management would be inappropriate. Dr Crisp also proposed that the researcher explore whether participants see rural careers as a short term contract (i.e. a punctuation mark) or a life-long career. Again, the researcher recorded other contributions made during the interview and used these to support research findings of the study where relevant.

In the next section, the researcher discusses the measures she applied to test the TPB in this study.

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3.5.5 Measures for testing the TPB

3.5.5.1 Semi structured questionnaire

According to Bryman and Bell (2011), a researcher using a semi-structured interview to collect data normally has a list of questions – often referred to as the interview guide, however, this serves as a guide and questions may not follow exactly as in the interview guide. The researcher furthermore has lee-way to ask questions that are not in the guide, where a follow-up question is relevant. The emphasis should be on how the interviewee "…frames and understands issues and events – that is, what the interviewee views as important in explaining and understanding events, patterns, and forms of behaviour…".

The researcher resolved to use the TPB as an exploratory framework to guide questions (Ajzen, 2014b) and prepared the semi-structured interview outline (refer Table 19) for use in the interviews and focus group discussions with the selected target groups.

The researcher did not apply a prior categorisation of the questions in terms of the TPB variables as other researchers such as Renzi and Klobas (2008) have done before, as she was concerned that such approach would limit the input by respondents and would not generate sufficient information to explain the impact of background and other factors in intentions and decisions. She thus chose to develop a set of questions that explore the beliefs of participants in a general context and then honing in on their experiences and beliefs regarding a career as a rural physician. This enabled her to generate a set of behavioural, normative and control beliefs regarding rural physician careers and determine other possible variables that would impact on intentions of participants to choose such career in future.

The interview questions are presented in Table 19 and have been organised to follow a logical flow from general context questions towards specific themes related to choosing a rural physician career. The intention was to use these questions to introduce various themes and to generate responses that would enable the researcher to address the research objectives of this study.

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Table 19: Interview and focus group outline

Broad theme	Questions
General career history and intentions	What has been your career guidance experience at school and university? Have you been guided at university towards practicing medicine in a rural area one day?
	What role has role models played until now in your life towards choosing your career? What role will they play in choosing where you are going to practice or whether you will be specialising further in future?
	What are your expectations and aspirations about income and being financially secure on day?
	What impact do your family needs have on your career choice and do you have a support team available?
	What would you say is the impact of your relationships on your career decisions?
Medical practice perceptions, expectations, beliefs	What is your perception about workload in an urban vs rural medical practice?
	How do you feel about the physical environment issues that you may be confronted by in rural practice vs urban practice?
	What about workplace health risk issues in both rural and urban practice?
	How do you feel about having autonomy of decision making in the work environment – would this have an impact on your decision to practice in rural?
	What is your attitude towards the availability of technology, including communication tools in the work place? Does state of the art attract you?
	How important is availability of training opportunities in the work place to you? Do you think rural practice will be a positive experience in this regard?
	What is your feeling about the impact of corruption and unethical behaviour in the workplace?
	Do you think the competencies of rural doctors vs. urban doctors differ and why do you say so?
	What is your view about working in multi-disciplinary teams?
Experience, expectations and intentions regarding working in a rural environment	What has been your exposure to rural medical practice – either at school or during your studies?
	What does the concept of “rural medical practice” mean to you?
	What do you consider as, perceived and real, positive and negative outcomes of practicing medicine in a rural hospital, particularly in the public service? Why?
	Are you familiar with the current government’s policies and health priorities? What do you think is the impact of health policy (towards choosing a career in rural medial practice?

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Broad theme	Questions
	What is your feeling attitude towards working in a city as supposed to a rural work and why?
	What would you say are your perceptions about rural people and their needs (health and social)? Are they different to urban people? Why?
	What do you think about working alongside traditional healers?
	Are you from a rural area originally? What is your view about being closely connected to the community you come from?
	What are your thoughts about the values associated with medical practice and rural practice in particular?

Source: Researcher's own summary

3.5.5.2 Interviews and focus groups

The researcher used individual interviews and focus groups to collect data for the study. The interviews and focus groups were semi structured, lasted about one hour each and were audio recorded. As indicated by Leedy and Ormrod (2005:146), this approach allows for more flexibility, however, keeping in mind that too much flexibility may result in information that is not comparable between interviewees. Kaufman (1994:125) states that an open ended interview format supports the researcher to follow up with probing questions and thus obtaining deepened responses thereby improving the richness of data collected.

Interviews are deemed very useful to generate information as the researcher has the flexibility to explore any for the following: facts, beliefs and perspectives, feelings, motives, present and past behaviours, mindful reasons for behaviour or feelings (Silverman, 1993 cited in Leedy & Ormrod, 2005:146). Bryman and Bell (2011:466) suggest that "rambling on" or "going off at tangents" is often stimulated in qualitative interviewing as it gives insight into what participants see as relevant and important.

Focus groups are often used to refer to group interviews where the topic of discussion is clearly defined and the focus of the group interaction is to enable and record interactive discussion between members of the group (Carson *et al*., 2001 cited in Saunders (2007:337). It is often used where the researcher has time limitations or where interaction

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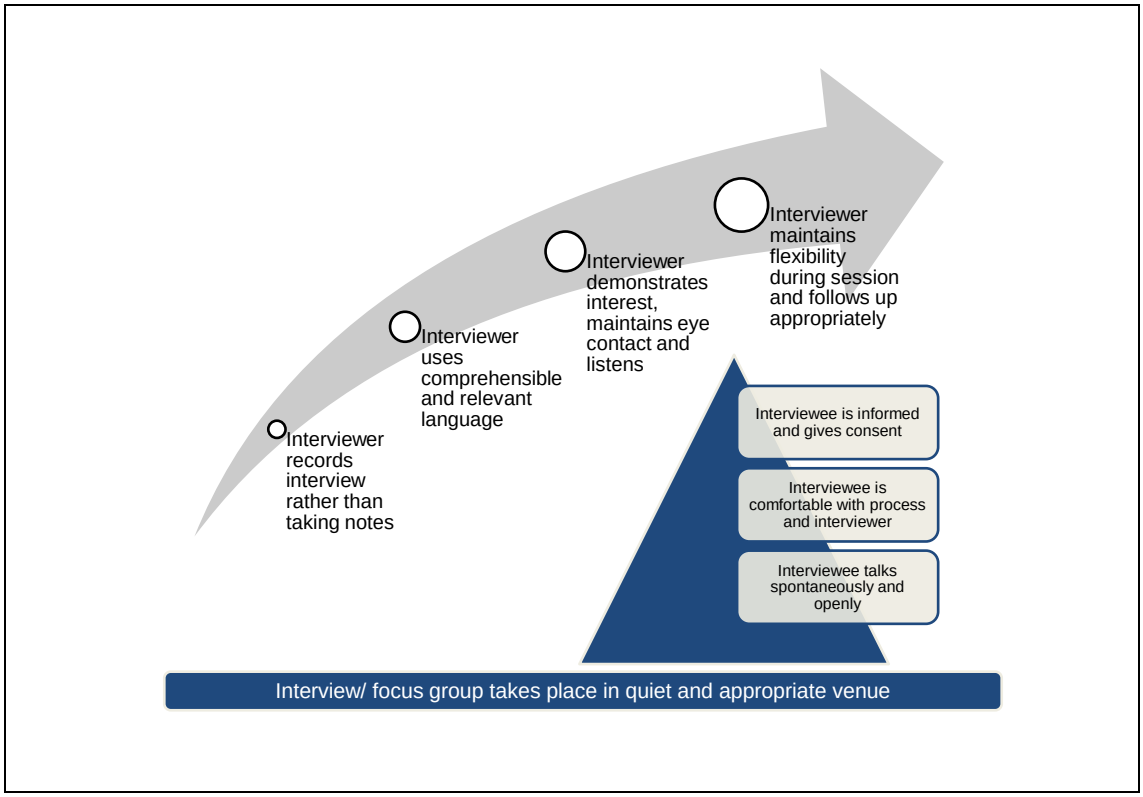
among participants may be more informative than individual interviews. The researcher usually applies a similar approach as individual interviews, however, care must be taken to ensure that nobody dominates the discussion and that participants remain focused on the topic at hand (Leedy & Ormrod, 2005:146).

The researcher personally conducted the interviews and recorded the discussions which were transcribed verbatim. The broad approach described by Bryman and Bell (2011:465-499) and depicted in Figure 11 was used to conduct interviews and focus groups.

Figure 11: The interview and focus group process



Source: Bryman and Bell (2011:465-499)

During the interview and focus group discussions, the researcher attempted to avoid common mistakes associated with interviews as listed by Reysoo and Heldens (2007), namely:

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- Asking long and complicated questions which leads to confusion on the part of participants;
- Asking closed questions that require a “yes” or “no” answer;
- Asking leading questions based on own theories, beliefs and assumptions (this particular rule was challenging and on reflection of the transcripts, the researcher breached this rule a few times in the initial contact with participants, although she became more comfortable and confident dealing with emotional and controversial issues as the data collection process progressed);
- Failure to interpret the finer nuances of the interaction (i.e. “read between the lines”);
- Failing to recognise the need to probe for further explanation; and
- Probing too much and thus interrupting the participant too often.

The researcher believes that through applying this method in the study, the following qualitative research goals as described by Ambert *et al*. (1995:880-881) were achieved:

- To seek depth rather than breadth of information from the participants in the study;
- To gain understanding about “…how and why people behave, think, and make meaning as they do, rather than focussing on what people do or believe on a large scale…”;
- To gain understanding of the research results on a micro as well as macro level;
- To explore whether existing information (i.e. already tested applications of the TPB in a vocational context) can be enhanced with new/further knowledge pertaining to behaviour, social structure, interpretation, or practices;
- To refine the process of theory emergence and attempting to enhance the validity of the developing conceptualisation of the researcher.

The next two sections provide background and insights with regard to how the data was collected. The researcher also provides a reflection on her experiences during the data collection process and how these processes impacted on the data quality and quantity.

3.5.6 Data collection: professionals in training

As stated in Section 3.4.3.1, the sample for this target population consisted of twenty-two (22) final year medical students. The process to gain access to the target group was

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challenging, however, once access was gained the researcher contacted all interested participants by means of the e-mail or other contact details they supplied to her and arranged for interested participants to attend one of three scheduled focus groups sessions held in April 2013. The sessions were scheduled on dates and during timeslots that were deemed convenient to the students who were attending a two-week class room based teaching block at the Health Sciences Faculty. The focus group schedule and the researcher's reflections on the focus groups sessions are discussed below.

3.5.6.1 Focus group schedule

The focus group discussions took place on 11 April 2013, 16 April 2013 and 17 April 2013 respectively. All sessions were held in lecture rooms of the Basic Medical Sciences Building on the Prinshoff Campus of the University of Pretoria and each lasted about an hour.

The sessions took place during lunch breaks and had to be limited to an hour to allow participants to return to their afternoon classes. The researcher provided the participants with light refreshments as a token of appreciation for offering their lunch hour to assist with her research study. The focus group schedule is detailed in Table 20.

Table 20: Focus group schedule: professionals in training

Date of interview	Participant code name	Gender	Race
11 April 2013	6FG1_WF1	Female	White
	6FG1_WF2	Female	White
	6FG1_WM1	Male	White
	6FG1_AF1	Female	African
	6FG1_AF2	Female	African
	6FG1_WF3	Female	White
	6FG1_CF1	Female	Coloured
16 April 2013	6FG2_WM1	Male	White
	6FG2_WF1	Female	White
	6FG2_WF2	Female	White
	6FG2_AM1	Male	African
	6FG2_WF3	Female	White
	6FG2_WF4	Female	White
	6FG2_WF5	Female	White

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Date of interview	Participant code name	Gender	Race
17 April 2013	6FG3_WF1	Female	White
	6FG3_WF2	Female	White
	6FG3_WF3	Female	White
	6FG3_WM1	Male	White
	6FG3_WF4	Female	White
	6FG3_AM1	Male	African
	6FG3_WM2	Male	White
	6FG3_WF5	Female	White

3.5.6.2 Reflection

The researcher personally facilitated the focus group sessions and dedicated sufficient time to explain the purpose of the study and to establish rapport with the participants at the beginning of the sessions. All sessions were conducted in English and were audio recorded.

The researcher varied the order of questions in the interview outline depending on the flow of discussions and included various follow-up or newly evolved questions to clarify responses or to probe further. Each session seems to have focussed on different aspects of the interview outline and often elicited emotional responses that stimulated healthy discussion and valuable data collection. Although each of the focus group sessions tended to have one or two dominant participants, the researcher is of the view that participants' opinions were not necessarily influenced by the facial expressions or body language of others in the group when they shared experiences of beliefs that may not represent the consensus view of the group, thus dealing with the potential for bias which is seen as a negative aspect of focus groups.

At the time of these focus group discussions, the researcher had already conducted two sessions with registrars, using the same interview outline and as such have refined the questions to some extent. In addition, she had some understanding of the themes that came to the fore in the registrar interviews and could contextualise the responses of the medical students much better. The interviewing competencies of the researcher was, however, challenged during the focus group sessions as the students were enthusiastic to participate and all three sessions were highly interactive and spontaneous, which demanded control and effective facilitation skills from the researcher.

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The researcher recorded her impressions of the participants based on their behaviour and contribution to the discussions. She considered using the input to enhance the analysis of responses, particularly to enhance background factors that impact on intentions or decisions to choose a rural physician career, however, decided to exclude the input in the data analysis phase as this may have brought too much biased views into the eventual results. Such analysis may be a topic for future research.

The interview experience with this target group was quite different from the professional qualified group as participants are generally younger and have limited work and life experience compared to the registrars. They seemingly have had limited opportunity before to reflect on or discuss their future career plans and clearly enjoyed the opportunity to participate and share in the discussions. The majority of participants were keen to complete their studies at the end of the year and to start practicing medicine, irrespective of the setting. Although most of the participants indicated that they intend to specialise, the researcher's initial impressions were that the students were keen to exit the university and student life and enter the world of work, however, long term career plans would probably be made after their internships and compulsory community service periods.

The researcher's interaction with the students was pleasant and they conducted themselves professionally and ethically. Their contributions were constructive, although they were not shy to share their feelings about issues that frustrate or excite them. The students were generally supportive of each other in the discussions. The researcher felt inspired by the collective body of knowledge that was generated in the focus groups as well as the knowledge that this group of young physicians are keen to contribute to improving healthcare in the country.

3.5.7 Data collection: professionally qualified

As stated in Section 3.4.3.2, the sample for this target population consisted of twenty-one (21) registrars representing different specialities and demographic profiles as presented in Section 3.5.3 of this study.

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Due to circumstances such as work and teaching pressures, the availability of participants was generally limited and as such, the researcher used both individual interviews and focus group discussions to conduct the data collection process for this research population.

As with the final year medical students, the process to gain access to the target group was even more challenging (described in Section 3.4.3.2 above), however, once access was gained, the researcher managed to interact with registrars who agreed to participate in the study by means of the e-mail or other contact details they supplied to her and arranged with them to either attend an interview or focus group discussion at a date, time and venue that was convenient for the participant. The interview and focus group schedule and the researcher's reflections on the data collection sessions are discussed below.

3.5.7.1 Interview and focus group schedule: professionally qualified

The researcher conducted nine (9) interview- and focus group sessions with selected registrars over a period of 6 months with the first session held on 12 December 2012 and the last session conducted on 6 June 2013.

The interviews took place at the Steve Biko Academic Hospital (SBAH) complex in various venues including doctor's rest rooms, offices and passages in the medical school, consulting rooms in clinics, laboratories and lecture rooms. Many of the sessions were interrupted by colleagues or patients of the registrars, telephone calls, etc. however, the researcher was willing to allow these interruptions as she wanted to make optimal use of the interaction with the participants, even if their time and attention was limited. Bryman and Bell (2011:474) state that finding a quiet space in which to conduct an interview uninterrupted may be one of the most difficult tasks for a qualitative researcher and recommends that venues should be away from workplaces and noisy areas. In this case it was not always practical as the researcher often conducted interviews with registrars when they were on call and needed to be available but not necessarily working. However, it was found that the participants generally remained focused on the topic at hand and managed to multi task, despite being interrupted.

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A summary of the interview and focus group schedule for the professionally qualified research group is presented in Table 21.

Table 21: Interview and focus group schedule: professionally qualified group

Interview/ focus group details	Venue	Participant code	Gender	Race
Session 1: 12 December 2012 Focus group length: 01:19:56	Obs and Gynae rest room; SBAH level 9	RS1_AM1 (Obstetrics and Gynaecology registrar)	Male	African
		RS1_IF1 (Obstetrics and Gynaecology registrar)	Female	Indian
		RS1_WF1 (Obstetrics and Gynaecology registrar)	Female	White
Session 2: 05 March 2013 Interview length: 00:27:61	Obs & Gynae, SBAH level 8 (Antenatal clinic)	RS2_AF1 (Obstetrics and Gynaecology registrar)	Female	African
Session 3: 23 April 2013; Interview length: 00:36:54; Interview conducted in Afrikaans.	Internal Medicine, SBAH level 9 (consulting room)	RS3_WM1 (Internal medicine registrar)	Male	White
Session 4: 24 April 2013; Interview length: 00:27:08	Internal Medicine, SBAH level 9 (passage)	RS4_WM1 (Internal medicine registrar)	Male	White
Session 5 2 May 2013 Interview length: 00:36:02	Urology department, SBAH level 7, (meeting room)	RS5_WM1 (Urology registrar)	Male	White
Session 6: 2 May 2013 Focus group length: 00:48:46	Core lab, SBAH level 5, (seminar room)	RS6_AF1 (Chemical pathology registrar)	Female	African
		RS6_AM1 (Clinical pathology registrar)	Male	African
		RS6_AM2 (Chemical pathology registrar)	Male	African
Session 7: 7 May 2013 Interview length: 00:43:39	Radiology Department, SBAH level 5, (passage)	RS7_WM1 (Radiology registrar)	Male	White
Session 8: 8 May 2013 Focus group length: 00:41:00	SBAH Auditorium, level 4	RS8_AF1 (Paediatrics registrar)	Female	African
		RS8_AF2 (Paediatrics registrar)	Female	African
		RS8_IF1 (Paediatrics registrar)	Female	Indian
		RS8_WF1 (Paediatrics registrar)	Female	White
		RS8_WF2 (Paediatrics registrar)	Female	White
		RS8_WF3 (Paediatrics registrar)	Female	White
Session 9 06 June 2013 Focus group length: 00:45:51	Family medicine department, floor 7, H W Snyman Building (lecture room)	RS9_AF1 (Family medicine registrar)	Female	African
		RS9_AM1 (Family medicine registrar)	Male	African
		RS9_AM2 (Family medicine registrar)	Male	African
		RS9_WM1 (Family medicine registrar)	Male	White

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3.5.7.2 Reflection

As in the case of the data collection process for the "professionals in training", the researcher personally facilitated the focus group sessions or interviewed participants face to face and she dedicated sufficient time to explain the purpose of the study and to establish rapport with the participants at the beginning of the sessions. All sessions were conducted in English, except the third interview with registrars which was conducted in Afrikaans. All interactions with the target group were audio recorded.

The first focus group session with registrars took place on 12 December 2012: After a challenging effort to secure willing participants for the study, the researcher felt relieved that the data collection process was underway and used this session partly as a pilot to test whether the questions in the interview outline would elicit the kind of data she wanted to collect and partly to explore the target group and gain understanding of their contexts. The session lasted longer than the agreed hour, however, the participants were enthusiastic and their contributions were honest and emotional, however, reflected actual experiences. The registrars were all from the Obstetrics and Gynaecology Department and were on call at the time of the focus group discussion, so the researcher was aware that the session could come to an abrupt end if they were called to handle an Obstetrics or Gynaecological emergency. One participant had to leave the session halfway as her patient was in labour and bleeding heavily. She expressed disappointment having to leave the discussion and was willing to be contacted for a follow up discussion if need be.

The researcher was advised to limit interviews and focus group sessions to a maximum of 45 minutes, but preferably 30 minutes if she wanted to recruit sufficient participants for her study. She would probably have to use some of the allocated time to introduce the study as the participants are highly unlikely to have read the information brochure prior to the interview or focus group session due to time constraints. After the first contact with this target population, the researcher reflected on the order and wording of the questions in the interview outline as well as her interviewing competencies, taking note of the advice given to her by participants in the first session.

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The second registrar interview only took place on 5 March 2013, almost three months after the data collection process commenced. This was mainly due to the non-availability of registrars who either declined to participate in the study or failed to respond to invitations. The participant agreed to meet with the researcher for 20 minutes only, however, the interview eventually lasted for 30 minutes and contributed valuable data for the study. The Obstetrics and Gynaecology registrar was, as her colleagues before her, very helpful by providing names and contact details of registrar colleagues who could be recruited to participate in the study. She provided the researcher with details of a lot of her African and female colleagues and this was useful to expand the pool of participants to achieve a more representative sample in terms of race and gender demographics.

The following six interviews and focus group discussions took place in a two-week period between 23 April 2013 and 8 May 2013. The participants were generally interested in the study and contributed honestly and focused, making good use of the limited time that was available for the sessions. As with the first two interviews/ focus groups, the participants willingly participated in the study and articulated their experiences and beliefs very well. The third session was an interview that was conducted in Afrikaans as preferred by the participant, however, the researcher is proficient in Afrikaans and managed to conduct this interview proficiently. The fourth, fifth and seventh sessions were face to face interviews with internal medicine, urology and radiology registrars whilst the sixth and eight sessions were focus group sessions with pathology and paediatrics registrars respectively. In virtually all cases, the researcher conducted the interviews whilst the participant was on call and agreed to end the interview should the registrar be required to attend an emergency. The focus group discussion with the paediatrics group took place in the late afternoon following their attendance of a seminar. The team almost got locked up in the hospital's seminar room as the secretary of the department forgot to extend the booking of the venue for the purposes of the focus group! The last focus group session took place almost a month after the session with the paediatrics group. On reflection of the data collection process at the time, the researcher felt that the input of the family physician registrars would be valuable as they are expected (together with obstetrics and gynaecology, paediatrics and anaesthetists) to play a significant role in the district specialist teams that are being rolled out as part of

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the PHC re-engineering process (discussed in Section 2.2.1.5 above) and that posts for them would more likely be available in peri urban and rural areas of the country in future.

As indicated in Section 3.5.4, the researcher interviewed a third expert, Professor Jannie Hugo, on 29 May 2013. He is the Head of Department, Family Medicine at the University of Pretoria and has extensive experience in the management of primary health care, district and rural health services as well as rural education of physicians and other health workers. Although this interview was meant to take place as part of the theme verification process, the researcher only managed to secure an interview with Professor Hugo towards the end of the data collection phase of the study. The interview contributed valuable inputs to assist the researcher to reflect on her data collection process up to that stage and to interpret results produced by the study. Professor Hugo was also very supportive of her request to gain access to family medicine registrars and made arrangements for her to meet the registrars during an afternoon study meeting scheduled for the 6th June 2013.

The session with the family physician registrars turned out to be quite challenging at the onset as the registrars were expecting a short presentation from the researcher, rather than having to give up almost an hour of their valuable study time to participate in the study. After the initial introduction, they however, agreed to be interviewed and contributed rich data based on their experiences. In many cases the discussion became very intense and required strong facilitation skills by the researcher. The researcher noted that the participants in this group were generally older and had extensive careers as medical officers and medical managers in the public sector prior to commencing with their specialist studies to become family physicians. Some of them were trained in countries other than South Africa and have worked in rural facilities in South Africa, enabling them to share valuable insights into the experiences of rural physicians. Their contributions assisted greatly to clarify or enhance some of the themes that came to the fore in earlier interviews.

In general, the researcher found that all participants showed a genuine interest in the study and she received many requests to provide the results or forward publications flowing from the study, once completed. The participants are mostly keen to see that the

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study contribute to greater understanding of physician career choices and in particular to practice medicine in a rural environment.

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The researcher enjoyed the interaction with the registrars who always conducted themselves professionally and ethically during the interviews and focus group discussions. In addition, many of the registrars did not complete their undergraduate degrees at the University of Pretoria and were thus able to share experiences that extended beyond the scope and environment associated with the University and rather reflected South African perspectives, thereby enhancing the possible generalization of results.

As far as the interview approach is concerned, the researcher tended to place lesser focus or even exclude certain questions from later interviews if no new themes emerged from the responses and added additional questions or themes which emerged during the data collection process. The researcher also found that the face to face interviews tended to be shorter than the focus groups sessions. This may be explained by the perception that the rapport building process in the face to face interviews were generally quicker than in the focus group discussions as well as the fact that the interviews followed a slightly more structured and organised flow than the focus groups where the discussions tended to be more unstructured due to the interaction between group members and the need by group members to be heard, even if the facilitator has moved onto another theme.

3.5.8 Managing and recording data

Bryman and Bell (2011:482) propose that interviews in qualitative research are usually audio recorded with digital voice recorders and transcribed afterwards. The reason for this is that "…qualitative researchers are interested in *what* people say and the *way* they say it…". The researcher should thus be able to give a complete account of the interaction between herself and the interviewee as well as be able to focus and follow up on important messages and probing further when necessary. This is best done if she is not distracted by having to concentrate on getting down notes on what is said. Bryman and Bell (2011:487) furthermore suggest that the benefit of using digital voice recorders

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in the interviews is to produce better quality recordings which also allows for digital editing to adjust recording levels and reduce background noise.

The researcher used a high quality digital voice recorder to audio tape and download the interviews and focus groups. She attached a set of microphones to the recorder to enhance the quality of recordings particularly for the focus groups where participants were sitting far apart from each other in venues with poor acoustics. The quality of the audio recordings was mostly satisfactory, given the fact that the venues where interviews and focus groups were conducted were not always conducive for audio recording. In the few instances where portions of the recording were inaudible or unclear, the researcher used her notes on the interview and memory of the discussion to construct a record of the incomplete sections.

The researcher used an experienced transcriber to transcribe the downloaded audio recordings. As proposed by Bryman and Bell (2011:485), she personally checked every transcription to ensure that it is of good quality, given the importance of interviews in qualitative research. In the case of the one interview that was conducted in Afrikaans, the researcher performed the transcription and translation to English herself as she is proficient in both languages.

The audio recorded data was carefully guarded and destroyed after the transcription and data analysis process was completed. Throughout the data collection process, participants were re-assured that the recordings will be handled with the necessary care to ensure confidentiality and anonymity.

The next broad section addresses the data analysis stage and includes discussions of the approach adopted by the researcher and the mechanism to develop conclusions for this study.

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3.6 DATA ANALYSIS

3.6.1 Introduction

The main purpose of this section is to describe the key approaches and techniques that the researcher used to analyse the data collected for the study. Qualitative data is very diverse in nature and as such does not necessarily follow a standardised approach for analysis (Saunders *et al*., 2007:478).

Pope, Ziebland and Mays (2000:114) suggest that the analytical process in qualitative research already begins during data collection as the data already gathered are analysed and this often influences and directs the ongoing data collection process. Pope *et al*. (2000:14) further states that this process allows the researcher to continuously refine questions, develop hypotheses, and pursue emerging opportunities of inquiry to enhance the depth of research.

3.6.2 Preparation for analysis

As a first step, prior to commencing with the data coding process, the researcher performed a “close reading “of the transcripts to gain an initial overview of the issues arising from the data and to become familiar with the content and contributions by individual study participants. This approach is advocated by Miles and Huberman (1984:22) and serves to establish “regularly occurring phrases and with an eye to surprising counterintuitive material”.

Using the approach employed by Renzi and Klobas (2008:8), all information collected for each interview and focus group discussion, including the demographics questionnaire, the researcher’s field notes and transcripts of the recorded interviews and focus group sessions were then prepared for uploading onto ATLAS.ti in accordance with guidelines provided by a South African expert in qualitative research and computer-assisted data analysis (Archer, 2012). According to Pope *et al*. (2000:115) and Babbie and Mouton (2001), ATLAS.ti is one of the most efficient qualitative data analysis software in South Africa and it provides a system that assists the user to locate, code, and annotate findings in primary data material. It furthermore assists the researcher to

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weigh and evaluate the relative importance of findings and to draw relations between variables.

The benefit of using a system such as ATLAS.ti is that it assisted the researcher to consolidate the large volumes of information to be generated through the literature study and focus group interviews, to keep records of notes, annotations, codes and memos in all fields that require close study and to support the analysis of primary material consisting of text, images, audio, video, and geographic data. In addition, the system provides analytical and visualisation tools designed to facilitate new interpretation and views of the material generated through data collection (Archer, 2013:4). In line with a previous TPB qualitative study conducted by Renzi and Klobas. (2008), the researcher is of the opinion that this software system was suitable for the analysis phase of the study because the basic analytical framework, i.e. an extended model of the TPB, is already defined and the purpose of this study rather focuses on classifying collected data and confirming whether core and extended variables of the model account for differences in career choice by different groups, rather than designing and describing an entirely new theory.

According to Basit (2003:143), data analysis in qualitative research is onerous as the process does not involve “mechanical or technical exercises”. It is a dynamic process which involves “inductive reasoning, thinking and theorizing.” Basit (2003:144) furthermore states that coding plays an important role in the analysis of qualitative data as it involves “subdividing the data as well as assigning categories”. This process in turn leads to the development of a conceptual framework for the data generated by a particular study. Smit (2002) refers to coding as breaking down the data into “bits and pieces”, i.e. selecting a “bit of data” and assigning it to a category of data.

With regard to using computerised software such as ATLAS.ti in the coding process, Basit (2003:145) points out that: “The computer and the text analysis packages do not do the analysis for the researcher. The user must still create the categories, do segmenting and coding, and decide what to retrieve and collate.”

The next section describes the coding process applied by the researcher which started with open coding (initial and then more focused), followed by axial coding and eventual

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analysis of codes to test the TPB in a qualitative context. The overall process applied by the researcher aligns with the steps proposed by Straus and Corbin (1998) and (Charmaz, 2006) for the analysis of qualitative data.

3.6.3 Coding

"Any researcher who wishes to become proficient at doing qualitative analysis must learn to code well and easily. The excellence of the research rests in large part on the excellence of the coding." (Strauss, 1987).

The researcher commenced with the initial data coding process after attending a training programme on coding and analysis using ATLAS.ti (Archer, 2013). The transcripts of interviews and focus groups were coded using a predetermined list of codes which was compiled during the literature review phase of the study as well as an unrestricted number of additional deductive codes generated during the process of data analysis. The predetermined code list was generated using literature from among others, the following themes and authors:

- TPB accounting for occupational intentions and choices: Arnold *et al.*,(2006); Van Hooft *et al*.,(2006); Montano *et al.*, (1988) and Felton *et al.*, (1995);
- Health human resources movement factors: Padarath *et al*., (2009);
- Influencing factors towards choosing a primary care career: Bennett and Phillips (2010); and
- Influencing factors towards choosing a rural physician career: Couper *et al*., (2007)

The researcher performed an ***initial coding*** process to organise and break the data collected in this study into smaller segments of meaning so as to enable analysis thereof (Charmaz, 2006). This process resulted in an initial code list containing about 350 open codes which grew to about 800 codes towards the end of the initial open coding process. During this process, the researcher attempted to "break through subjectivity and bias" (Corbin & Strauss, 1990:12) and assign "…a summative, salient, essence-capturing, and/ or evocative attribute for a portion of data…" (Saldaña, 2012).

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The initial set of codes was then condensed through a process of ***focussed coding***. Charmaz (2006) describes focused coding as a process of decision making regarding the significance and frequency of codes to determine the contribution of such codes to data analysis. During the process of focused coding, the researcher continuously reviewed the data and applied up to 10 rounds of "code clean-up" during the refinement of codes in order to generate a relevant set of codes for data analysis in this study.

As recognised by Saldaña (2012:39 &60), the researcher experienced the typical challenges associated with data coding, particularly coping with the sheer and complex amount of data which was overwhelming at times. The researcher commenced with axial coding towards the end of the focused coding process in an attempt to enable an effective and organised categorisation of the vast number of open codes generated during the data analysis process. In this regard to the researcher decided to label open codes using words that included an indication of the broader theme or context that would eventually apply in the case of categorising the open code, for example: "Subjective norm: perceived influence by colleagues to choose a career as Urology specialist" or "Subjective norm: perceived influence by current health professionals to choose further career in medicine" – in both cases the open codes included an indication that the code will probably be linked to or categorised as "Subjective norm" in the overall coding process.

As far as labelling of open codes are concerned, Charmaz (2006) recommends that the labelling or text of open codes should be short, precise and succinct. Whilst this approach was adopted to code data related to some of the other variables of the TBP model used in the study, the researcher was of the view that such approach would limit the scope and meaning of salient beliefs pertaining to behavioural outcomes associated with a rural physician career, thus hampering the investigation as to whether the TPB has utility in qualitative research and responding to the research objectives of this study. Smit (2002:69) states that coding in studies that employ grounded theory such as the interpretive qualitative research method used in this study, is more complex than merely "…attaching labels to text segments, and isolating and naming categories." Smit (2002:69) concurs with the statement by Locke and Golden-Biddle (2002:105) that interpretive qualitative research "…allows researchers to explore in detail how context

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shapes meaning, experience and behaviour." In light of this, the researcher used text in the open codes that represent typical TPB quantitative statements to measure attitude, which includes "…bipolar adjectives…" (i.e. reflect positive and negative end points) that are evaluative in nature and are reflective of thoughts and beliefs of study participants, for example "*good –bad*" (Ajzen, 2002). In addition, the text in the open codes included instrumental items that reflect the influence of the intended behaviour (in this case choosing a career as rural physician) to achieve something such as "useful" or" worthless". Furthermore, the researcher used text in the open codes that are experiential in nature, i.e. reflects the feelings of study participants when performing the behaviour, e.g. "pleasant – unpleasant". This approach was influenced by procedural guidelines described by Francis *et al*.(2004:13) regarding the construction of attitude items in quantitative TPB questionnaires. The process resulted in a set of codes that represented the beliefs of participants, inclusive of feelings and expectations, and also reflecting opposing adjectives and/ or outcomes. During the focused coding process, the researcher discarded codes where no participant beliefs were collected and/ or contributed.

The researcher completed the open coding of each interview/ focus group before moving onto the next one. Open coding was conducted line by line or paragraph by paragraph, depending on the richness and complexity of the participant responses, by means of ATLAS.ti. Figure 12 illustrates the coding process in this regard.

Following the open coding process, the researcher commenced with the second level of coding where she grouped various open codes into axial codes based on their common properties and more importantly created relationships between these groups. According to Corbin and Strauss (1990), ***axial coding*** involves a process where categories of open codes are related back to broader categories and connections between categories are made. During axial coding the researcher in essence builds a conceptual model to ascertain whether there is sufficient information to support interpretation of the data.

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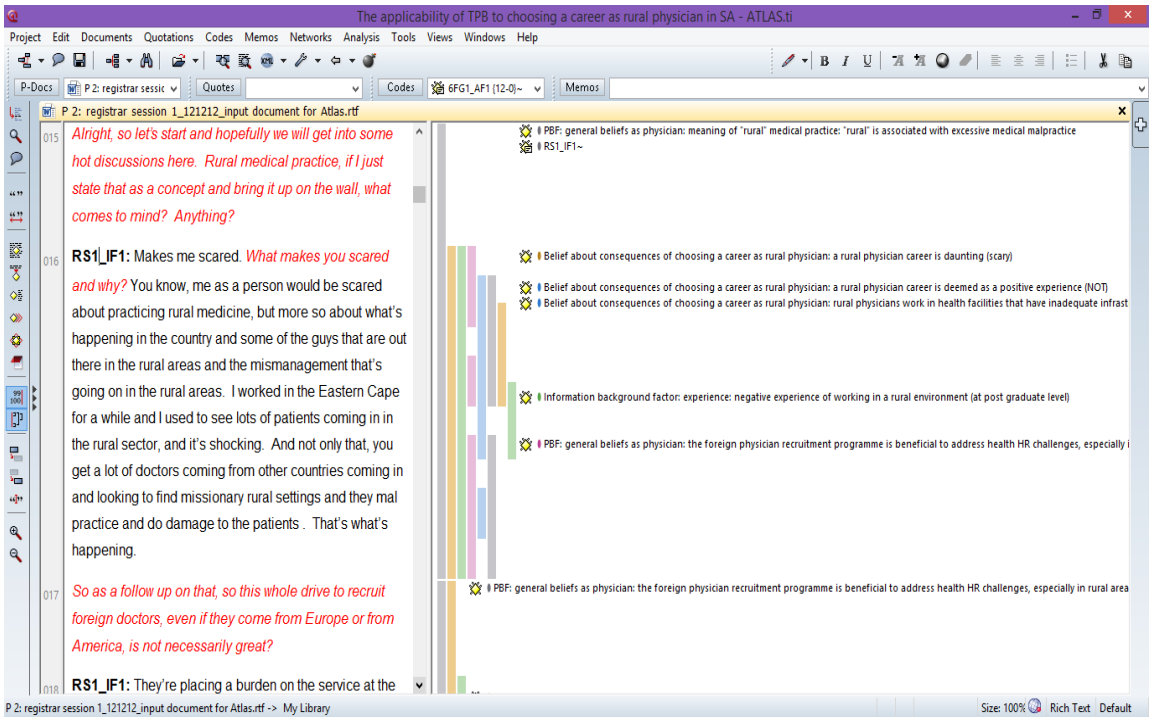
Figure 12: Coding procedure used in ATLAS.ti



Source: ATLAS.ti screenshot on researcher's computer

In order to demonstrate the link between the background, foundational and extended variables of the TPB and the open codes, the researcher generally labelled axial codes using terms that described the TPB variable in more detail. For example, perceived behavioural control is generally informed by control beliefs which in turn are based on an individual's level of confidence to perform a certain behaviour (self-efficacy) and his or her perception of control over the decision to perform the behaviour (controllability). In this example, the researcher used self-efficacy and controllability to label the axial codes which serve as broad categories to organise and categorise relevant open codes that gave context to these categories. In the case of core variables such as perceived behavioural control or background factors associated with study participants, this approach was relatively logical and implementable. In the case of the attitude items, this approach was not appropriate and the researcher generated axial codes anew, although keeping in mind that the axial codes should contain or reflect words and meaning that relate to "beliefs" which form the foundational basis of the core variables of the TPB.

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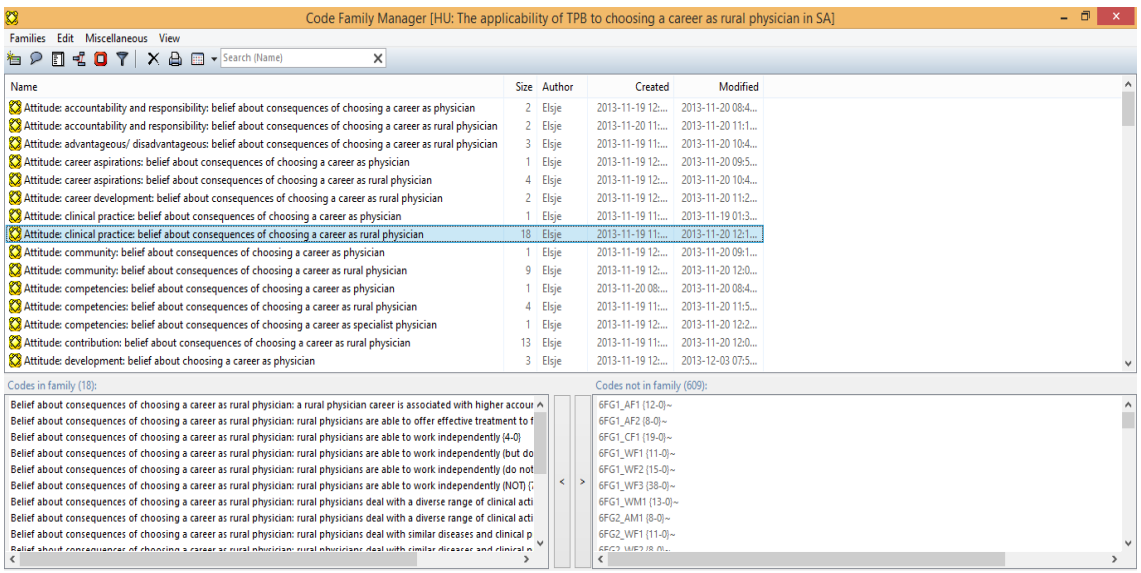
Furthermore, the researcher considered the research objectives and questions throughout the process of axial coding.

The final stage of coding is ***selective coding.*** Strauss and Corbin (1990:92) indicate that selective coding involves the creation of core categories or central themes. This is usually done by investigating the relationship between and grouping related categories into larger categories. As this study involved the testing of an existing theory, namely the TPB, the researcher did not generate new selective codes for the study, but assigned the background, informational and extended variables of the TPB to represent selective codes for the purposes of this study.

The researcher initially managed the process of axial and selective coding on ATLAS.ti with the creation of "families". This involves grouping together open codes into a family. The process must be conducted manually and is not generated automatically. As shown in Figure 13, the window contains two panes – the left pane contains codes that are included in the relevant family. The "size" column in the upper pane reflects the number of codes that have been included in a particular family.

Figure 13: Creating families in ATLAS.ti



Source: ATLAS.ti screenshot on researcher's computer

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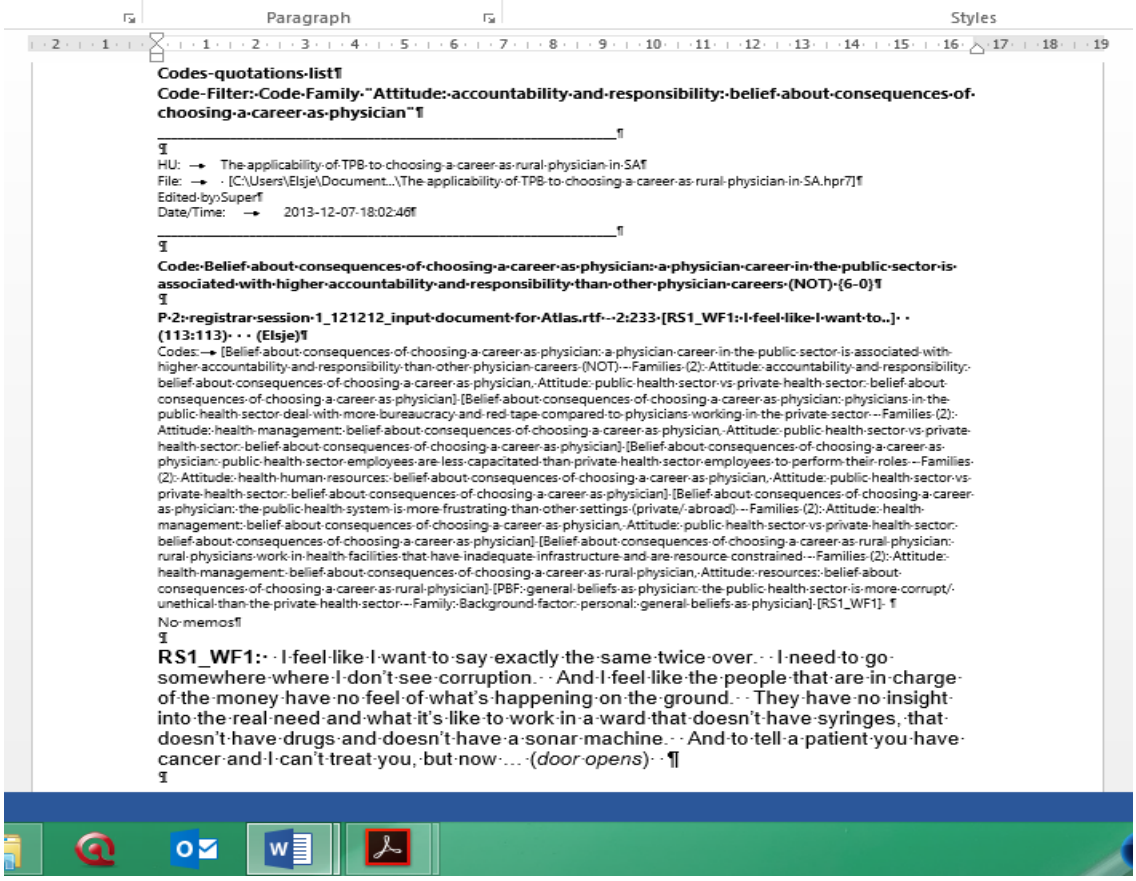
Following this process, the researcher was able to extract electronic reports in both Excel and MS Word that contained all open codes and associated text and participant responses for each code family. Figure 14 represents an example of a report generated in ATLAS.ti and shows how one quotation is linked to a range of codes and code families.

Figure 14: Example of ATLAS.ti report



Codes-quotations-list¶
Code-Filter:-Code-Family-"Attitude:-accountability-and-responsibility:-belief-about-consequences-of-choosing-a-career-as-physician"¶
HU: → The applicability of TPB to choosing a career as rural physician in SA¶
File: → [C:\Users\Elsje\Document...\The applicability of TPB to choosing a career as rural physician in SA.hpr7]¶
Edited by:Super¶
Date/Time: → 2013-12-07 18:02:46¶
Code:-Belief-about-consequences-of-choosing-a-career-as-physician:-a-physician-career-in-the-public-sector-is-associated-with-higher-accountability-and-responsibility-than-other-physician-careers-(NOT)-{6-0}¶
P-2:-registrar-session-1_121212_input-document-for-Atlas.rtf---2:233-[RS1_WF1:-I-feel-like-I-want-to..]- - (113:113)- - - (Elsje)¶
Codes: → [Belief-about-consequences-of-choosing-a-career-as-physician:-a-physician-career-in-the-public-sector-is-associated-with-higher-accountability-and-responsibility-than-other-physician-careers-(NOT)---Families-(2):-Attitude:-accountability-and-responsibility:-belief-about-consequences-of-choosing-a-career-as-physician,-Attitude:-public-health-sector-vs-private-health-sector:-belief-about-consequences-of-choosing-a-career-as-physician]-[Belief-about-consequences-of-choosing-a-career-as-physician:-physicians-in-the-public-health-sector-deal-with-more-bureaucracy-and-red-tape-compared-to-physicians-working-in-the-private-sector---Families-(2):-Attitude:-health-management:-belief-about-consequences-of-choosing-a-career-as-physician,-Attitude:-public-health-sector-vs-private-health-sector:-belief-about-consequences-of-choosing-a-career-as-physician]-[Belief-about-consequences-of-choosing-a-career-as-physician:-public-health-sector-employees-are-less-capacitated-than-private-health-sector-employees-to-perform-their-roles---Families-(2):-Attitude:-health-human-resources:-belief-about-consequences-of-choosing-a-career-as-physician,-Attitude:-public-health-sector-vs-private-health-sector:-belief-about-consequences-of-choosing-a-career-as-physician]-[Belief-about-consequences-of-choosing-a-career-as-physician:-the-public-health-system-is-more-frustrating-than-other-settings-(private/-abroad)---Families-(2):-Attitude:-health-management:-belief-about-consequences-of-choosing-a-career-as-physician,-Attitude:-public-health-sector-vs-private-health-sector:-belief-about-consequences-of-choosing-a-career-as-physician]-[Belief-about-consequences-of-choosing-a-career-as-rural-physician:-rural-physicians-work-in-health-facilities-that-have-inadequate-infrastructure-and-are-resource-constrained---Families-(2):-Attitude:-health-management:-belief-about-consequences-of-choosing-a-career-as-rural-physician,-Attitude:-resources:-belief-about-consequences-of-choosing-a-career-as-rural-physician]-[PBF:-general-beliefs-as-physician:-the-public-health-sector-is-more-corrupt/-unethical-than-the-private-health-sector---Family:-Background-factor:-personal:-general-beliefs-as-physician]-[RS1_WF1]-¶
No-memos¶
RS1_WF1:- - I-feel-like-I-want-to-say-exactly-the-same-twice-over. - - I-need-to-go-somewhere-where-I-don't-see-corruption. - - And-I-feel-like-the-people-that-are-in-charge-of-the-money-have-no-feel-of-what's-happening-on-the-ground. - - They-have-no-insight-into-the-real-need-and-what-it's-like-to-work-in-a-ward-that-doesn't-have-syringes,-that-doesn't-have-drugs-and-doesn't-have-a-sonar-machine. - - And-to-tell-a-patient-you-have-cancer-and-I-can't-treat-you,-but-now-... -(door-opens)- - ¶

Source: MS Word screenshot on researcher's computer

In addition, the reports included the frequency of the use of codes which was used by the researcher to determine the subjective value and strength of behavioural beliefs that choosing a career as rural physician will lead to certain outcomes (discussed in the next section).

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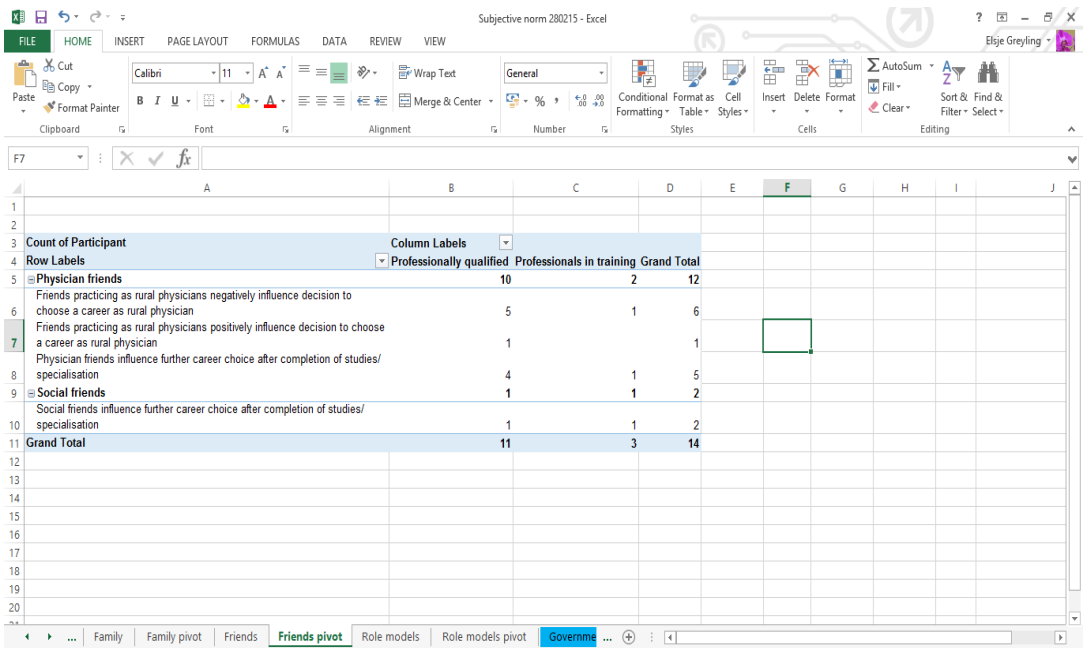
The researcher acknowledged that using the ATLAS.ti software package for data analysis purposes enabled her to manage a huge amount of data and obtain a comprehensive overview of the information generated by the study, however, she realised that she would need to perform further analysis on her own and subsequently transferred and consolidated all the information in these reports to draw up a “master” code working document which contained all codes, axial codes, selective codes, associated responses linked to respondents and the biographical data of such respondents. This document enabled the researcher to continuously sort, search and manipulate data throughout the process of analysis by means of pivot tables and served as the basis for the presentation of all research results and analysis as presented in chapters 4 and 5 of this document. Figure 15 represents an example of a pivot table generated by the researcher to reflect the open codes (normative beliefs in this case) that are associated with axial codes.

Figure 15: Example of code working document pivot table



Source: MS Excel screenshot on researcher’s computer

The above example shows the influence of physician and social friends on the career decisions of medical final year students and registrars as well as the frequency of

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responses associated with particular open codes which was used to determine the subjective value of these beliefs to the relevant research group.

Following rigorous review of all data generated in the study, the researcher finally identified a set of 7 selective and 20 axial codes with a total of 221 open codes as reflected in Table 22.

Table 22: Coding summary

Selective code	Axial code	Number of open codes
Social background factors	Demographic profile of study participants	12
	Other demographic information	5
Personal background factors	General attitudes: intrinsic and attainment values	34
	General attitudes: utility and cost values (“pro vs.con”)	20
Information background factors	Past experiences	24
	Knowledge	6
Attitude	Beliefs about the characteristics of a rural environment	5
	Beliefs about a rural lifestyle	5
	Beliefs about the characteristics, independence and contribution of rural physicians	12
	Beliefs about the advantages of a rural physician career	9
	Beliefs about career development of a rural physician	9
	Beliefs about a rural physician job (clinical practice)	26
Subjective norm	Beliefs about the expectations and influences of career guidance counsellors, educators and academia	5
	Beliefs about the expectations and influences of family	11
	Beliefs about the expectations and influences of friends	4
	Beliefs about the expectations and influences of role models	3
Perceived behavioural control	Self-efficacy beliefs	15
	Controllability beliefs	3
Extended TPB variables and intentions	Extended TPB variables	8
	Intentions and behaviour	5
Total	**20 axial codes**	**221**

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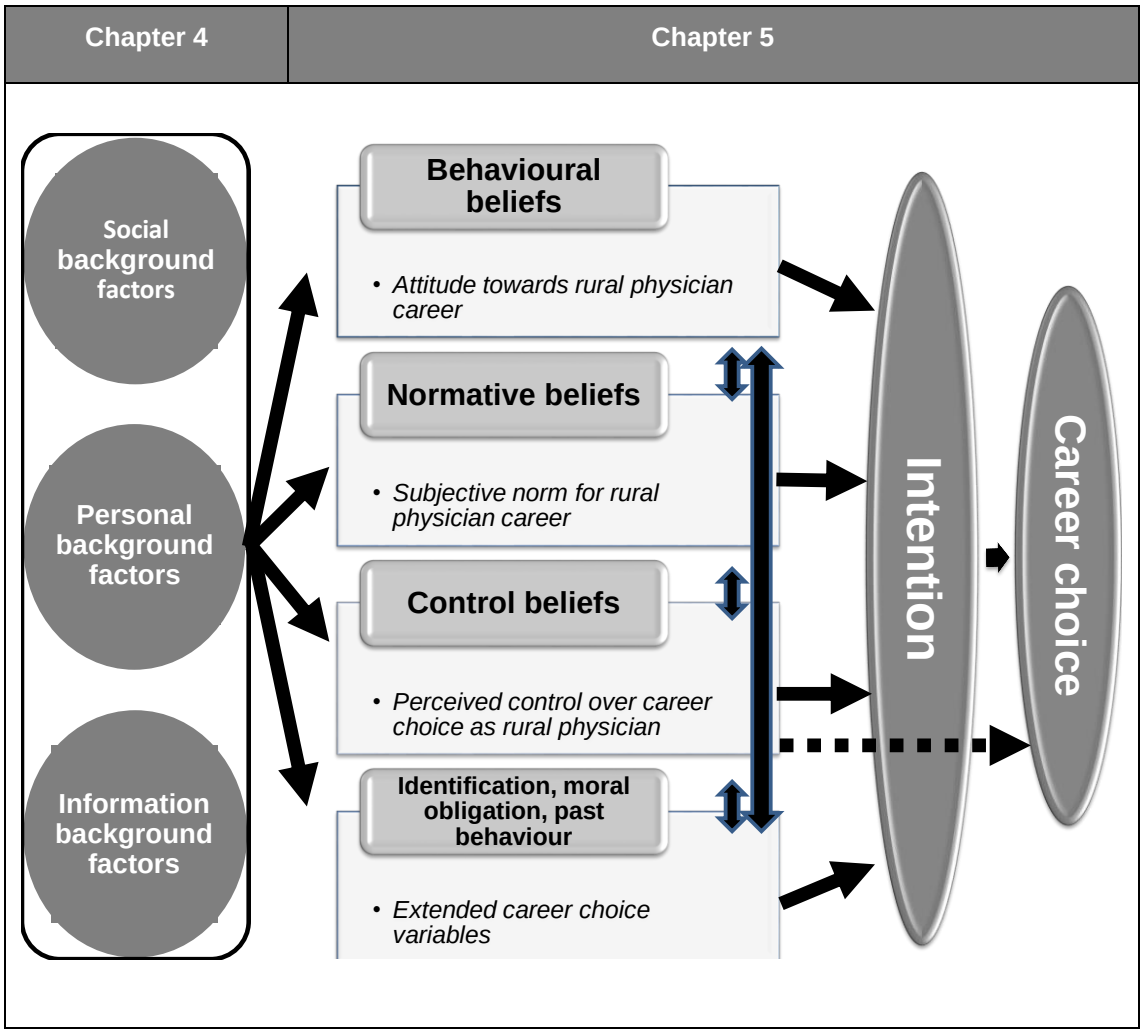
3.6.4 Presenting research results and testing the applicability of the TPB

Due to the large volume of open codes generated in this study, the researcher decided to present her results in two chapters, one reflecting the findings, analysis and discussion of the TPB background factors and the second chapter to unpack the core and extended (i.e. informational) variables of the TPB model used in the study. Figure 16 represents the TPB framework used to present research results in this document.

Figure 16: Extended TPB model to present research results



Source: Adapted from Ajzen (2005:135)

In Chapter 4, the researcher reports and discusses her findings on the background factors associated with the two research groups and the potential impact thereof on the

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core variables of the TPB and eventual career choices of participants, more specifically choosing a career as rural physician. In Chapter 5 she presents the results, analyses and findings of research conducted to test an extended version of the TPB in the context of choosing a career as rural physician.

As indicated in Section 3.6.3 above, each major variable such as social background factors or behavioural beliefs are deemed to be a selective code in this study. Each selective code includes a range of axial codes which reflect open codes that have been categorised and grouped together. With a few exceptions such as demographic data, the researcher generally regarded open codes to represent the "salient beliefs" of study participants pertaining to the expected outcomes, expectations or feelings related to the relevant background or informational variable of the TPB. As stated by Ajzen (2014b), the expected outcomes may have positive and/ or negative values to study participants

In an attempt to respond to the research objectives of this study as far as determining the subjective value, importance or associated benefits of the salient beliefs pertaining to TPB variables tested in the study, the researcher decided to present the open codes which represent positive and/ or negative beliefs, that are used most frequently (i.e. assigned to participant responses), in descending order of "groundedness" to reflect the strength of the subjective value of these beliefs for each research group. The approach operationalises definitions of "groundedness" by various authors as they apply in ATLAS.ti coding methodology. Alvira-Hammond (2012) states that "groundedness" refers to: "…the number of data segments (e.g. quotations) associated with a particular code…". Archer (2012:57) suggests that "groundedness" represents the organisation of codes "…from most used to least used…". Friese (2014:51) refers to "groundedness" as the frequency of codes, thus reflecting the "…number of quotations to which a code is applied." Friese (2014:188) further explains that "groundedness" reflects the relevance of a code in the data that is being analysed. The researcher interpreted this explanation to reflect the relevance and importance of beliefs to the two research groups in this particular study. The researcher presented the "groundedness" of beliefs in summary tables at the end of the discussion of each selective code, reflecting beliefs associated with positive, negative and mixed or inconclusive outcomes, expectations or feelings. The beliefs that are associated with the most quotations or participant responses were

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deemed to be the most relevant and thus are deemed to have the strongest value to the research groups in each instance.

With the exception of social background factors, all selective codes are presented using a similar “blueprint” which was discussed and agreed upon between the researcher and her supervisor following the data analysis stage. The “blueprint” format is summarised in Table 23.

Table 23: Research results reporting "blueprint" for selective codes

Item	Detail		
Introduction for selective code	Definitions and clarification of key concepts.		
	Arguments for inclusion/ exclusion of themes (where applicable).		
Axial code/s	Introduction for specific axial code	Brief introduction to overall themes covered under axial code.	
	Table containing open codes and examples of participant responses under each open code	Responses are linked to the unique participant code name allocated by the researcher during the data collection process.	
		Where relevant, the responses of professionals in training are always shown before professionally qualified respondents.	
		Where relevant, beliefs associated with positive outcomes are always reflected before beliefs with negative outcomes.	
		The sample of responses under each open code attempt to reflect broad nuances of the topic at hand.	
	Discussion of axial code	Grouped and discussed emerging themes under particular axial code.	
		Academic referencing to support or oppose findings.	
		Assess demographic profile of contributing respondents and relevance in terms of testing the TPB.	
		Summary of key findings under axial code – presented in diagrammatic format.	
Summary for selective code	Summary tables reflecting beliefs associated with positive, negative and mixed or inconclusive outcomes, expectations or feelings.	The beliefs are presented in descending order of “groundedness”, i.e. open codes that are used the most frequently (i.e. assigned to participant responses), are argued to have the strongest value to the research group and as such could be a useful mechanism to determine the subjective value and strength of beliefs that choosing a career as rural physician will lead to certain outcomes.	The comprehensive summary supported the development of the conclusion chapter and particularly responding to the research questions and objectives of the study.
	Summary tables reflecting impact of demographic profile to account for differences in salient beliefs.	The beliefs in this table are listed in alphabetical order and reflect the joint demographic profiles of the two research groups. The completed blocks in the table are relevant for analysis and reporting purposes.	

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The open codes, which represent smaller segments, i.e. subcategories or attributes that characterise each category or theme, reflect significant beliefs about choosing a career as rural physician. The open codes under each axial code are presented in tabular format in the various sections. The tables also include examples of participant responses under the various open codes as well as the unique participant code of the person who contributed the particular response. In presenting the responses of study participants, the researcher applied the advice of Bryman and Bell (2011:484) to introduce direct quotations firstly (in this case tabularised due to the vast volume thereof) before analysing and interpreting them. In doing this, the researcher tried to introduce a "smooth flow to the text" and avoid fragmentation of data.

The categorisation of open and axial codes was typically based on aspects related to TPB measurements and decision making, rural health and career theory, linking back to the literature discussion in Chapter 2 and specifically focused towards responding to the study's research questions and objectives.

The discussion under each selective code concludes with a visual presentation of the researcher's interpretation of the salient beliefs pertaining to a specific axial code and reflecting the differences between the two research groups namely "professionals in training" (final year medical students) and "professionally qualified" (registrars).

The researcher engaged in comparing the various categories of axial and open and conceptualised how they should be ordered on a continuous basis during data analysis and writing up the results. The development of the results chapters involved several rounds of "sorting" as proposed by Charmaz (2006) who indicates that sorting provides a researcher with an emerging theory at an abstract level by generating and enhancing theoretical links and combining categories on a continuous basis.

Using the TPB to test career decision-making that favours rural medical practice assisted the researcher to present her research results in an objective and unemotional manner as the approach to use "bipolar adjectives" (i.e. reflecting positive and negative end points, for example "good –bad" in formulating open codes, obliged her to continuously search for positive and negative outcomes in a research topic that is generally associated with negative or controversial outcomes judging from the literature review process.

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3.6.5 Developing conclusions and recommendations

According to Glaser (1994) the end result of the analysis process should lead to a logical and convincing description of key constructs, the relationships among them, and the contextualisation of research findings. The researcher should communicate a message that reflects a broad and deep understanding of the research outcomes.

Hofstee (2006:155) states the conclusion "…rounds off what you started in the introduction chapter…" He suggests the summary of findings, conclusions, contributions and suggestions for further research generally form part of the conclusion of a research report, whilst the researcher may also choose to add sections to discuss problems, implications for existing theory and recommendations for implementation. In this particular document, the researcher included a summary of her research findings, assessed the strengths and weaknesses of the study, responded to the research questions and objectives, considered the potential contribution of the study and made a few recommendations for future research areas which emanated from the findings of this study.

Saldaña (2012:260) states the reporting aspect of a research study is regarded as the most important from the reader perspective. He states that: "My personal belief is: It is not the questions that are interesting, it is the answers that are interesting. As a student and teacher of qualitative inquiry, what remains with me after I read a report or experience a presentation, regardless of form or format, is its demonstration of the researcher's analytic prowess." The researcher continuously reflected on her own beliefs, assumptions and approach towards data analysis and reaching conclusions related to the study. Throughout the data collection and analysis process, she recorded a comprehensive set of "field" notes in the research journal she kept for the duration of the study. The research journal contains observations, insights, "inner discussions" about the study and personal experiences of the researcher as well as preliminary conclusions and future research topics that could not be covered by this study, but would complement the findings.

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3.7 ASSESSING AND DEMONSTRATING THE QUALITY AND RIGOUR OF THE RESEARCH DESIGN

3.7.1 Introduction

The American Education Research Association (2006) in Denzin (2009:149) states that: "It is the researcher's responsibility is to show the reader that the report can be trusted. This begins with the description of the evidence, the data, and the analysis supporting each interpretive claim."

As proposed by Archer (2013), the researcher was guided by four criteria proposed by Guba and Lincoln (1989) regarding judging the soundness of qualitative research. These are: credibility, transferability, dependability and confirmability. In addition, the researcher had to demonstrate reflexivity as is common in qualitative research (Nadin & Cassell, 2006:208-209). Each of these aspects is discussed in the following few sections.

3.7.2 Credibility

Shenton (2004:66) proposes credibility is achieved in qualitative research through ascertaining how compatible the findings of a particular study are with reality. In this study, the researcher applied a number of strategies to increase credibility. These include:

- Applying well-established qualitative data collection and analysis methods such as interviews, focus groups and data coding;
- Establishing rapport with the participants in the initial stages of the interview or focus group discussion, reinforcing the "independent status" of the researcher and reminding participants of their rights as participants, i.e. they may withdraw at any point should they feel the need to do so. This assisted to establish trust relationships and created a platform for open and frank discussions in almost all interview/ focus group sessions (Shenton, 2004:67);
- Achieving triangulation by using a wide variety of participants as informants – this was particularly relevant for the professionally qualified group who displayed diversity in terms of race, gender, where they studied as undergraduate students and completed their internship and/ or community service. In addition, the researcher used both interviews and focus groups for data collection among this group and as

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such their contributions resulted in "…a rich picture of the attitudes, needs or behaviour of those under scrutiny…" (Shenton, 2004:66);

- Frequent "debriefing" contact sessions with the researcher's supervisor which created opportunities to discuss findings and approaches with regard to analysing and reporting the results. The researcher's supervisor contributed towards the research outcomes by drawing attention to important aspects to that could be considered in the analysis and reporting of data. All of this enhanced the quality of the researcher's interpretations and analysis;
- Maintaining a reflective research journal with "field notes" which assisted the researcher to record her thoughts, experiences, challenges, insights, feelings and reflections during the entire process. The journal assisted greatly to manage the researcher's "progressive subjectivity" and help her to monitor her "…own developing constructions…", including retaining perspective and focus when dealing with emotional or controversial data at any stage of the research process (Guba & Lincoln cited in Shenton, 2004:68);
- Recognising and using the researcher's own background and experience to prove her competence and suitability to collect qualitative data. The researcher has extensive human resources management experience and expertise, including the public health sector. She conducted many interviews and facilitated many focus group discussions, training sessions and workshops over a period of twenty years and was therefore comfortable with applying the data collection tools for this study; and
- Using "thick descriptions" and comparing results with prior research to determine the "…extent to which the overall findings ring true as well as to what extent the findings are corresponding with those of prior studies…" (Shenton, 2004:69). The literature review chapter contains think descriptions of the phenomenon under investigation and both the results chapters reflect comparisons with prior studies and findings.

A possible threat to the credibility of the study may be subject or participant error. Saunders *et al*. (2007:149) suggest that study participants to be interviewed or required to complete a questionnaire should be approached at a "neutral time" when they could be expected to give their undivided attention to the task at hand. In this regard, the researcher approached participants to participate in focus groups outside examination

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time or close to weekends. In addition, the health policy environment at the time of data collection was fairly stable, so the beliefs shared by participants are deemed to reflect stable opinions.

3.7.3 Transferability

In qualitative research, the term transferability is used and refers to the extent to which the results can be generalised or transferred to other contexts or settings (Guba & Lincoln, 1989). In this regard they suggest that the researcher should provide sufficient contextual information about fieldwork sites to enable the reader to confidently make a "transfer" of the context to another situation.

The researcher provided thick descriptions of the context in which her study was conducted, for example, she described information regarding the geographical location of the organisation where the study took place, a description of the sample in the study, the recruitment of participants, the number and demographic profile of study participants, the data collection methods used in the study, the number and context of interviews and focus group discussions, including their duration and the period over which the focus group discussions and interviews were conducted. This should enable another researcher to use the same methods in a different setting to ascertain the extent to which the same results can be obtained.

3.7.4 Dependability

Guba and Lincoln (1989) argue that there are "close ties" between credibility and dependability stating that "…in practice, a demonstration of the former goes some distance in ensuring the latter…". This suggests that dependability refers to whether decisions, choices and analysis can be audited by reviewers. This furthermore implies that complete records should be kept of all phases of the research process (Bryman & Bell, 2011).

Shenton (2004:71) lists three aspects that will enable readers of the research report to develop an understanding of the methods employed by the researcher. These are:

- Research design and implementation;

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- Operational detail of data collection; and
- Reflective appraisal of the project.

The researcher included a detailed description of the research design, operational aspects and reflections on the effectiveness of the research project in Chapter 3 of this document. In addition, she kept records of tape recordings of interviews, interview transcripts, correspondence with participants and also relevant ATLAS.ti reports and other relevant documents. These are stored in a secure place in line with ethical requirements.

3.7.5 Confirmability

Shenton (2004:72) refers to confirmability as the degree to which the research results are indeed reflective of the experiences of the participants. He states that: “Here steps must be taken to help ensure as far as possible that the work’s findings are the result of the experiences and ideas of the informants, rather than the characteristics and preferences of the researcher.”

It is acknowledged that a qualitative research design may be distorted as a result of possible interviewer and/ or interviewee bias. Saunders *et al*. (2007:318) define interviewer bias as the possibility that the verbal and non-verbal behaviour of the interviewer may have a negative impact on the way the respondent reacts to questions asked. Interviewee bias represents the reaction of the respondent because of their perceptions about the interviewer or the topic that is being investigated. In an attempt to reduce the impact of bias, the researcher used the findings of previous research with regard to career choices that favour rural practice as a basis for the investigation and as such managed to refrain from imposing her own beliefs about the matter on the interviewees.

In addition, the researcher attempted to remain as objective as possible when conducting the research. In this regard she used various forms of triangulation, as mentioned above, to reduce her personal bias. She furthermore provided a comprehensive methodology of the study and described how the data for the study were collected and processed. She

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also attended a training course in coding and the application of the computerised software which was used in this regard (Archer 2013).

3.7.6 Reflexivity in qualitative research

According to Nadin and Cassell (2006:208), reflexivity is an important aspect of qualitative research and is evolving within management research. The research process is subject to many influences that impact on the various phases and outcome of the research, thus requiring reflexivity to identify and understand such influences. Alvesson and Skoldberg (2000:6) in Nadin and Cassell (2006:208) defines reflection as "…the interpretation of interpretation and the launching of critical self-exploration of one's own interpretations of empirical material…".

Qualitative researchers normally play an active role in their research study as opposed to quantitative researchers who remain distant and independent from their studies and strives to be as objective as possible (Leedy & Ormrod, 2005:145). Both the researcher and the participant are the subject and the object of the investigation, "…interactively linked with the values of the investigator inevitably influencing the inquiry…" (Guba & Lincoln, 1994:110). It is generally accepted that reflexivity in qualitative research creates a better understanding of the role and impact of the researcher and contributes to the trustworthiness, integrity and rigour of the research process (Nadin & Cassell, 2006:208-209). According to Hammersley (2008: 549-558), reflexivity gives prominence to possible bias in the research process and qualitative researchers should constantly be aware of how their own emotions, values, cultural context, ethnicity, personality, beliefs and pre conceived ideas may impact on the kind of questions that are asked, how data is collected and findings are interpreted, and deciding which findings will be emphasised for the purposes of practical implementation and future research.

One of the challenges the researcher experienced in this study was to decide how to conduct reflexivity, as there is limited practical guidance in this regard (Nadin & Cassell, 2006:208). According to Macbeth (2001:35), reflexivity can be applied to establish the intersections between the mental models of the author, participants, the text and relevant literature used for the purposes of the research study. The researcher's personal

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background and her research journal serve to demonstrate reflection on her role in the production and analysis of data.

3.7.6.1 Personal background of the researcher

The researcher has extensive human resources management and consulting experience, including working in the public health sector at a national level. She worked for a number of public service departments and public entities, mostly in a human resources management capacity and subsequently consulted widely on human resources management policy and systems in the public health sector. The researcher is an experienced negotiator and interviewer, and facilitated many focus group discussions, training sessions and workshops over a period of twenty years.

Although, the researcher does not have working experience in the rural health sector, she was acutely aware of the professional staff attraction and retention challenges experienced by the rural health sector due to her exposure to developing national health policy and strategies. In addition, the researcher had an interest in the field of career management already from the time she did an Honours programme in Industrial Psychology many years before. The researcher was intrigued to gain an understanding of the career decision making of medical graduates and specifically their motivation to choose a career as a rural physician. This gave rise to the chosen topic and research questions of this study.

3.7.6.2 Reflective research journal

The researcher kept extensive notes of her experiences, plans and insights throughout the research process. She organised the 170+ page document according to the various phases of the research process. Appendix C contains various excerpts from the researcher's reflective journal and provides examples of her insights and mental models during the course of the research process.

3.8 CHAPTER SUMMARY

The purpose of this chapter was to discuss the research paradigm, research design and actual methodology employed by the researcher during this study.

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The researcher chose a constructivist/interpretivist paradigm because the qualitative research design of the study was informed by the need for rich and in depth information. Furthermore, as the construct and research questions in this study are deemed to be complex, an interpretive qualitative research method was applied to ensure that the research objectives are met.

The sampling strategy, data collection and data analysis phases of the study facilitated the generation of meaningful information which assisted to respond to the research questions of the study.

The findings of the study will be presented in the next two chapters.

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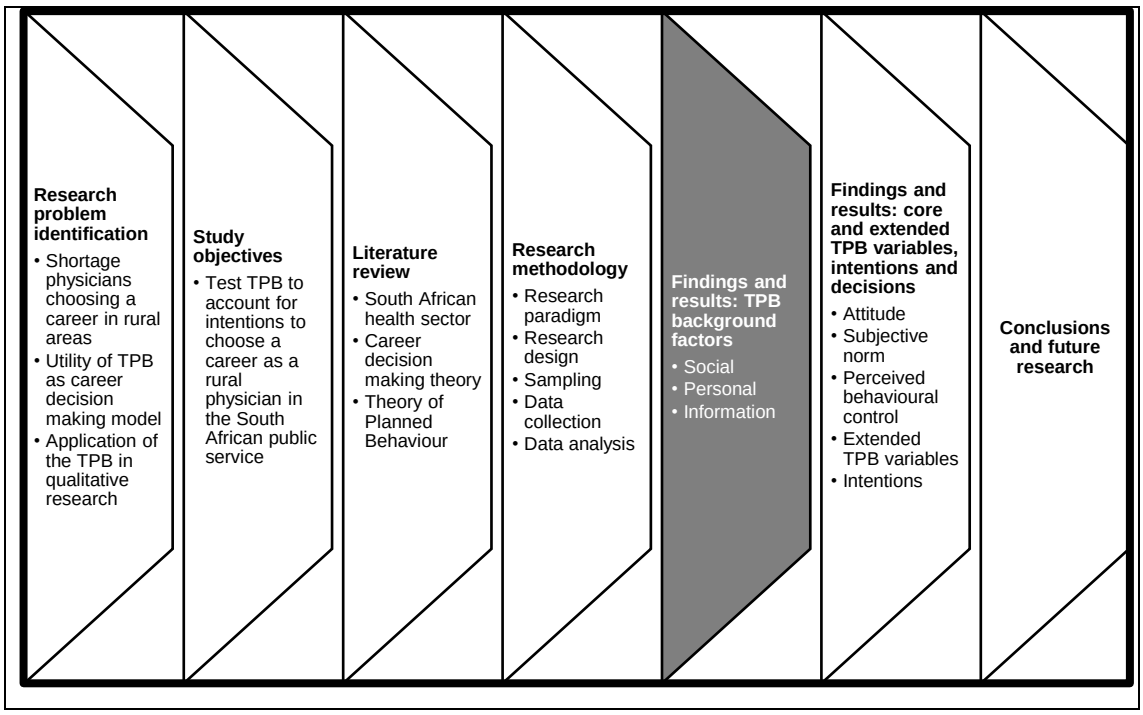
CHAPTER 4: ANALYSIS AND FINDINGS: TPB BACKGROUND FACTORS

4.1 INTRODUCTION

According to Fishbein and Ajzen (2005:1123) "…the most detailed substantive information about the determinants of a behaviour is contained in a person's behavioral, normative and control beliefs…" Generally, the TPB does not explain where these beliefs were created, but it rather proposes a range of possible background factors that may influence the beliefs held by people. As reflected in Figure 17, the researcher investigates the background factors associated with study participants that may have an impact on their beliefs, intentions and possible decision to choose a career as rural physician in this chapter.

Figure 17: Overview of Chapter 4



Source: Researcher's own summary.

The TPB recognises the importance of background factors to account for an individual's intention to implement certain behaviour (Ajzen, 2005:134). According to Ajzen (2014),

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background factors include variables such as personality traits, intelligence, demographic variables and values among others. He claims that the background factors in the TPB are not ignored, "…but assumed to influence intentions and behavior indirectly by affecting behavioral, normative, and/or control beliefs…". It is further proposed that the variables of the TPB are assumed to facilitate the effects of background factors on intentions, decisions and actions. Although both background information and foundational information assists the understanding of the rationale behind certain behaviour, it must be noted that background factors and behavioural, normative and control beliefs are not necessarily connected (Ajzen, 2005:134). Ajzen (2011a; 2011b:85), however, supports the view that background factors can provide valuable information about possible precursors of beliefs pertaining to the core variables of the theory and as such the TPB can be used to study the impact of background factors on intentions, decisions and actions. In addition, Ajzen and Klobas (2013:213) concede that background factors may be influenced by social norms and "institutional context" such as socio economic or political environments.

In line with the view adopted by Ajzen and Klobas (2013:213) in their research pertaining to the application of the TPB in the fertility research domain, many different kinds of background factors are of potential relevance to the decision to choose a career as rural physician. The TPB itself does not propose a fixed "list" of background factors to be explored in the research, however, allows for the inclusion of background factors identified in prior research or demographic factors associated with study participants to explain findings by "tracing the factor's effects on beliefs" (Ajzen & Klobas, 2013).

This chapter specifically explores the background factors associated with the two research groups and the potential impact thereof on the core variables of the TPB and eventual career choices of participants, more specifically choosing a career as rural physician. As reflected below in Figure 18, the background factors discussed in this chapter are divided into the three main categories which are typically used by Ajzen (2005) in an extended version of the TPB, namely:

- Social background factors;
- Personal background factors; and
- Information background factors.

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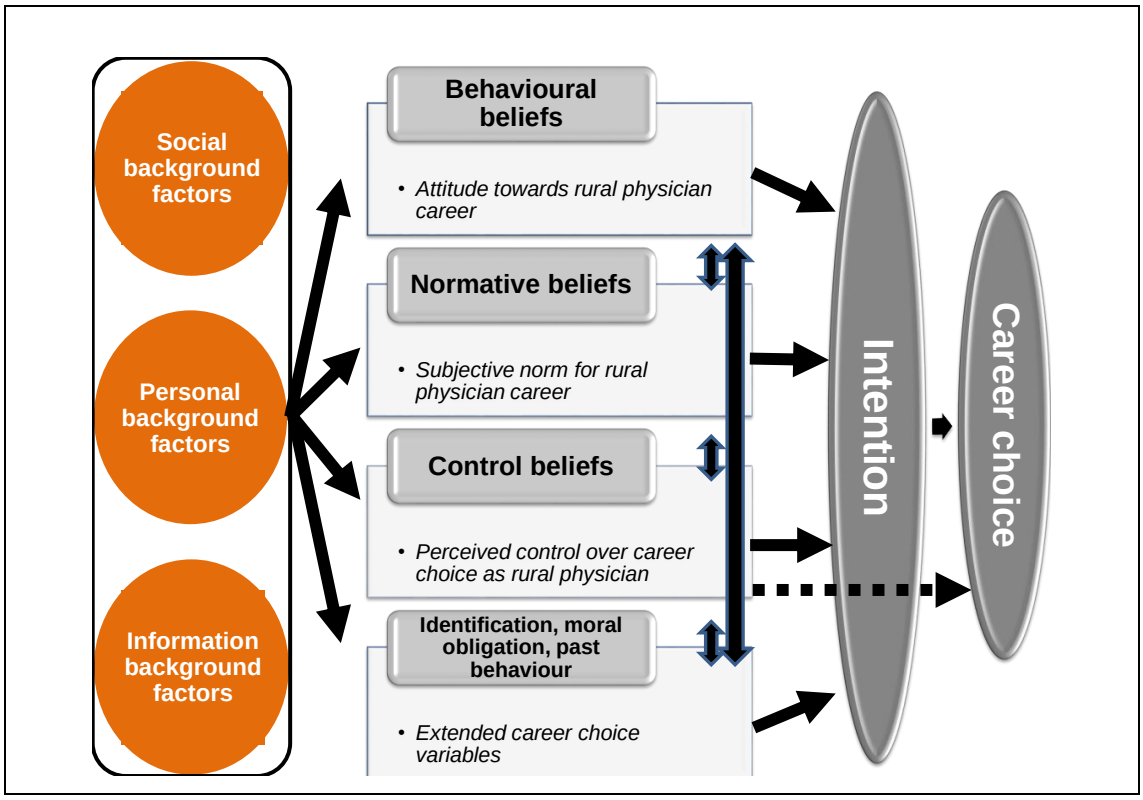
Figure 18: Extended TPB model: choosing a career as rural physician



Source: Adapted from Ajzen (2005:135) for purposes of this study

Each of the main background factor categories are deemed to represent a selective code in the coding process of this study and are discussed in more detail in this chapter.

4.2 SELECTIVE CODE: SOCIAL BACKGROUND FACTORS

4.2.1 Introduction

Ajzen (2005:134) and Fishbein and Ajzen (2005:197) do not define "social background factors" as such, however, include generic demographic variables such as age, gender, race, ethnicity, education levels, income and religion as social background factors in an extended TPB model.

In line with the approach adopted by Renzi and Klobas (2008:5) and research conducted by Van Hooft *et al*. (2006:161) and Green *et al*. (2006:15-15b), the researcher identified a set of demographic variables as units of analysis for the purposes of this study to test

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the application of the TPB within a South African context as well as expand on previous research that investigated the impact of demographic factors on intentions and decisions in the domain of rural physician career choices. Ajzen and Klobas (2013:213) suggest that it is appropriate to include demographic factors that have demonstrated in past research to affect physician career decision-making, including choosing a career as rural physician. The researcher studied the following demographic variables for the purposes of this study:

- Race and gender;
- Age;
- Marital status;
- Dependants;
- Language;
- Origin (rural vs. urban);
- Prior rural working exposure
- Family and friends working in rural health sector;
- Public sector working experience; and
- Career intentions and decisions.

The majority of the above social background factors were generated using biographical information obtained by means of questionnaires completed by the participants prior to the focus groups sessions and interviews. The researcher did not necessarily probe the content further except where she required issues to be clarified with participants. A summary of the biographical data of the respondents in the two research groups are presented in Table 16 and Table 17 (refer Chapter 3) respectively.

In addition to information obtained by means of the questionnaires, the researcher also identified additional social background factors by means of axial coding, using information that came to the fore during the focus group discussions and/ or interviews. These social background factors reflect information pertaining to the professions of spouses and partners, whether the researcher regarded the upbringing of participants as privileged and the location of undergraduate studies of the professionally qualified group. The additional information was coded and is presented and discussed under a separate axial code in Section 4.2.3.

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4.2.2 Axial code: demographic profile of study participants

4.2.2.1 Introduction

This section provides the platform to explore one of the main research areas of this study, namely to determine whether demographic variables of study participants namely race, gender, origin (rural/ urban), home language, marital status, dependant family, age, previous work experience in the public service and family or friends working as rural physicians account for differences in the prediction of their future career choices and more specifically choosing a career choice as a rural physician.

As mentioned before, Ajzen (2011b:82) acknowledges the importance of background factors in the TPB, however, challenges whether they have a significant impact on beliefs that influence the core variables of the model. He does agree that it may be "…possible that individuals or groups with different demographic profiles will reflect different beliefs about the same behaviour which will in turn produce different attitudes, subjective norms and perceptions about control… ".

As explained in Section 3.5.3 of this study, participants were requested to provide demographic data by means of self-administered questionnaires for the purposes of analysis. The researcher used these units of analysis to test the application of the TPB within a South African context as well as expand on previous research that investigated the impact of demographic factors on intentions and decisions. The results are presented and discussed in the next few sections.

4.2.2.2 Race and gender profile of study participants

Study participants were requested to indicate their race on the biographical questionnaire that was included in the approved data collection instrument used for the study. The researcher used the race and gender categories prescribed by the Employment Equity Regulations, 2014 (Department of Labour, 2014:13) for the purposes of classifying the race and gender status of participants. Figure 19 below provides a summary of the race and gender profiles of participants in the two research groups namely professionals in training and professionally qualified.

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The vast majority of participants in the professionals in training group were white females, whilst the professionally qualified group had slightly more African participants than white participants with a balanced distribution between males and females.

Figure 19: Race and gender profile of study participants

De Vries *et al*. (2010:227) state that gender appears to influence career plans and choices pertaining to specialty choices and work locations. The profile of the professionals in training seems to be aligned with gender profiles and trends of South African medical graduates discussed in Section 2.2.2.4 which indicated that females represent an increasing number of medical graduates annually 55% of all graduates by 2005 (Breier, 2008:26) and 58% of all graduates by 2012 (Mayosi & Benatar, 2014:1347). The researcher is of the view that this sample was sufficiently representative of the target population to enable generalisation as far as gender, but not race is concerned.

The race and gender profile of the professionally qualified research group reflects a higher percentage representation by African males and females compared to the representation of the same group in the number of physicians (general and specialist) registered with the HPCSA. Day and Gray (2014:286) report a representation of just under 30% of all medical practitioners (including specialists) for the African group,

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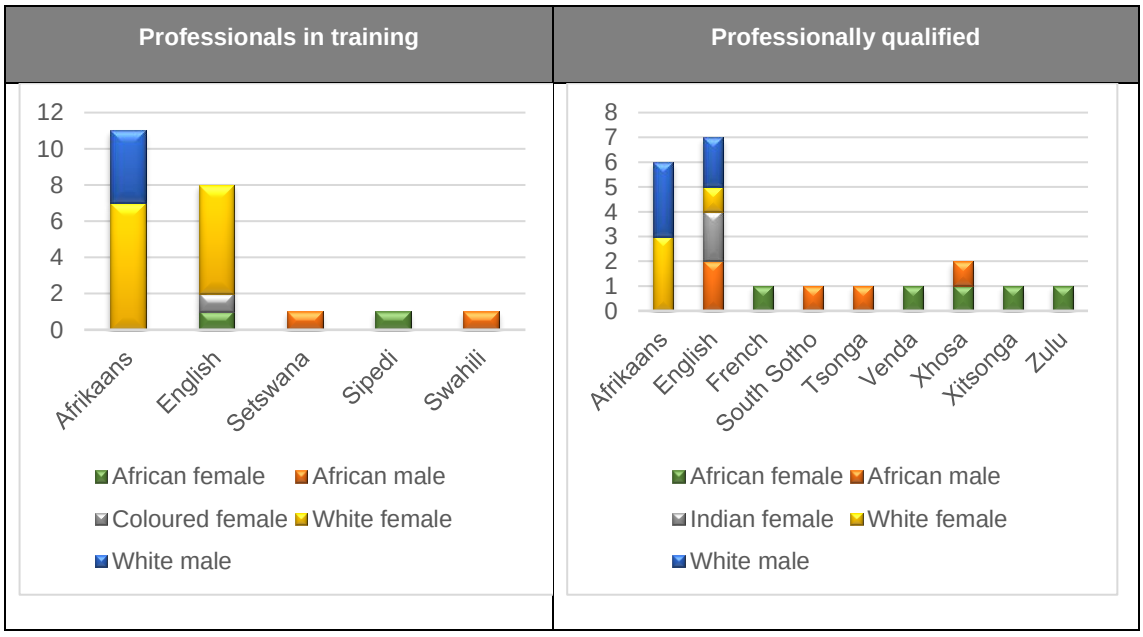
however, this representation has shown an upward trend over last few years and is most likely a result of differential selection criteria used by health sciences faculties that is based on race (Reid & Cakwe, 2011a) and methodical equity policies and procedures adopted by health sciences faculties and provincial health departments in the last 10 to 15 years (London *et al*., 2009).

4.2.2.3 Language profile of study participants

Participants were asked to indicate what language they speak mostly at home. The language profile of participants is presented in Figure 20.

Figure 20: Language profile of study participants



The majority of participants in both groups reflected English and Afrikaans as their home languages. The professionals in training group had more Afrikaans participants whilst the professionally qualified group had the most English speaking participants. The professionals in training group included participants who speak four of South Africa's official languages whilst the professionally trained group had a more diverse representation of the country's official languages with eight of the eleven languages represented. The researcher would ideally have wanted to have a larger representation of isiZulu and isiXhosa in the research group as these are the most spoken languages

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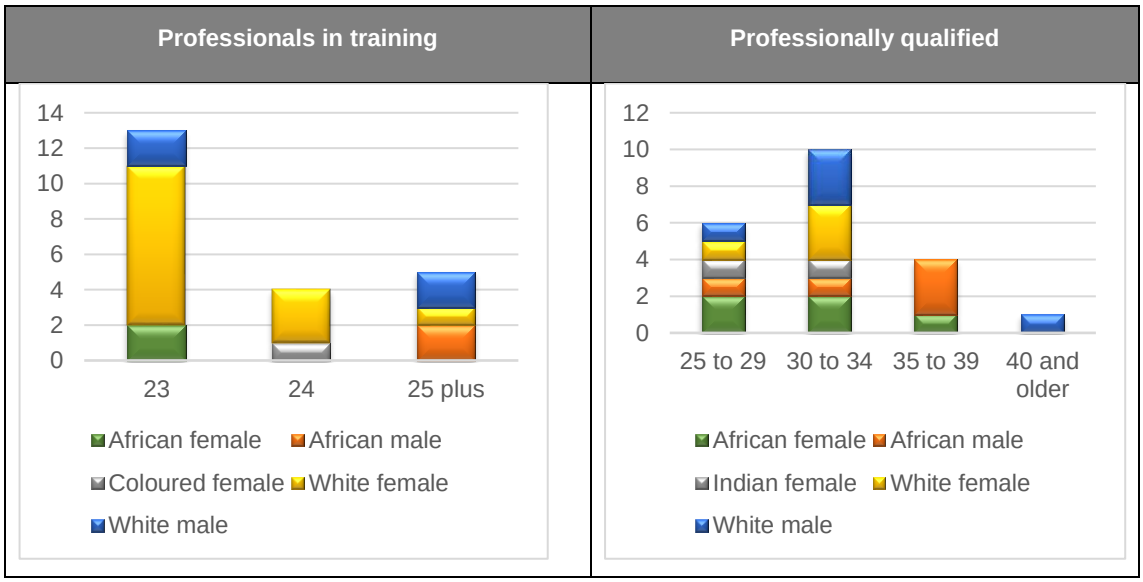
in the country with Afrikaans and English in the third and fourth place respectively (Statistics South Africa, 2012).

4.2.2.4 Age profile of study participants

Study participants were requested to indicate their age on the biographical questionnaire that was included in the approved data collection instrument used for the study. The age profile of the two research groups is reflected in Figure 21.

Figure 21: Age profile of study participants



The age range for professionals in training is between 23 and 26 with the majority of the group aged 23, which implies that they commenced with their MBChB studies straight after matriculation and have passed all their academic years up to their final year. The age range of the professionally qualified group is much wider with 25 the youngest and one participant older than 40. The majority of the participants in this group are between the ages of 30 and 40 which implies they are mature people with a fair amount of work and life experience, including practicing medicine in various health settings. The race and gender distribution in the professionally qualified group is well distributed between various age categories, although the researcher observed that the African males in the research group were older than other groups. The researcher is, however, of the view that both research groups are sufficiently representative of the target population for this study as far as age is concerned.

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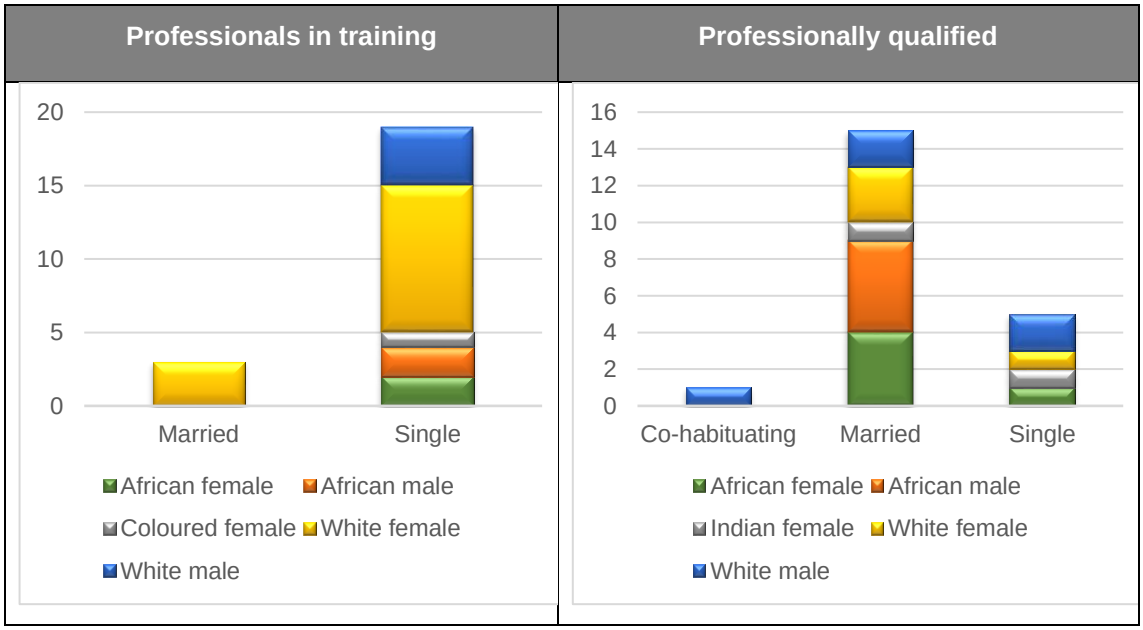
4.2.2.5 Marital status of study participants

Study participants were requested to indicate their marital status on the biographical questionnaire that was included in the approved data collection instrument used for the study. Figure 22 provides a summary of the marital status of participants in the two research groups.

Figure 22: Marital status profile of study participants



Only two of the white females in the professionals in training group are married, whilst the vast majority of participants in the professionally qualified group are married. The researcher did not explore the timing of when participants typically changed their marital status, however, through her prior knowledge and experience, having worked in the health sector previously, she is aware that the physicians are most likely to enter into marriage or stable long term relationships upon completion of their undergraduate studies and more often upon completion of internships and/ or compulsory community service, but prior to commencing their further studies towards specialisation. The researcher could not establish whether any studies have been done in South Africa to support this observation.

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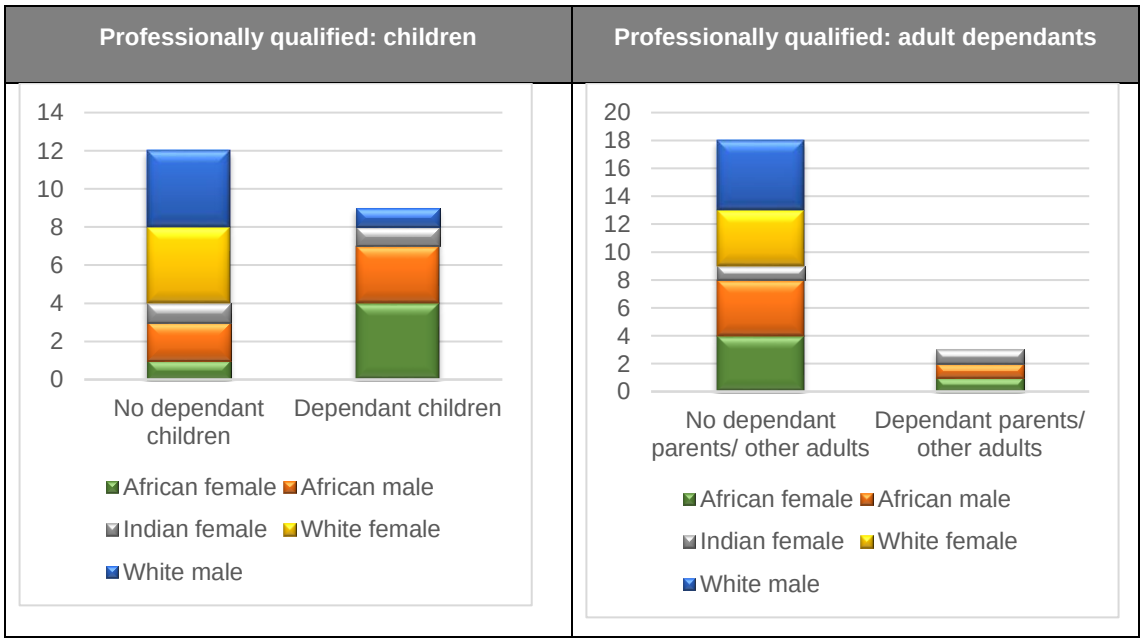
4.2.2.6 Dependant profile of study participants

Study participants were requested to indicate whether they have dependent children or dependant parents or other adults (apart from their spouses/ life partners) living with them.

None of the respondents from the professionals in training group have children as yet and no adult dependants/ dependant parents were indicated for any participant in this group. The dependants' profile of participants in the professionally qualified group is presented in Figure 23

Figure 23: Dependant profile of study participants



Almost half of the professionally qualified participants have children who are dependent on them for education and upbringing, whilst a few participants indicated that they have adults who are dependent on them for living expenses and other support. A large number of the African participants have dependent children as well as dependant adults whilst none of the white females in the research group have child or adult dependants as yet.

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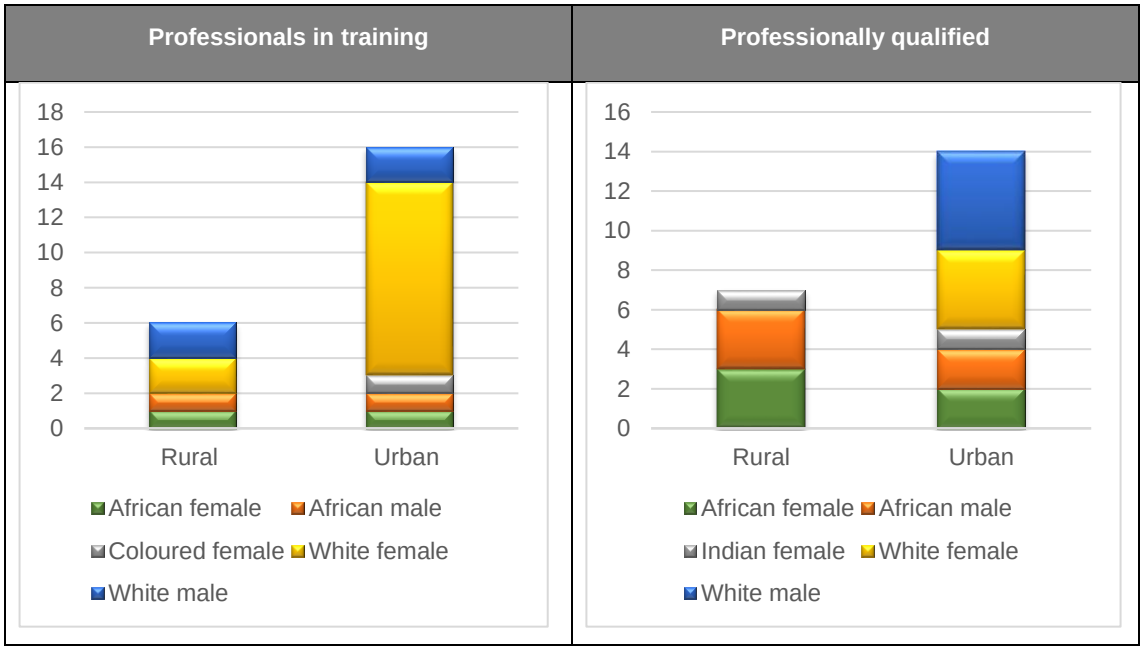
4.2.2.7 Origin (rural vs. urban) of study participants

Participants in the two research groups were requested to indicate where they grew up. The researcher asked participants to indicate whether they regarded the listed area as a rural or urban area. Diab *et al.* (2012) suggest that South African government policies generally refer to rural areas as those that are "non-metropolitan", i.e. outside major metropolitan areas, large cities and provincial capitals. The "origin" profile of participants in the two research groups is presented in Figure 24.

Figure 24: Origin (rural vs. urban) of study participants



The researcher included this particular demographic variable to ascertain whether rural origin of study participants had an impact on their beliefs, intentions and ultimate decisions as tested by the extended TPB model used in the study. Research conducted in this domain locally and internationally suggested that health professionals, including physicians, who originate from rural areas are more likely to choose a career in a rural environment (De Vries & Reid, 2003; Couper *et al.*, 2007; Grobler *et a*l., 2009; De Vries *et al.*, 2010; Diab *et al.*, 2012 and Malan, 2014).

About a third of the professionals in training group grew up in rural environments whilst half of the professionally qualified group indicated that they grew up in towns or

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environments outside large metropolitan areas in South Africa and neighbouring countries. The participants in the professionals in training group who indicated they grew up in rural areas reflect a fair distribution of race and gender groups, whilst none of the white participants in the professionally qualified group grew up in rural areas. More African participants in this group grew up in rural areas than in urban areas. The researcher is of the view that both research groups were sufficiently representative of rural and urban origin to ensure credibility of the analysis of their contributions to the study.

4.2.2.8 Previous exposure/ experience to rural health and practice

Participants in the two research groups were requested to indicate their previous exposure (i.e. electives during undergraduate studies) and/ or working experience (i.e. internship and/ or compulsory community service) in a public rural hospital. The researcher included this demographic to explore the potential link between past experience as a background factor with the core variables of the TPB, however, during the course of the study, she realised that this information could potentially be used to explore past experience as a background factor and testing the utility of "past behaviour", described by Armitage and Conner (2001:479), as an extended variable of the TPB. The previous exposure/ experience profile of participants in the two research groups is presented in Figure 25.

The vast majority of participants in both research groups indicated previous exposure to rural environments and/ or worked in a public health facility in a rural environment. All race and gender groups are represented by the participants who have prior rural experience and experience.

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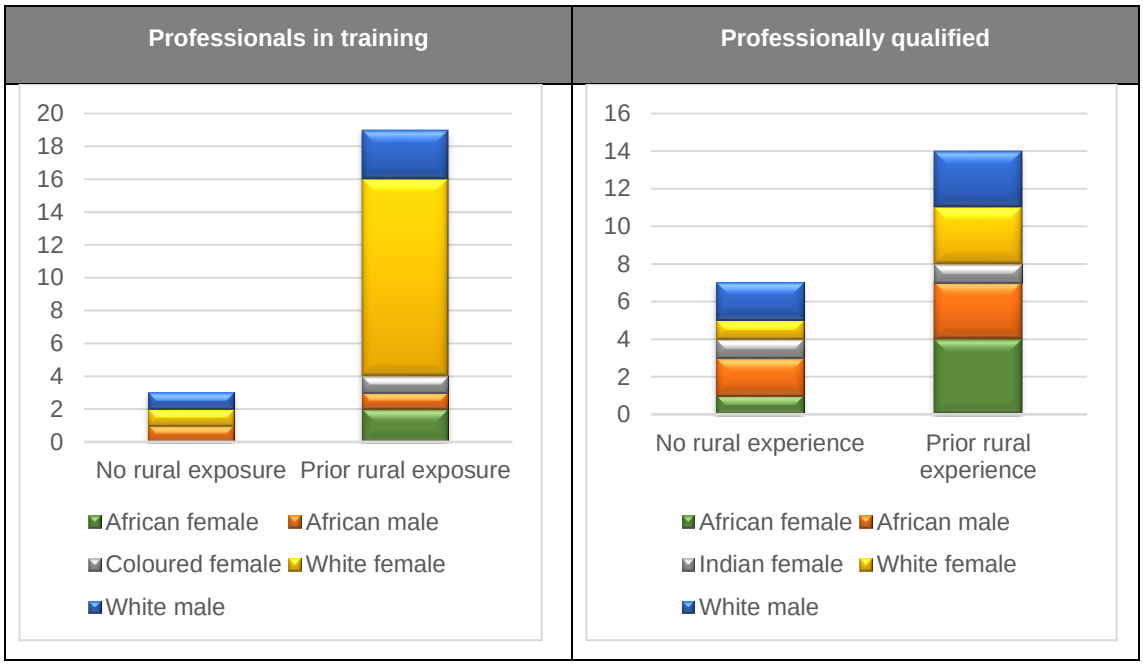
Figure 25: Prior rural exposure/ experience of study participants



4.2.2.9 Professionally qualified study participants: public sector working experience

In addition to requesting participants to indicate their prior exposure/ experience in rural areas, the professionally qualified group was also requested to indicate their years of experience working in public sector health facilities. Figure 26 reflects the years of working experience of the professionally qualified group as far as their public health sector experience is concerned.

The majority of participants in this group indicated that they have six or more years of experience in the public service, having worked for one or more departments of health (national or provincial) during that time. The researcher observed that African males generally have lesser experience than other groups which may suggest, taking into consideration their age profile as reflected in Section 4.2.2.4, that they possibly work in the private health sector upon completion of their studies and community service and then start specialising at a later stage of their physician careers than others. The African females collectively had the most public sector experience – this may mean they tend to remain in the public health sector after internship and community service and work as medical officers in the system prior to commencing their specialist training or alternatively

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they may take longer than other groups to complete their registrarship towards specialisation. The researcher did not investigate these assumptions further as it fell outside the scope of the study.

Figure 26: Public health sector working experience of professionally qualified study participants

4.2.2.10 Professionally qualified study participants: specialty choices

Participants in the professionally qualified group were requested to indicate their current medical specialisation field. This information was requested to establish the potential impact of specialty field on the beliefs and intentions of the particular research group. Figure 27 provides a summary of the specialty areas of the participants in this group.

Participants in this research group represented seven speciality areas namely paediatrics, family medicine, obstetrics and gynaecology, pathology, internal medicine, radiology and urology. As discussed in Section 3.4, the researcher attempted to include a wide variety of specialities in the study, however, this was not possible. She is, however, of the view that the sample is sufficiently representative of specialities that typically practice in underserved peri-urban and rural areas such as gynaecologists and obstetricians, paediatricians and family physician and which are generally included in provincial outreach teams or DCST's (Department of Health, 2012a). The race distribution of participants in the sample is evenly spread across various specialities,

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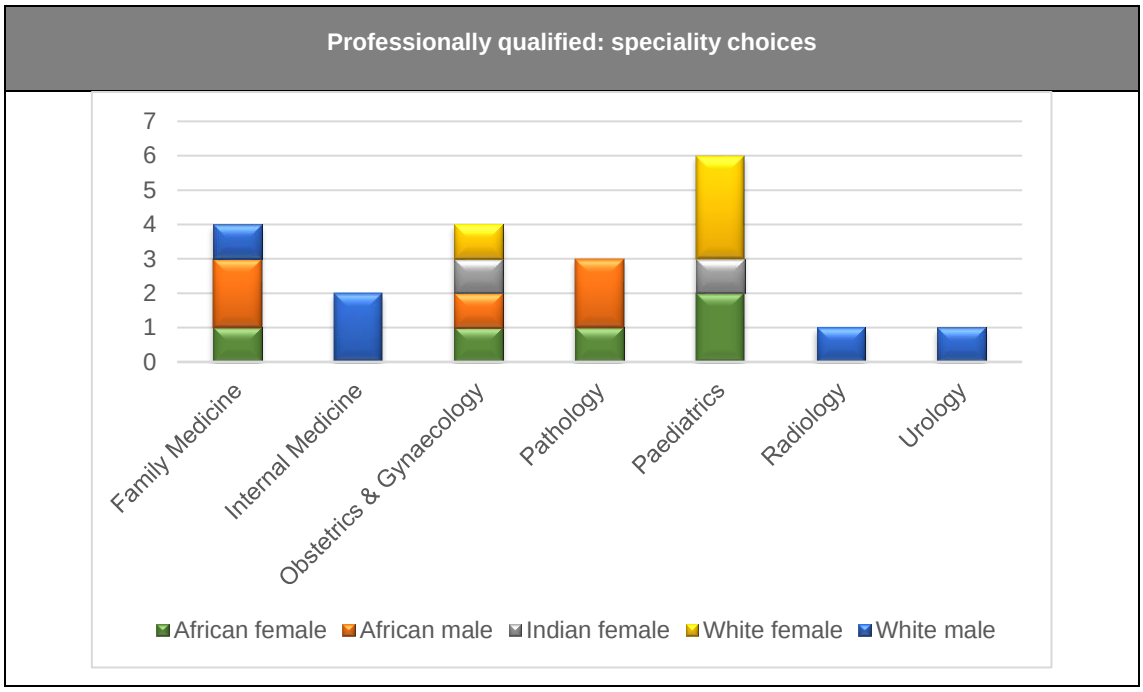
however, females were strongly represented in specialities such as paediatrics which are typically one of the top speciality choices of women whilst male participants represented specialities that are less favoured by females such as internal medicine, urology and radiology (Breier, 2008).

Figure 27: Specialty choices of the professionally qualified study participants



4.2.2.11 Family of study participants working in rural health facility

Study participants were requested to indicate whether any member of their close family currently work as a physician in a public hospital in a rural environment. This demographic was included in the study to determine the potential link between such demographic and the core variables of the extended TPB model used in this study. Figure 28 below provides a summary of the outcome of this question.

Very few participants in both research groups indicated that members of their close family are employed as physicians in the rural health sector in South Africa. The researcher concluded that it may be difficult to ascertain the impact of this demographic variable as a background factor of the TPB on this study.

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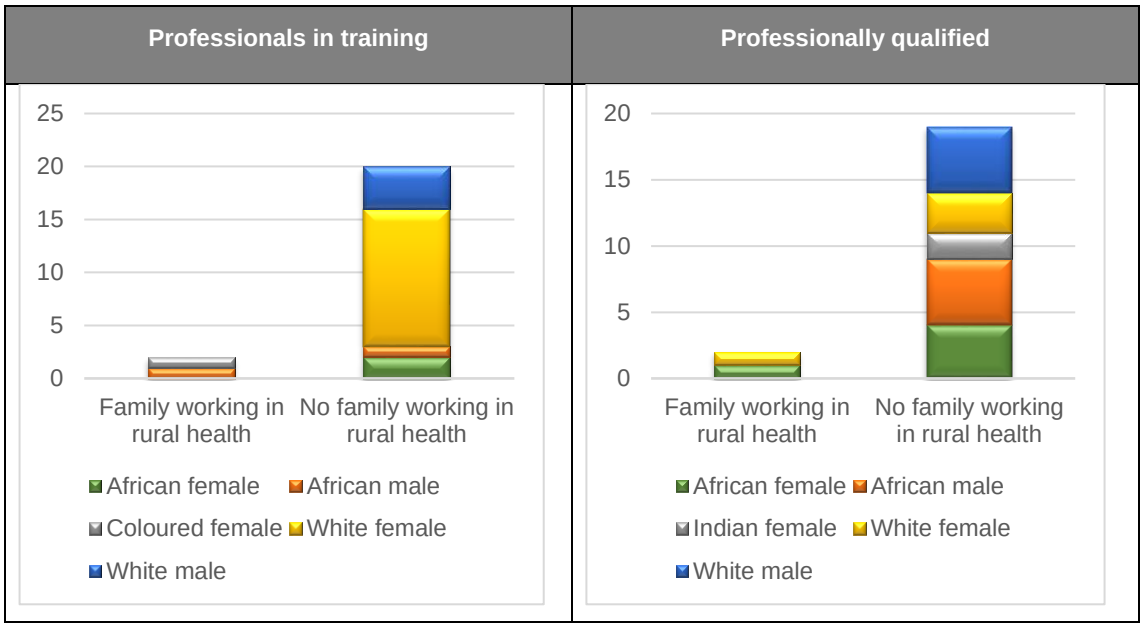
Figure 28: Family of study participants working in rural health facilities



4.2.2.12 Friends of study participants working in rural health facility

Study participants were requested to indicate whether any of their friends currently work as a physician in a public hospital in a rural environment. Participants were also requested to indicate the current occupation of friends working in rural areas, for example whether they are busy with internship or compulsory community service or whether they are practicing medicine and working as medical practitioner in a rural hospital on a permanent basis, i.e. employed as a medical officer by a provincial health department. This demographic was included in the study to determine the potential link between such demographic and the core variables of the extended TPB model used in this study. Figure 29 and Figure 30 below provide a summary of the employment status of research group friends.

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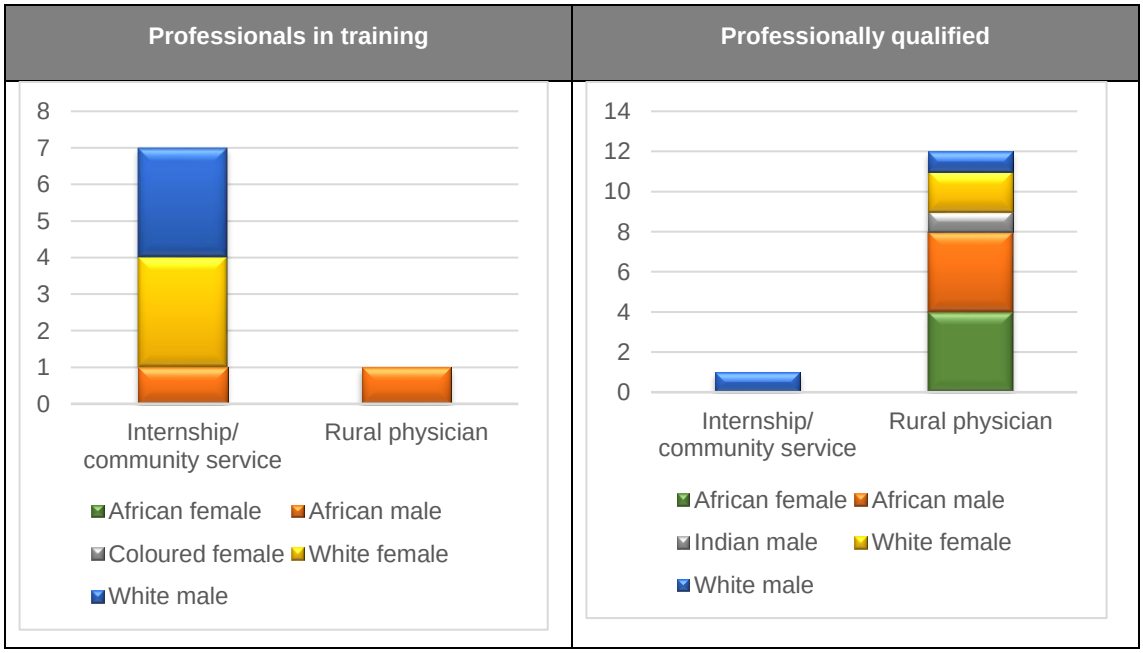
Figure 29: Friends of study participants working in rural health facilities

Figure 30: Occupation of study participant friends working in rural health facilities



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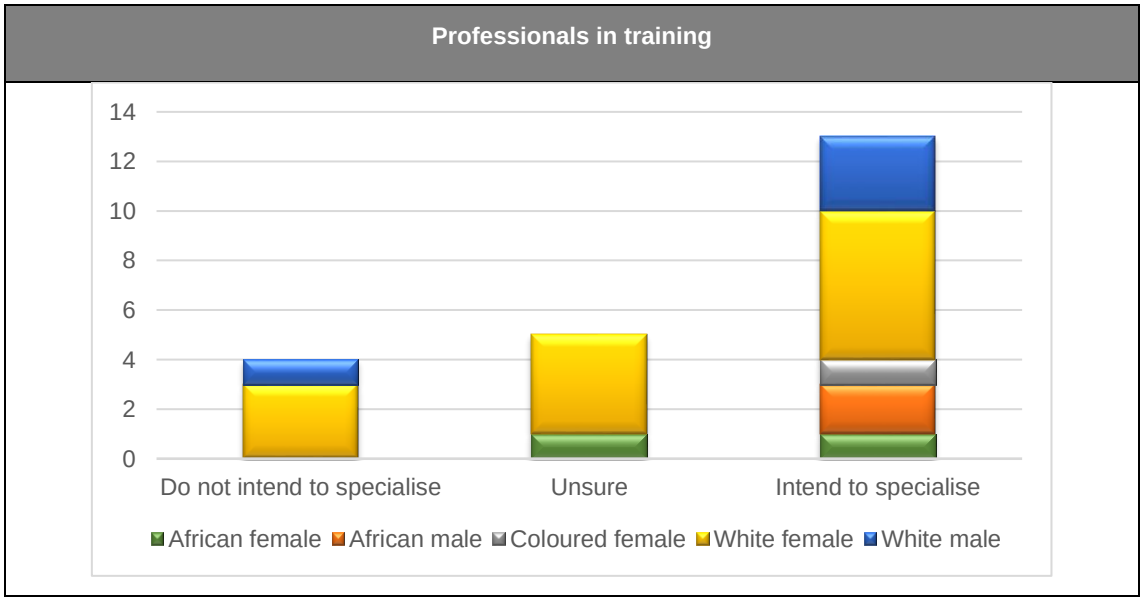
About a third of the professionals in training group indicated they have friends who are working in a rural health environment and the majority of these physician friends are completing their internship and/ or compulsory community service in rural health facilities. On the contrary, the majority of the professionally qualified group indicated they have friends who are currently practicing medicine in a rural facility, working as a medical officer or specialist physician in a rural environment. The participants from the professionally qualified group who indicated they have friends working in rural areas are evenly spread across various race and gender groups. The researcher is of the view that as far as the professionally qualified group is concerned, friends practicing medicine in a rural environment may have a strong impact on beliefs, intentions and ultimate decisions to choose a career as rural physician. The outcomes of this assumption is discussed in the next chapter.

4.2.2.13 Professionals in training study participants: intention to specialise further

Participants from the professionals in training group were requested to indicate their intentions to specialise further.

Figure 31 presents a summary of their intentions in this regard.

Figure 31: Professionals in training study participants: intentions to specialise



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The majority of professionals in training indicated that they intend to specialise. Many white females, however, indicated they are not sure or do not wish to specialise further. The sample consisted of a large number of white females and therefore the researcher took note of the intentions of this group, however, used the information with caution in the analysis of results pertaining to the investigation of the core variables of the TPB in this study. The high number of professionals in training who indicated an intention to specialise is aligned with the findings of a study by De Vries *et al.(*2010:227) which found that although 47% of the 876 final year medical students surveyed at all 8 South African medical schools in 2007/2008 have made a definite career decision at the time and 93% already chose a first choice of speciality should they be afforded an opportunity specialise further. The reasons and beliefs associated with these intentions are explored in this study.

The researcher is of the view that the both research groups are sufficiently qualified to contribute valid and representative inputs to the study in terms of sharing beliefs that could be used to test the applicability of the TPB to choose a career as rural physician.

4.2.2.14 Representation of demographic profile

Although the researcher is of the view that the samples of the two research groups were broadly representative of the target populations that were used to test the TPB in this context, she is suggesting that they are not “truly representative” as described by Ambert *et al*. (1995:885). She has however, as part of responding to the research objectives of the study, included her observations whether demographic factors associated with study participants account for differences in their beliefs and attitudes towards choosing a career as rural physician. These observations are reflected under each of the themes discussed in chapters 4 and 5.

4.2.3 Axial code: other demographic information

4.2.3.1 Introduction

In addition to the demographic information obtained from participants by means of questionnaires and presented and discussed in Section 4.2.2 above, the researcher recognised the following additional demographic information through a process of axial and open coding. The researcher is of the view that the additional information is useful

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to enhance the understanding of social background factors as they relate to the TPB model used in this study.

4.2.3.2 Open codes and participant responses

Further demographic information that emerged from the process of axial coding are presented by the open codes in Table 24. The table includes examples of individual participant contributions that gave the researcher additional insights concerning their demographics. These results are analysed and discussed in Section 4.2.3.3.

Table 24: Open codes: other demographic information

Axial code: additional social background information		
Open code: spouse/ partner is training/ practicing as physician		
Professionals in training	*Having a relationship in my class they know exactly what I'm doing. So, I find it much easier because I can actually say I'll talk to you in 5 minutes and he'll be like, OK. It's not like, no. If I say I'm on call, it's like it says it all, so I don't have the same experience.*	6FG1_AF1
Professionally qualified	*He's also doing the same thing I am. But, he's to finish probably end of this year.*	RS2_AF1
	My wife works at Bara. She's an anaesthetist, she's specialised already. So, ja, she's working there now.	RS7_WM1
Open code: spouse/ partner is not training/ practicing as physician		
Professionals in training	*No, he's in the 4x4 business.*	6FG1_WF2
	He is a teacher. So he knows that in most likelihood he will be the person looking after the children one day, more than I would. It takes a strong person to be able to, as the husband, so he's taking more of a family role.	6FG2_WF2
Professionally qualified	*She's a computer scientist.*	RS1_AM1
	No he's in rehabilitation of mines.	RS1_WF1
	No, he's not. But he has a job where he cannot just go and work in a rural place.	RS8_WF2
Open code: privileged upbringing		
Professionals in training	*Like my mum was a teacher and my dad works at Sasol.*	6FG1_AF2

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Axial code: additional social background information		
	And then as far as my parents are concerned they said they will pay, they will support, but I didn't enjoy the decision at all because I didn't have biology in school.	6FG1_WF3
	I think it's quite difficult like, we have been growing up in this area (Pretoria) with our parents, a lot of us.	6FG2_WF3
	My mother is a nurse or was a qualified sister. She stopped working when I was born. The stories that she told us – we used to listen attentively - she said she enjoyed it.	6FG3_WF1
	My mum is actually a doctor. She is a specialist physician. When I was in high school she used to work very long hours	6FG3_WF2
	Both my grandfathers are doctors. But they're no longer alive. My mum is very involved in rural health and public health.	6FG3_WF3
	But my dad is in dentistry and he is now a hospital developer.	6FG3_WF5
	I come from a small place in KZN and my grandfather was the only GP in town and my father is the only GP in town and it's pretty rural.	6FG3_WM2
Professionally qualified	*For me, both my folks are doctors and my dad specialised and my mum didn't. And they very strongly feel that if you have the opportunity you should specialise.*	RS1_WF1
	Ek kom uit 'n professionele huis uit. Glad nie medies georienteerd nie, maar dit is – eerstens het dit by die huis begin. Tersiëre onderrig was nooit 'n opsie gewees nie, dit was net wát jy gaan doen. OK. Ek was in 'n goeie hoërskool gewees.	RS3_WM1
	We had medical encyclopaedias and I would always ask my mum what's this, what's this and my sister did medicine as well.	RS4_WM1
	I went to a local school in Pretoria and I was always in the more, academic student and also a sporty student even though I participated quite thoroughly in culture and was involved heavily there, and for me it's always been three choices, either engineering, or actuarial science or medicine.	RS5_WM1
	I think starting from high school; I went to Queenstown Girls High School in the Eastern Cape…. My mother was a nursing sister.	RS6_AF1
	My family are pretty much all professionals, my dad is an accountant; my sister is an accountant, so I come from a professional background and was always going to go to university. It was just a decision, what it was and I pretty much focused at school in sort of like more biology, the sciences.	RS7_WM1
	My mother was a nurse.	RS8_WF2
Open code: disadvantaged upbringing		
Professionally qualified	*Because obviously for me coming from a rural place, the struggle that I went through. I'll not allow my children to go through whatever I went through because I used to walk 8 kms to school*	RS1_AM1

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Axial code: additional social background information		
	every day. Now in the morning and in the afternoon and that's 16 kms per day to go to school for 5 years - for the high school.	
Open code: completed undergraduate studies at universities other than University of Pretoria		
Professionally qualified	*But I used to run a clinic in Cape Town as a student and we took our doctors to townships that were quite far from Cape Town and that didn't have access*	RS1_WF1
	It was University of Natal to University of Kwa-Zulu Natal.	RS2_AF1
	…and my exposure at the varsity, University of Free State, I think that's when I started liking the field that I'm in, but I wasn't with that mind-set.	RS6_AM1
	I studied at UCT.	RS7_WM1
	While I was at Medunsa, most of the patients who were referred to a tertiary hospital they're from our side because there is no one who will pick up the problem early.	RS8_AF2
	Yes. I think I remember, as a medical student, specifically working with the Department at Stellenbosch that community health department, and then I can actually remember a few things that a medical student that really made sense to me.	RS9_WM1

4.2.3.3 Discussion of other demographic information

Participants shared additional information during the data collection phase of this study that enabled the researcher to further enhance the demographic profile of the two study groups.

The first set of additional demographic information relate to the **careers pursued by partners or spouses** of study participants. One participant from the professionals in training group indicate that her partner is also studying medicine whilst two indicated that their partners/ spouses are pursuing other careers. Two participants from the professionally qualified group indicated their spouses are also physicians whilst three indicated that their partners/ spouses have careers outside medicine. The results might suggest that the spouses/ partners of physicians more often pursue different careers which have implications in terms of mobility of physicians and locality of medical practice. Isaac, Petrashek, Steiner, Manwell, Byars-Winston & Carnes (2013:1) state that dual career relationships is an increasingly frequent occurrence for physicians and often the spouses of physicians are pursuing completely different careers. Warde, Allen and

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Gelberg (1996:729-735) point out that such a state of affairs often leads to role confusion which impact on career decision making.

The second set of additional demographic information concerns whether the **childhood of participants is perceived as privileged or disadvantaged**. Privilege is described by Waters and Brooks (2010:218) as having "social status" and "economic capital". About a third of the participants in both groups shared information that revealed they possibly grew up in a privileged environment. Many participants have parents and/ or grandparents who are physicians or health professionals and others indicate their parents are professionals with tertiary qualifications or high social standing in the community. One participant specifically shared the fact that his parents are financially well-off. The participants who suggested a privileged upbringing were mostly white and female, however, two of the African participants also suggested that they grew up in a privileged environment. On the contrary, only one participant, an African male, from the professionally qualified group indicated that he grew up in disadvantaged circumstances in a rural environment where he had to walk far to school due to poverty and lack of services. The researcher could not locate any South African studies that investigated the impact of social standing and financial strength on access into medical school and career decision making in this regard, however is of the view that a privileged upbringing is likely to facilitate a platform for academic excellence due to the support and stimulation received in childhood years. In addition, she believes that children who grew up in privileged environment have more career choices and access to information about careers than disadvantaged children. It is thus anticipated that students from a privileged background may have easier access and entry to studying medicine. A study by Lentz and Laband (1989:406), which explored whether children of physicians gain easier access to medical school, suggest that access to information and transfer of information about the career may explain partially why so many American medical students have physician parents, although they suggested nepotism may be a more likely reason for the high number of such students. This area deserves further investigation outside the scope of this particular study. In a South African context privilege is often associated with race and as such it is often assumed that white children grew up in a privileged environment whilst children from other race groups were perceived to be disadvantaged. Breier and Wildschut (2007:62) state that it is mainly for this reason that universities have

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introduced “complex admission procedures in which academic achievement is not the only criteria for admission”. Among others white and Indian students are required to achieve much higher matric results than students from other groups. These admission requirements are generally applied at the traditionally Afrikaans universities as well as the Universities of Cape Town and Witwatersrand.

The third set of additional demographic information enhances an understanding of the **academic background of the professionals in training** group. The researcher extracted information pertaining to the universities where they studied as undergraduate medical students in order to demonstrate their diversity and representation of the target population. There are eight medical schools in South Africa. According to Breier and Wildschut (2007:93), three health sciences faculties are associated with “predominantly black universities”, i.e. Walter Sisulu University (formerly University of Transkei), Limpopo (formerly MEDUNSA) and University of KwaZulu Natal (formerly University of Natal). Three universities are predominantly Afrikaans speaking, i.e. University of Pretoria, University of the Free State and University of Stellenbosch and two universities are English speaking i.e. University of Cape Town and University of the Witwatersrand. These five universities are deemed to have catered for privileged students before 1994, although they have experienced significant changes in student demographics and equity profiles since then. The researcher established that participants from the professionally qualified group completed their undergraduate studies at all but two of the schools namely the Walter Sisulu University and the University of the Witwatersrand. The majority of participants in this group obtained their MBChB degrees through the University of Pretoria, however, two African females indicated they studied at the Universities of Limpopo and KwaZulu Natal respectively; one African male studied at the University of the Free State, two white males studied at the Universities of Cape Town and Stellenbosch respectively and one white female studied at the University of Cape Town. The researcher is of the view that the diverse undergraduate profiles of these participants add value to the analysis and outcomes of the study and facilitated generalisability of the findings.

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4.2.4 Summary: social background factors

In this section, the researcher presented the demographic profile of study participants in the two research groups by means of graphs (refer Figure 19 through to Figure 31). The demographic information was mainly obtained from self-administered questionnaires which were completed by study participants prior to the interviews and focus group discussions.

In addition, the researcher tabularised the results of the data analysis process pertaining to further demographic variables in order to generate additional insights concerning their demographic profiles. The additional items were generated through a process of open and axial coding. The researcher made reference to relevant literature to support or oppose research findings. The results revealed that many of the spouses/ partners of physicians pursue different careers which have implications in terms of the mobility and location of physician practices. Furthermore, most of the participants, including all races and genders, grew up in privileged environments with access to educational support and funding. Lastly, the researcher established that participants from the professionally qualified group completed their undergraduate studies at all but two of the medical schools in South Africa, however, the majority of participants in this group obtained their MBChB degrees through the University of Pretoria. The researcher found this additional information useful to contextualise the social background factors presented in Section 4.2.2, however, decided not to include the additional variables in the analysis of behavioural, normative and control beliefs that account for differences in the prediction of their future career choices and more specifically choosing a career choice as a rural physician. This decision was taken because it was not possible to determine the additional information for all study participants.

4.3 SELECTIVE CODE: PERSONAL BACKGROUND FACTORS

4.3.1 Introduction

Ajzen (2002:135) states background factors, including personal background factors, "…can influence intentions and behaviour, but this influence is usually mediated by more specific beliefs and attitudes concerning the behaviour of interest. By examining the

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effect of a given background factor on behavioral, normative and control beliefs, we can gain further insight into the determination of human behaviour."

Ajzen (2005:134) includes general attitudes, personality traits, values, emotions and intelligence under personal background factors. These are described as follows:

- ***General attitudes*** refer to "…a disposition to respond favourably or unfavourably to an object, person, institution, or event. Although formal definitions of attitude vary, most contemporary social psychologists agree that the characteristic attribute of attitude is its evaluative (pro-con, pleasant-unpleasant) nature…". The researcher interprets this to mean that a person's attitude towards an object, another person, an institution or an event is reflected in terms of the value that the person attach to such object, person, institution, or event. Value in this context is defined as "…the regard that something is held to deserve; the importance, worth, or usefulness of something…" (Oxford Dictionaries Online, 2015). The researcher found the categorisation of values by Wigfield and Eccles (1992:266) useful to discuss the "pleasant-unpleasant" and "pro-con" nature of general attitudes as a personal background factor of the TPB in the context in this study. Their categorisation of values is based on Atkinson's expectancy value model, however, represents a modern version thereof where "…both the expectancy and value components are more elaborate and are linked to a broader array of psychological and social/cultural determinants. Second, expectancies and values are assumed to be positively related to each other, rather than inversely related, as proposed by Atkinson…" (Wigfield & Eccles, 2000:72). "Attainment value", "intrinsic value", "utility value" and "cost" values are listed by where attainment values relate to the importance of an activity for a person's identity; intrinsic values refer to enjoyment of or interest in an activity; utility value refers to usefulness or relevance of an activity and cost refers to associated negative psychological experiences such as stress that may be associated with an activity (Wigfield & Eccles, 2000:72). The researcher is of the view that the term "activity" can be replaced with "intention" or "decision" in the case of this study, thus categorising general attitudes towards being a physician (and the various career options and locality of practice that may be possible) into the associated attainment value, intrinsic value, utility value and cost value of the career decision.

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- ***Personality traits*** represent characteristics that have significant influences on a variety of trait-relevant responses (Ajzen, 2005:19). Behaviour could thus be regarded as the result of the expressions of a person's personality traits.
- ***Values*** as a background factor in the TPB refer to value orientations associated with the decision at hand and fundamental life values in general (Daigle, Hrubes & Ajzen, 2002:4). Oxford Dictionaries Online (2015) define values as "…principles or standards of behaviour; one's judgement of what is important in life..."
- ***Emotions*** as a background factor in the TPB refer to "general moods (which) can have systematic effects on belief strengths and evaluations". Ajzen (2011:1116) states that emotions can indirectly impact salient beliefs as well as the strength and relative value of these beliefs. Bagozzi, Gopinath and Nyer (1999:184) refer to emotion as "…mental states of readiness that arises from cognitive appraisals of events or thoughts; has a phenomenological tone; is accompanied by physiological processes; is often expressed physically (e.g., in gestures, posture, facial features); and may result in specific actions to affirm or cope with the emotion, depending on its nature and meaning for the person having it…". The researcher found Plutchik's framework of basic emotions, which was influenced by the work of Paul Ekman, an influential American psychologist, useful to identify and discuss emotions displayed by study participants (Ekman, 1992 and Plutchik, 1980) This is, however, an area for much deeper investigation in order to enhance understanding of the complexity of emotions and the role thereof in decision making as pointed out by Pfister and Bohm (2008:5-17).
- ***Intelligence*** is listed by Ajzen (2014) as a background factor of the TPB but the researcher could not find a specific description of intelligence in the context of the TPB in available literature. Oxford Dictionaries Online (2015) define intelligence as the "…ability to acquire and apply knowledge and skills…".

For the purposes of this study, the researcher limited the analysis of collected data to general attitudes, however, future studies may be expanded to explore the effect of emotions, personality traits, value systems and intelligence within the context of the TPB as a career decision-making model. The researcher identified two axial codes to discuss general attitudes as personal background factors – these are general attitudes: intrinsic and attainment values and general attitudes: utility and cost values.

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4.3.2 Axial code: general attitudes: intrinsic and attainment values

4.3.2.1 Introduction

The open codes in this section represent the general attitudes of participants to reflect whether or not they enjoy various aspects related to practicing medicine and a physician career and the importance of these aspects in defining their own identity. Ajzen (2005) refers to the nature of these attitudes as "pleasant" or unpleasant". As discussed in the introductory section, the researcher is of the view that "intrinsic values", a category of values identified by Wigfield and Eccles (2000:72) that refer to the enjoyment or interest in an activity is useful to collectively describe the open codes in this section. A second category namely "attainment values", which relate to the importance of an activity for a person's identity, is also relevant in this case. The researcher furthermore applied the approach of Ferguson and Fukukura (2012:4) to categorise the intrinsic and attainment values of study participants as "likes" or "dislikes".

The researcher believes these values have an impact on further career decision making of physicians, be it specialisation, general practice and location of practice. It is thus assumed that an investigation of these values will assist to understand the behavioural beliefs, normative beliefs and control beliefs as well as intentions and ultimate decisions of physicians pertaining to choosing a career as rural physician.

4.3.2.2 Open codes and participant responses

The general attitudes of study participants that emerged from the process of axial coding are presented by the codes in Table 25. The table includes examples of participant responses pertaining to their general attitudes regarding what they enjoy or not as well as how these likes and dislikes shape their personalities pertaining to a physician career. An interpretation of these results is discussed in Section 4.3.2.3.

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Table 25: Open codes: general attitudes of study participants: intrinsic and attainment values

Axial code: general attitudes: intrinsic and attainment values		
Open code: likes objectives of National Health Insurance (NHI)		
Professionally qualified	*I know it's probably coming, especially if NHI is going to take off. They will want to have more specialists in rural areas. It's probably a good idea, but only if the system underlying is fixed as well.*	RS4_WM1
	Ja, I think it's actually a good initiative. Obviously I don't think it's going to be easy. Because basically there is a big gap between private and public sector and not everyone has got access to the institutions. So, I think basically NHI is trying to make sure that everyone is equal, everyone has the right to good health.	RS6_AM2
Open code: likes private sector medical practice		
Professionally qualified	*I love the private sector. I've worked in the private hospitals and I've worked in GP practices. The set-up is just different. Of course it has its negatives as well because private patients are very demanding, more so than the public service patients but things go much smoother. People are motivated to work, because they have money as an incentive. They've been paid to work and they know that. In the day with the theatre nurses you do work twice in a round compared to the state. And you are so productive. The environment is nice, there is a team spirit and it's just so nice to be in the private sector.*	RS1_IF1
Open code: dislikes private sector medical practice		
Professionals in training	*In private I think there is too much politics. And it's too much money driven. The income is determined by the amount of patients you see, that then causes a lot of people to become less humane possibly, do things for the wrong reason. This is just my experience of it.*	6FG2_WM1
	And then also, a few of them that really have an impact on me personally, with regards to the way they treat patients or the passion that they have. They then further instil in me. That definitely adds to possibly deciding to specialise in field a, b or c, or you know maybe stay in the academic sectors if I want to. Or be totally against private, such as I am, sort of inclined to, etc. So, that helps a lot. (Laugh).	6FG2_WM1
Open code: likes public sector medical practice: serve disadvantaged communities		
Professionals in training	*I want to go to where people need me the most, not because of people pushing. I believe in my heart that I am needed by people that do not have the means and access, so I would rather go to their doorsteps which is in those case, the rural areas where access to healthcare is limited.*	6FG1_AF2
	It's also a big thing for me. Because I also think that I would be involved in a community and be part of it.	6FG1_CF1
	I think in rural areas you have a much better, stronger sense of community and I think that's what I would enjoy about working in rural areas. I think you would get to know your patients a bit better.	6FG2_WF4

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Axial code: general attitudes: intrinsic and attainment values		
	My mum is very involved in rural health and public health. She works in HIV medicine and I've just seen the difference that she's made doing minor things, well, seemingly minor things, the difference that the nurses and everything have made to rural clinics that have made me decide that I really wanted to do this.	6FG3_WF3
Professionally qualified	*For me, rural medicine has always been something I idealise a little bit.*	RS1_WF1
Open code: dislikes public sector medical practice in underserved communities		
Professionally qualified	*But if I will be willing to after 2 years of internship and community service (laugh) be willing to go and be a specialist in community service is a different story. I doubt it. I wouldn't be very happy myself having to now go to a rural area.*	RS4_WM1
	Um, because I just don't want to work like that anymore. You know.	RS7_WM1
Open code: likes public sector medical practice: teaching		
Professionally qualified	*I'm hoping I will stay in the public sector because I like teaching.*	RS1_WF1
	And I see myself in the future, perhaps joining an academic department, as in, and it's not impossible, and I actually would enjoy it doing a PhD or a doctorate in medicine in a certain field in urology. So, for me, the financial is further down, the academic studies is definitely high up and then, ja, and then you're involved in the department, educating and learning registrars, I think it would be a challenge. It's something that I would like to do.	RS5_WM1
	Want ek is "happy" met wat ek doen, of ek geld maak of nie, dis hoekom ek nou nog in die Staat is.	RS3_WM1
Open code: dislikes public sector medical practice: low productivity of health workers		
Professionally qualified	*All these things, the policies whatever they're talking about which they have on people, is that I mean it comes to a problem where the practicality of it, like in South Africa, people are not motivated to go to work. And they wake up in the morning, only a few percentages of people that are motivated, I'm going to work, I'm going to do this, I'm going to make a contribution. But when they wake up in the morning, they think about OK, it's another day of work, I don't know what's going to happen and you see, like now, the health system it's corrupt.*	RS1_AM1
	It's like that. Like you will find yourself, sorry colleague, pushing your patients to theatre where there is a porter employed and then paid to do that, but he is sitting and drinking on his shift. That is the reality of it and then the sisters in theatre, they don't want to do Caesars and that type of thing and it happens and then we are looking at producing numbers, but are we producing quality?	RS1_IF1

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Axial code: general attitudes: intrinsic and attainment values		
Open code: dislikes public health sector medical practice: dual practice ("RWOPS")		
Professionally qualified	*Where we work now, we have a bit of that experience, there is people that do both, and one always gets compromised.*	RS8_WF2
	No, like she said, it compromises patient care extremely. It's, things get overlooked because you have to rush through a ward round because your private patients are waiting. I really think you have to sit down, if you want to make the choice and you have to be very strict with yourself and you have to decide, if I'm going to do it, you have to do it properly or not do it at all. Otherwise, it's just bad.	RS8_WF3
	I think it's a bit of both. Um, if you're in private, if you're doing both and you're in private, you are also compromising your private patients. Because you're rushing all the time. You're thinking, this is what you need to do. You need to go back to whichever hospital you are supposed to be at originally. I think both get compromised. You're always rushing. It just doesn't work.	RS8_IF1
Open code: dislikes exploitation of vulnerable people (all health sectors)		
Professionally qualified	*I'd probably get myself into a lot of trouble. I'm very pro-active and I get very angry if people are exploited and I'll probably get somebody at the Press or whoever, or in politics to do something about it, or to expose it and I've been in situations before where I got myself into trouble like that.*	RS1_WF1
	You feel terrible. You know probably this patient will die. I, also from working in Mamelodi, know a lot of times you know this patient needs a tertiary hospital and a lot of patients die because you can't get someone to an appropriate level of care. It's very sad, frustrating.	RS4_WM1
	It's actually very discouraging, it's very discouraging, because you find yourself in a very compromising position, where you are at the receiving end of the patient, and now you have to answer why we don't have Panado.	RS6_AF1
Open code: dislikes corruption and unethical behaviour (all health sectors)		
Professionals in training	*In Tembisa we heard of a doctor qualified in surgery, who does ultrasounds of the head and he charges the patients for R300. So there is evil.*	6FG1_WF2
	It really peeves me. Really, really. I can't advise selfishness and that is just the epitome of selfishness for me. It's to line your own pockets and to let your people down.	6FG3_WF1
	I just think one of the biggest things in medical practices is trust that patients put in you and it's just as big as it is in rural medicine as it is in urban. For people to abuse that trust, it's like for me, where the priests that are the paedophiles on the same moral scale because people automatically assume that because you're a doctor you're a caring person with other people's interests at heart.	6FG3_WF3

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Axial code: general attitudes: intrinsic and attainment values		
Professionally qualified	*I feel like I want to say exactly the same twice over. I need to go somewhere where I don't see corruption. And I feel like the people that are in charge of the money have no feel of what's happening on the ground. They have no insight into the real need and what it's like to work in a ward that doesn't have syringes, that doesn't have drugs and doesn't have a sonar machine.*	RS1_WF1
	Wel, dis 'n mensprobleem. Waar-" ever" mense is, is daar korrupsie. So ek dink nie, dis 'n gesondheidstelsprobleem nie – dis 'n mensprobleem. Want jy gaan dit ook kry by jou padwerke, by jou dominees, by jou kerke, en oralster, so dis 'n mensprobleem. As jy die mens uit die sisteem uit kan vat, gaan jy die korrupsie uit die sisteem kry.	RS3_WM1
	I feel very strongly particularly what he mentioned earlier on which is mismanagement which is very prevalent, particularly in the rural areas, and less in urban areas. It's actually very discouraging, it's very discouraging, because you find yourself in a very compromising position, where you are at the receiving end of the patient, and now you have to answer why we don't have Panado. You have to answer why there is no linen.	RS6_AF1
	To be honest in the Eastern Cape there is massive corruption. We must recognise there is lots of corruption, I'm sorry to say, that is the truth. Because you find out, the budget is supposed to be passed at April, but by July it is finished. This is true.	RS9_AM2
Open code: likes having an impact of treatment on patients		
Professionals in training	*Something else that I did is, I took the initiative going to the very rural clinics with the doctor that they go every week once a week, they make rounds and that was extremely rural, like no water, a little hot, that kind of effect. It was insane, but there it's like, it's just you, and you have to make all the decisions and it's not necessarily like treating a patient, it's more of triage. Who are you going to send to the hospital and who are you going to take away, who can stay here, because you don't have anything there. So that was also quite a different experience. Working in such a setting is not that bad, because you really make a difference. You get the guy who is yellow, yellow, yellow from obstructive jaundice and you get him out of there into a hospital. Or you get a child's a temperature of 42; you get them to the hospital.*	6FG1_WF3
	I wanted something to do with more immediate rewards. Like, when you see a patient, it's more immediate, you don't have to. So that's why I thought well let me apply and if I get in, then I'll do it.	6FG1_WM1
	My mum is very involved in rural health and public health. She works in HIV medicine and I've just seen the difference that she's made doing minor things, well, seemingly minor things, the difference that the nurses and everything have made to rural clinics that have made me decide that I really wanted to do this.	6FG3_WF3
	Because I want to see everyone from when they're a baby to when they grow up. I'd rather be working in a small town as a GP, but	6FG3_WF4

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Axial code: general attitudes: intrinsic and attainment values		
	probably be specialising in a range of things, that many other doctors could be.	
Professionally qualified	*The patients are there with you and you give them that outcome and there is a point where if you act you get a good outcome. If you don't act, you don't get a good outcome. And that's where you feel all sad. I lost a patient or I lost a baby, or whatever and you see the impact of your intervention of some sorts. That's what I like about Obs and Gynae. It's quite fulfilling.*	RS2_AF1
	Yes, so it's not about the money, you know, I'm being honest with you. It's about the satisfaction you know? Because I want to be in a position where I can actively help but I'm, in the health centre it is about people's health and improving the health system. So, it's not about the money for me.	RS9_AM2
Open code: likes working in teams		
Professionals in training	*Being in a team of people is also rewarding and I realised that the team that I was in, I enjoyed it a lot, because I didn't do surgery and a lot of people said it was a lot of work and stuff, but the team was being supportive and understanding and I didn't know. I didn't even know as the other people because the people I was working with were very nice.*	6FG1_AF1
	They are so passionate about what they do and it was just such a nice environment to work in. For the first time in my studies when we were working in the rural area, I actually felt like I was treated as part of a team. And yes, they're understaffed, but they also don't' leave you on your own. They always very quick to say, if you need help, phone us.	6FG2_WF5
	Whereas in the rural, like someone else has mentioned before, is the essence of teamwork, which I think is very important and works amazingly. Maybe you do find that in the academic system as well, we just have not had exposure to it. (Laugh) They are out there. I know of them, I'm very excited for them. (Laugh)	6FG2_WM1
Open code: likes intellectual stimulation		
Professionally qualified	*If you are a GP, you feel like you hit your ceiling a lot earlier. So, it's nice for me to feel that I'm learning something and I'm gaining something, skill and knowledge.*	RS1_WF1
	We'd talk and we'll talk about being, what we call a chronic GP.	RS2_AF1
	I have never ever considered being a GP because for me there is no challenge in being a GP.	RS5_WM1
	And I could never be a GP. I've always wanted to specialise. Why not the GP? Again, just not stimulating. I worked as a – during internship and community service you work as a GP a little bit and that's just, not me.	RS7_WM1
	I felt I needed to be good at something because I couldn't be a generalist because you can't be good at everything as a GP, and	RS8_IF1

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Axial code: general attitudes: intrinsic and attainment values		
	for me it was just needing to be good at one speciality and manage that speciality as best as I can.	
	Ja, ja, so you can't be a GP any longer. You have to go outside.	RS9_AF1
Open code: dislikes having to refer patients to other health facilities		
Professionals in training	*But I also think a rural hospital in a sense is very different. Just towards a rural environment. For example, myself and 6FG2_WF3 worked in Tongaat hospital and just simple things like, your referral hospital is 2 hours away. So, things like that make a big difference. And when you manage a patient they will die effectively…*	6FG2_WF2
Professionally qualified	*You are not able to do some other things that you wish you can do, and you can help this patient, and only you are forced to refer everyone to provincial hospital or to tertiary.*	RS1_AM1
	Now when I was at Kalafong, I was working in oncology and I had a lot of patients with cancer and at the time the radiotherapy machine wasn't fixed because the company wasn't paid so they refused to come out. And I had so many patients that I had to say to, "I'm sending you back to where you come from. I'm sending you back to KwaMhlanga. I will phone you when you can come back." And the patient asks you, "How is that going to influence my prognosis?" I have to tell them, "This will probably mean you are more likely to die." And I wanted to scream. So, and that's why people are leaving. That.	RS1_WF1
	What I would like to say is that we do need more doctors in rural places because that's where a lot of things happen. That's where a lot of pathology happen. If we can get a team of doctors from the specialists' right through, we can ease the burden. Because like now, here Steve Biko is being burdened by all the referrals? Ja and then to me it has been meant to be in the very 4th level of treatment where the other hospital cannot manage but like now…So you're getting referrals? Ja, MVA's and all those kind of things and that can be done in the rural setting. So we can train more doctors and we get the specialists. Because if you get one consultant, everyone will consult there. His job is to just give advice telephonically to superintendents who are more able. So if we can get more training from the universities, encourage people to go and work there and change the system.	RS1_AM1
	But the limiting factor there is resources. You get patients that are sick that need to be transferred to the nearest hospital. A shortage of ambulances, them coming in late or colleagues in the referring hospitals refusing to accept your patient and patients complicating.	RS2_AF1
Open code: likes working with sick patients		
Professionally qualified	*And I like working with sick patients, and I feel, especially in obstetrics & gynaecology, when we go to private sector, we look after healthy patients.*	RS1_WF1
	I prefer my patients actually really sick and not able to talk back to me.	RS4_WM1

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Axial code: general attitudes: intrinsic and attainment values		
Open code: likes delivering healthcare to patients for their life time		
Professionals in training	*Because I want to see everyone from when they're a baby to when they grow up. I'd rather be working in a small town as a GP, but probably be specialising in a range of things, that many other doctors could be.*	6FG3_WF4
Open code: likes dealing with patient social issues		
Professionals in training	*Because for me to sort out someone's social or psychological problems with the disease is also, I'll go home feeling good that I helped someone - even if I only saw 3 patients a day.*	6FG3_WF2
Open code: dislikes having to deal with patient social issues		
Professionals in training	*In the rural sector you're going to spend a lot of time with the practicalities and little issues that need to be sorted out.*	6FG3_WM1
Open code: dislikes close patient relationships		
Professionally qualified	*But what I see now is that I'm not very fond of seeing people in the clinic basis, outpatients, people coming to your rooms, so that is going to have an influence on going forward. Where I rather want to go into ICU, where patients are asleep or possibly even after doing internal medicine, going to specialise in anaesthesiology to get away more. I'm not very fond of having a lot of people interaction. I'm finding now it's a lot different from what it was before. People can be much more demanding.*	RS4_WM1
Open code: likes working with children		
Professionals in training	*I must say I'm torn between specialising and becoming a general practitioner. I really have a heart for paediatrics. I loved the rotation we did last year.*	6FG3_WF2
	And delivering the babies and then watching them grow up, and then delivering their children. And that's the type of medicine I've always wanted to practice.	6FG3_WF4
Professionally qualified	*And from there no one else saw any child and then it became just me alone with all the children, even if they walked into casualty wherever they were, it had to be me. So I really felt, got the feeling that I never wanted to be in a position where I refused to see someone just because they walked in. And to be a GP and not want to deal with certain, like you don't like surgical patients, so you don't want to see them, or you don't want paediatric patients.*	RS8_WF1
Open code: dislikes working with children		

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Axial code: general attitudes: intrinsic and attainment values		
Professionally qualified	*I can't handle the small kids.*	RS1_AM1
	I don't like surgical disciplines. I don't like children, so it sort of limits you away from surgical fields. I don't like radiology, laboratory work, so it sort of pushes you into a certain bracket of medicine which is more internal, physician work.	RS4_WM1
Open code: likes delivering health care to women		
Professionals in training	*I just want to add; you obviously work harder in things that you find interesting. I do like obstetrics and it was a lot of hard work doing the calls and things like, I still enjoy it.*	6FG1_WF2
Professionally qualified	*It's not a calling - it's a decision. I think I'm mad to be specialising in Obs & Gynae. I like working with women, beautiful people who are women and I like taking care of them. And to me, Obs & Gynae, it has been, like now it becomes a way of life, so I want to help them you see. Especially I like oncology; I want to help people with cancer, especially women. So, that's why I decided.*	RS1_AM1
	So with obstetrics and Gynae, it's a lot of adrenaline rush, it's a lot of emergencies, but the moment you put your mind and your hands in everything in it, you see the outcome and it's mostly beautiful. It's all about delivering healthy babies and keeping the mothers healthy. That's what I like about it.	RS2_AF1
Open code: likes surgery		
Professionally qualified	*I've always known at the back of mind I wanted to do surgery.*	RS5_WM1
	No, at university I'd always wanted to go into the more surgical fields. I enjoyed surgery and cardio thoracic and that type of thing, and that was kind of where I wanted to go.	RS7_WM1
Open code: dislikes surgical medical disciplines		
Professionally qualified	*I don't like surgical disciplines. I don't like children, so it sort of limits you away from surgical fields. I don't like radiology, laboratory work, so it sort of pushes you into a certain bracket of medicine which is more internal, physician work.*	RS4_WM1
	Well, I'm doing clinical pathology, which is the same field, pathology. I think for me it was initially, when I was a medical student I wanted to do cardiology, but I got exposure obviously to pathology in my pre-clinical years, but I went to clinical, I found that it's difficult for, I didn't like the lifestyle of physicians, because they were always, very stressed and stuff like that.	RS6_AM1
	Ja, so, it's very, and they can't take that much time, so for me, it's just a good choice, plus I have a wide range of interests whereas surgery was always just, it's very streamlined into one speciality. Radiology has a nice balance, you get to deal with a wide range of subjects, you get to deal with a wide range of specialities, so it's not cloistered into one sort of sub-speciality of medicine.	RS7_WM1

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Axial code: general attitudes: intrinsic and attainment values		
Open code: dislikes specialised/ non-diverse medical practice		
Professionals in training	*Specialising doesn't really fit that for me.*	6FG3_WF4
	Because I want to see everyone from when they're a baby to when they grow up. I'd rather be working in a small town as a GP, but probably be specialising in a range of things, that many other doctors could be. My personal passion is rural medicine, so I intend to literally be out in the bush in a Landrover Defender, so I also don't see a point in – 6FG3_WM2 and I are on the same page. (Laugh) So I don't intend on specialising. You know I might do a few diplomas, to just get a little more. I don't see a point in specialising in paediatrics and neonatology, which is like 7 years which is like another 7 years away from my dream, where I could just be. No one's going to complain out there. You're a doctor, you're a doctor.	6FG3_WF4
Open code: dislikes family medicine practice/ primary healthcare		
Professionally qualified	*You do. As a general physician, which is also a reason why I don't want to do it. There are fewer and fewer general physicians in private practice and very high demand. So you're going to end up being alone, maybe even at a hospital where you are responsible for seeing everybody. And it will be impossible. So I will have to plan it in such a way, sub-specialise and then you are better able to control your patient numbers, if you are a sub-specialist.*	RS4_WM1
Open code: likes a comfortable lifestyle		
Professionals in training	*It is extremely important. Not because we want to be rich, we want to be safe in this economic climate. If you are a doctor, you're safe, regardless of what happens.*	6FG1_WF3
	Why would you want to help sick people, be at risk of getting Aids and TB and then it's like, you sorry you don't get any money for it. Like your kids should be able to go to school. You should be able to have a car that can drive through the potholes. So, you should get money and we have one internal Professor that always takes us out. He says I can't believe that we all say we want money, but it's not that we want money; it's just that you need money.	6FG1_WF2
	For me, it's always been I want to do something where at the end of the day you have financial freedom, where it gives me something that you enjoy and something at the end of the day that if I decide to whatever, go to Europe that I have the option, it's not something that I have to plan for years ahead.	6FG3_WM1
Professionally qualified	*Exactly. At least you would like to drive comfortably as you go home as tired as you are, and be comfortable wherever you go.*	RS2_AF1
	I like my free time. I mean, you can work 24 hours in one go, but you can't do it long term. You can't do it for 10 or 20 years. So one must plan for the future, to make it easier.	RS4_WM1

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Axial code: general attitudes: intrinsic and attainment values		
	I like from here going to Woollies to go and buy readymade food and stuff like that. Having Menlyn around the corner, which is why I've never been pulled to go to a rural hospital at all.	RS4_WM1
	Yes, I love what the job is about, but unfortunately I can't do it, physically I can't. So, for me the lifestyle is important and the money, like I said, like anyone, you want to live a fulfilling life and you are working as well if you have got a family, you are working towards your children as well, fulfilling that, so money does play a role.	RS6_AF1
	I would go back to Umtata as a specialist provided that, any time I need to see my family they can compensate me for that. In other words, if they pay me more, so that if I need to drive, but it's too far to drive, so if I need to fly, then I can do that.	RS6_AM2
	And so, family for me and quality of life.	RS6_AM1
	Registrar training, in sort of cardio thoracic and surgery, (sigh), maybe I'm a little bit lazy. It was a little bit too much. I wanted more the lifestyle and I wanted a little more time.	RS7_WM1
	I think, having you know, financial security obviously gives your freedom and access to, not only South Africa, but the world. And um, I think it helps to have um, pause, like a plan for yourself of how you want to advance financially and I feel like a lot of it has more to do with um, your own planning and your own financial knowledge as opposed to getting as many jobs to make as much money as you possibly can. And I always feel that if you're doing what you're supposed to be doing, then the money that you will earn should be sufficient for your lifestyle. But I think a lot of it has to do with how you manage, because as interns we all remember you had those interns when the OSD came in they all went and got new cars, flashy and all of that. But, I feel like you just have to have your own plan and know what your standard of living is that you want and how you go about achieving it.	RS8_AF1
	I can't go to KFC during lunch, because I can't go where I am. Sometimes I miss my breakfast and I'm so hungry I don't have. There is nothing here, nothing to buy, and eat. Not even cool drink. The shops don't have fridges. The cool drinks are on the shelf.	RS9_AF1
Open code: likes urban lifestyle		
Professionals in training	*I grew up in towns all my life, but I've been living in this city now for 9 years and I really like it and I really don't like the town life. I can't. So that's, it's not that the town is bad, or whatever. I just prefer the outside of work environment so that is actually a major thing that is making me not go to the rural*	6FG1_WM1
	I quite enjoy living in the city.	6FG2_WF4
Professionally qualified	*But, then in April of that year I moved, they built that Highveld Mall so at least there was some nice shops to go to if you want to eat*	RS2_AF1

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Axial code: general attitudes: intrinsic and attainment values		
	out there are restaurants and stuff like that. So, it became less of a bore, the area. And then I actually appreciated it.	
	Look, I mean, ja, as long as there enough urban, I don't think I could ever work at a sort of little hospital where like, there is only a spaza down the road, or something like that, I couldn't live like that.	RS7_WM1
Open code: likes rural/ small town lifestyle		
Professionals in training	*For me it's just like I grew up in a town in Mpumalanga, I think I'm more of a chilled person than people in the city. I can't wait to get out the city and go back to Mpumalanga.*	6FG1_AF2
	I love working in a rural area. I love the town, it was beautiful, I really enjoyed it.	6FG1_WF3
Professionally qualified	*And I think for me, practicing in the rural areas is nice because primarily I don't like cities. I like small towns in the rural places. So the lifestyle there for me, is preferable. I like a slow lifestyle with access to nature and if there is no mall in a 500 km radius I will be very happy.*	RS1_WF1
	They have a wonderful, wonderful lifestyle. They live in an area, where it's different than living in a city. They have wonderful; they live on the border of the Kruger National Park, a view over the Crocodile River, which is almost idyllic. They have almost the best of both worlds. Living close to nature, close to what they enjoy and still offering a good service. And no, there is nothing that prevents me, and I'm actually keen, I would gladly enjoy or do something like that, living in a semi-urban setting like Nelspruit, but being involved in let's say, a larger hospital, a secondary or tertiary hospital in a larger setting that is still technically in a rural or far off place, like Mpumalanga.	RS5_WM1
Open code: dislikes rural/ small town lifestyle		
Professionals in training	*I think that for me, when I was at mine it proved that the rural education that I just finished now, then it was difficult for me because I also come from a city and stuff and afterwards there was nothing to do after you came home from work.*	6FG1_CF1
Professionally qualified	*I'll not allow my children to go through whatever I went through because I used to walk 8 kms to school every day. Now in the morning and in the afternoon and that's 16 kms per day to go to school for 5 years - for the high school. You get my point.*	RS1_AM1
	But, I've never been pulled towards a rural environment because I like city comforts.	RS4_WM1
	Yes – you don't want to drive long distances.	RS9_AF1
Open code: likes work life balance		

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Axial code: general attitudes: intrinsic and attainment values		
Professionally qualified	*And so, family for me and quality of life.*	RS6_AM1
	So, for me the lifestyle is important and the money, like I said, like anyone, you want to live a fulfilling life and you are working as well if you have got a family, you are working towards your children as well, fulfilling that, so money does play a role.	RS6_AF1
	…whereas radiology you still have a lot of time, it's a 9-5 job, you can still do after hours, but you can manage your time a little bit better.	RS7_WM1
Open code: likes to earn good income		
Professionals in training	*I think for us, well for myself, having not had an income for 6 years besides the odd extra thing you can do here and there. Next year is going to be great.*	6FG2_WM1
	I think in matric and at school it wasn't a huge consideration. Money and financial matters weren't for me personally pertinent enough. I didn't think I'd choose medicine to be financially secure but I definitely think now, it's a huge factor for me, because if I look at my friends who've studied 4 years now, and are starting at work and they're struggling to find jobs and we've got the financial security. So for me it wasn't a big factor at school, but now as money becomes more important and I understand the value of having a constant, pretty good salary and being able to save and invest.	6FG3_WF3
Professionally qualified	*To, purely aspiration to say that I want to drive the newest Ferrari or something like that, none. There is no pure financial aspirations, as long as you're able to live comfortably, and say listen I want to let's say, go overseas once or twice a year or attend nice congresses, things like that, yes. Financially, I think there is less of a driving force. Obviously we all want to feel comfortable. But, I don't have this aspiration to be a multi-millionaire and own 5 houses and things like that. No, I think that's a secondary, if not a tertiary role, or a 4th motivating factor.*	RS5_WM1
	I think, having you know, financial security obviously gives your freedom and access to, not only South Africa, but the world. And um, I think it helps to have um, pause, like a plan for yourself of how you want to advance financially and I feel like a lot of it has more to do with um, your own planning and your own financial knowledge as opposed to getting as many jobs to make as much money as you possibly can. And I always feel that if you're doing what you're supposed to be doing, then the money that you will earn should be sufficient for your lifestyle. But I think a lot of it has to do with how you manage, because as interns we all remember you had those interns when the OSD came in they all went and got new cars, flashy and all of that. But, I feel like you just have to have your own plan and know what your standard of living is that you want and how you go about achieving it, I feel should not compromise the principles by which you live, which is to make a contribution to society. I feel the more you've been given, the greater your responsibility is to those that have less than yourself.	RS8_AF1

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Axial code: general attitudes: intrinsic and attainment values		
	And in the pursuit of wealth, I just feel like there is a thin line between compromising your principles, your quality of care, ja.	
Open code: likes prestige associated with a physician career		
Professionals in training	*But then my friend told me, who at that stage was doing comm. serve, she said, well she was working with mathematicians in TB and HIV and also things like that. She told me that medicine is very snobbish world. You don't have an influence if you don't actually know the medical side as in a career in it too.*	6FG3_WF5
	I'm coming from an ethnic background where the family spoke. Being a doctor is kind of looked up to.	6FG1_AF2
	…and then also with your family you need to do something kind of on a higher level, like my mum was a teacher and my dad works at Sasol. So I had to be "above" them.	6FG1_AF2
Professionally qualified	*They just know this Dr and it's a status.*	RS2_AF1
	Mine is almost cultural or a way of life, sort of. Growing up, I went to the old Indian school. Everyone around me was Indian and its sort of expected, even in the family, that if you're excelling at school, you would follow the path of being a doctor or a lawyer. That was the general, no one knew what an accountant was or actually did, (laugh) that sort of thing, so yes, and then by the time I finished school, it was sort of the only choice I had. I didn't know anything else or any better.	RS8_IF1
Open code: dislikes the perception that a physician career choice is "status" or money driven		
Professionals in training	*So whatever you choose to do is to help others and with medicine you can do that.*	6FG1_AF1
	They optimise it for themselves and for the patients and those are the type of people that we especially as junior doctors and moving onto bigger things, need to get exposed to. And need to see that part, because we don't want to be put off by people who have been there, but rather the money chasers, they end up here, and then those are the people who discourage people like us who actually did have a passion.	6FG2_WM1
	In private I think there is too much politics. And it's too much money driven. The income is determined by the amount of patients you see, that then causes a lot of people to become less humane possibly, do things for the wrong reason. This is just my experience of it.	6FG2_WM1
	I think it's definitely when people who study like us and you speak to them about considering rural, you get the impression they see it's not as glamorous as being in an urban setting and there is not that much money. I've heard of GP's in Pretoria who have a lot of money and I think that's a thing that people consider even if they want to specialise, but I definitely would not want to stay in the	6FG3_WM2

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Axial code: general attitudes: intrinsic and attainment values		
	urban setting only because there is more money. You can't charge what you want in rural.	
	It also depends; I mean how much is enough. Some people earn a lot but they also spend to that amount. So some people are just not happy, no matter how much they have, I mean, even millionaires. (Laugh) So it's, as you said, it's a fine line between the two and it's just to not to forget why we are here. Its people's lives in our hands. And essentially that's what counts, not anything else.	RS8_IF1
	Yes, so it's not about the money, you know, I'm being honest with you. It's about the satisfaction you know? Because I want to be in a position where I can actively help but I'm, in the health centre it is about people's health and improving the health system. So, it's not about the money for me.	RS9_AM2

4.3.2.3 Discussion of general attitudes: intrinsic and attainment values

The general attitudes pertaining to intrinsic and attainment values of study participants in the broader context of TPB background factors reflect a wide range of likes and dislikes pertaining to matters including health policy, working in various health sectors, general clinical practice, medical specialties, lifestyle and status and prestige. These are discussed, analysed and summarised in this section.

The first set of attitudes discussed in this section relate to likes and dislikes of participants regarding **health policy and working in particular health sectors.** A few participants from the professionally qualified group projected a positive attitude towards the planned transition to the NHI system that is being implemented by the NDoH. These participants shared the hope that the initiative will lead to a more efficient public health system across all sectors and levels of care, including rural health, however, it is anticipated that the implementation process will be challenging in many respects. None of the professionals in training expressed any views on the national health strategy or policy of South Africa. According to authors and institutions such as Mokhobo (2011), RuDASA *et al.*, 2011:9), the South African Medical Association (2011:8) and Naidoo (2012:149-150), physicians generally welcome the principle of universal access to healthcare, however, their positive attitude towards the planned implementation of the NHI is supported on condition that the NDoH is able to achieve a complete "overhaul" of the public health system and deliver on the ambitious plans contained in the strategy These authors concur with the beliefs of study participants who stated that the success of the NHI will depend on its

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implementation. Conversely Surender, Van Niekerk, Hannah, Allan and Shung-King (2014:7) argue that many physicians in private practice are resistant towards the NHI initiative, mainly because they have concerns regarding remuneration, interference and control by the government, workload challenges, working and clinical conditions. This aligns with the implementation concerns of authors as expressed earlier in this paragraph. The researcher observed that none of the professionals in training referred to the NHI in the focus group discussions, possibly indicating that they have not yet had exposure to the planned policy of government in this regard at the time of the data collection process for this study.

As far as working in a particular health sector is concerned, two professionals in training indicated they would dislike working in the private health sector, mainly due the perception that private sector medical practice is less humane than other health sectors, whilst one participant from the professionally qualified group indicated that she likes working in the private sector which she perceives to be efficient and productive. This finding did not correspond with the research outcomes of a study by Burch *et.al.* (2011a) which propose that South African physicians have a fairly strong preference for pursuing careers in private practice.

A large portion of the professionals in training group has a positive attitude towards practicing medicine in the public health sector, particularly because it provides an opportunity to make a difference to the lives of disadvantaged and vulnerable people and communities, be it in urban or rural areas. Public sector patients are generally poorer and have lesser access to good quality health care than private sector patients. This aligns with the research findings of Price and Weiner (2005:418) who found that many young and recently qualified physicians in South Africa tend to spend the initial parts of their careers in public sector health. Similarly, (Reid, 2002) found that many physicians who have completed community service in the public sector felt that they contributed to the upliftment of the communities where they worked and regarded this as a positive experience.

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A few participants from the professionally qualified group shared the attitudes of the professionals on training in this regard but added that a public sector career would be enjoyable because of the opportunity to teach and be involved in health research. This finding concurs with the research of Price and Weiner (2005:414) who found that the "academic and training aspects" related to a career in the public health sector accounted for a significant career interest by respondents in their study.

Conversely, a significant number of participants from the professionally qualified group indicated that they do not like practicing medicine in the public sector. A few indicated they do not like working in underserved communities as they have "paid their dues" by completing compulsory community service and did not appreciate the resource restrained working environment in those areas. Others indicated that the low productivity and demotivated health workers create an unpleasant and frustrating working environment.

Reid (2002) found that many physicians who have completed community service in the public sector expressed dissatisfaction at the poor working conditions, lack of management and supervision and the fact that they were unable to perform the most basic procedures due to a lack of equipment, drugs or medical technology. Although they perceived community service in the public sector as a positive experience, they did not develop a positive attitude towards working in the public sector due to the associated working conditions and environment. Some also expressed a dislike for the practice of dual practice or commonly referred to as "remunerated work outside the public sector" ("RWOPS") which allows physicians to practice medicine in the private sector in order to supplement their income, provided they have obtained approval from relevant authorities.

The professionally qualified participants believe dual practice compromises physicians, negatively affects patient care and impacts on the quality of training they receive from specialists who complement their income with "RWOPS". Bateman (2012a:899) states that the blatant abuse and inconsistent application of the policy may explain why "RWOPS" are disliked by physicians. In addition, Mbokota in Bateman (2012a:900) believes "RWOPS" lead to the "haemorrhaging" of specialist skills and results in

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insufficient supervision of registrars and physicians. These findings were confirmed by Van Rensburg (2014:8) who states that dual practice, among others, add to negative attitudes towards public sector medical practice.

Both research groups expressed strong aversions towards corruption and unethical behaviour in the broader health system. They regard corrupt conduct as selfish and feel that such conduct is often the result of mismanagement and abuse of power and trust. Both groups dislike corruption because it compromises healthcare and creates a discouraging working environment for physicians. In addition, a few participants from the professionally qualified group shared their negative attitudes towards the exploitation of poor and vulnerable people by both the private and public health sectors.

Mayosi and Benatar (2014:1351) highlight the fact that: “Regrettably, many South Africans, including those in leadership positions, have been co-opted into the lavish lifestyles, wasteful consumption patterns, and nepotism that frustrate the ethos required to reduce inequities. Many, including long-standing members of the African National Congress (ANC), agree that corruption is at the root of the moral decay in South Africa.” This resonate with findings by Moosa, Mash, Derese and Peersman (2014) that corruption and poor management are contributing factors to the poor state of the public health system. The researcher could not find evidence of research that explored the attitudes of physicians towards corruption in healthcare, particularly in South Africa, however, Chattopadhyay (2013:153) states that from an international perspective: “Corruption, an undeniable reality in the health sector, is arguably the most serious ethical crisis in medicine today. However, it remains poorly addressed in scholarly journals and by professional associations of physicians and bioethicists.”

The researcher observed the following pertaining to whether demographic factors account for differences in participant attitudes regarding health sector and heath policies.

- Participants from most race, gender and language groups expressed strong dislikes towards corruption and unethical behaviour in health care as well as the exploitation of disadvantaged communities and patients.
- Afrikaans and English speaking females expressed very positive attitudes towards practicing medicine in underserved and disadvantaged communities;

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- A vast majority of participants from both research groups who expressed a dislike of corruption and unethical practices in healthcare originate from urban areas, whilst the origin of those who indicated they find exploitation of vulnerable patients distasteful are spread more evenly between rural and urban areas. The majority of those who dislike the public health sector because of the low productivity and morale of health workers originate from rural areas;
- The majority of participants who expressed positive attitudes towards practicing medicine in underserved communities had prior rural exposure and/ or working experience;
- Most of the participants in the professionally qualified group who expressed negative attitudes towards corruption, exploitation and low productivity of health workers in the public health sector, have friends who are practicing as rural physicians. In contrast, the majority of participants from the professionals in training group who indicated positive attitudes towards practicing medicine in underserved communities do not have physician friends who practice in rural areas.

The second group of attitudes discussed in this section relate to likes and dislikes of participants regarding **general clinical practice.** Participants in the professionals in training group expressed the desire to have an impact on their patients and seeing immediate results from their intervention. They also indicated that they would enjoy delivering health care to patients for a lifetime and working in teams with other health professionals. Participants from the professionally qualified group, who have more working experience, indicated their enjoyment of working with sick patients, i.e. those who need medical treatment and care as opposed to patients who see physicians for routine assessments. In addition, they enjoy medical practice that stimulate them intellectually and as such they believe a general physician is not challenging enough and one reaches a career ceiling too soon – their attitudes in this regard may explain the need to specialise further. Research conducted by Green *et al.* (2006:15) supports the observation that professionally qualified participants possibly chose to specialise further due to the need to function at a “higher level” whilst Ashmore (2013) postulates that specialist physicians, particularly those working in the public sector, wish to feel “needed” and “relevant” which may explain their desire to treat patients beyond mere routine assessments.

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As far as dislikes are concerned, the professionals in training did not express particularly strong views, however, mentioned that they would not enjoy having to deal with social issues of patients. The professionally qualified group expressed strong negative attitudes towards having to refer patients to other health facilities due to lack of resources or mismanagement at the facility where they practice medicine.

The researcher observed the following pertaining to whether demographic factors account for differences in participant attitudes regarding general clinical practice:

- There were no differences between race and gender groups regarding dislikes in this category. White participants in the professionally qualified group indicated they enjoy treating “sick patients” whilst all race and gender representatives in this group enjoy intellectual stimulation. White females in the professionals in training group expressed stronger views than others about having an impact on the treatment of their patients.
- The majority of participants who contributed inputs in this category originate from urban areas, but have prior exposure and/ or working experience in rural areas. Participants who originate from rural areas indicated their dislike of having to refer patients to other facilities and enjoy working in teams.
- The majority of participants in the professionals in training group who expressed enjoyment pertaining to general clinical practice have friends who work in a rural facility whilst most of the participants in the professionally qualified group who shared attitudes in this regard do not have friends working in rural areas. The researcher interprets this finding to mean that working experience as a physician influences personal attitudes pertaining to clinical practice, rather than being influenced by others such as friends in the profession.

Thirdly, the researcher generated open codes which give more insight into what participants enjoy pertaining to specific **medical specialty** areas. Delivery healthcare to women and children and surgery were listed as enjoyable by both research groups whilst a few participants from the professionally qualified expressed a dislike for surgical disciplines – it should be noted that they are all specialising in non-surgical disciplines at

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the moment. Two participants from the professionals in training group indicated they do not like specialised or non-diverse medical practice. None of the participants expressed strong interests and/ or likes for speciality areas such as public health or family medicine. This finding corresponds with the researching findings of Burch *et al*.(2011a) who found that less than 10% of respondents in their study were interested in primary care specialities. The implications of this finding suggest that rural or primary care career options are less appealing to study participants.

The researcher observed the following pertaining to whether demographic factors account for differences in participant attitudes regarding specialties:

- Race did not account for differences in specialty choices, however, females seem to be drawn towards obstetrics and gynaecology and paediatrics, indicating that gender may play a role in specialty choices;
- None of the other demographic factors reflected a significant impact on specialty choice.

The fourth group of attitudes discussed in this section relate to likes and dislikes of participants regarding **lifestyle.** A significant number of participants from both research groups indicated they like to have a comfortable lifestyle which would allow them to have financial freedom, a steady income and job security, investment opportunities, property ownership in affluent areas and choices regarding education and healthcare. A few participants from both groups shared positive and negative attitudes towards living in rural or urban areas, whilst a number of participants in the professionally qualified group expressed positive attitudes towards having good work-life balance in general. The researcher is of the view that the desire to have a comfortable lifestyle will have a strong influence on further career choices of physicians.

Burack *et al*. (1997) cited in Bennett and Phillips (2010:S83) found that ideals pertaining to lifestyle have a strong influence on the specialty choices of medical students in the United States of America. Their findings proposed that those who chose general or primary practice seek job flexibility whilst those who chose to specialise often wish to control their own working hours. Studies by among others Dorsey, Jarjoura and Rutecki

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(2003:1173-1179) and Grayson, Newton, Patrick and Smith (2011:1438) suggest that the strive for good work-life balance, including a controllable lifestyle, have a strong influence on the specialty choices of physicians. These choices are often directed away from general, surgical or family practice specialties to non-surgical fields such as radiology, anaesthesiology, ophthalmology or dermatology – "all of which are considered the epitome of lifestyle-friendly careers".

The researcher observed the following pertaining to whether demographic factors account for differences in participant attitudes regarding specialties:

- Participants from all race, gender and language groups in the professionally qualified group expressed positive attitudes towards having a comfortable lifestyle;
- White Afrikaans speaking females in the professionals in training group shared positive attitudes towards having a comfortable lifestyle;
- Many of the participants in both groups who expressed positive attitudes towards a comfortable lifestyle have prior rural exposure and/ or working experience;
- Participants from both research groups who grew up in rural areas expressed similar attitudes as those who grew up in urban areas towards enjoying comfortable lifestyles;
- Marital status, dependent children and friends working in a rural environment seemingly have no impact on attitudes in this regard.

The last set of attitudes discussed in this section concerns the attitudes of study participants towards **status and prestige**. A large portion of the participants in the professionals in training group expressed dislikes for the perception that choosing a physician career is perceived to be status or money driven. They have strong feelings about the fact that choosing to become a physician is driven by passion and a calling to serve others, rather than pursuing wealth and prestige. This finding suggests that the recommendation by Padarath *et al*. (2009) recommendation regarding the need to orientate medical students to be more sensitive to the prevailing health and socio-economic conditions of the country and to "…portray a career in medicine as a vocation rather than as a means to amassing wealth and prestige…" may have been heeded by health sciences faculties in recent years.

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A few participants in both research groups have however, indicated that they like the prestige associated with a physician career, particularly in the context of having achieved the career aspirations their parents and families have for them. The researcher observed that authors such as Breier and Wildschut (2007:1) and Padarath *et al*.(2009) believe those physicians who choose further careers in medicine to only satisfy their need for status and money are more likely to become disillusioned and leave the career and/ or the country in the long run.

The researcher observed the following pertaining to whether demographic factors account for differences in participant attitudes regarding remuneration and income:

- Mostly white Afrikaans and English speaking participants in the professionals in training group expressed a dislike for the perception that a physician career is chosen based on status or money;
- African participants in the professionally qualified group expressed positive attitudes towards the prestige associated with being a physician;
- Participants from both groups who indicated they like the prestige associated with a physician career mainly grew up in cities and speak English, isiXhosa, isiZulu and Sepedi;
- The majority of participants in the professionals in training group who expressed a dislike for the perception that a physician career is status or money driven have friends who are working in the public and rural health sector.

In summary, the attitudes of both research groups regarding their intrinsic and attainment values, expressed as “likes” or “dislikes” are presented graphically in Figure 32.

The next axial code details the general attitudes related to the utility and cost values of a physician career.

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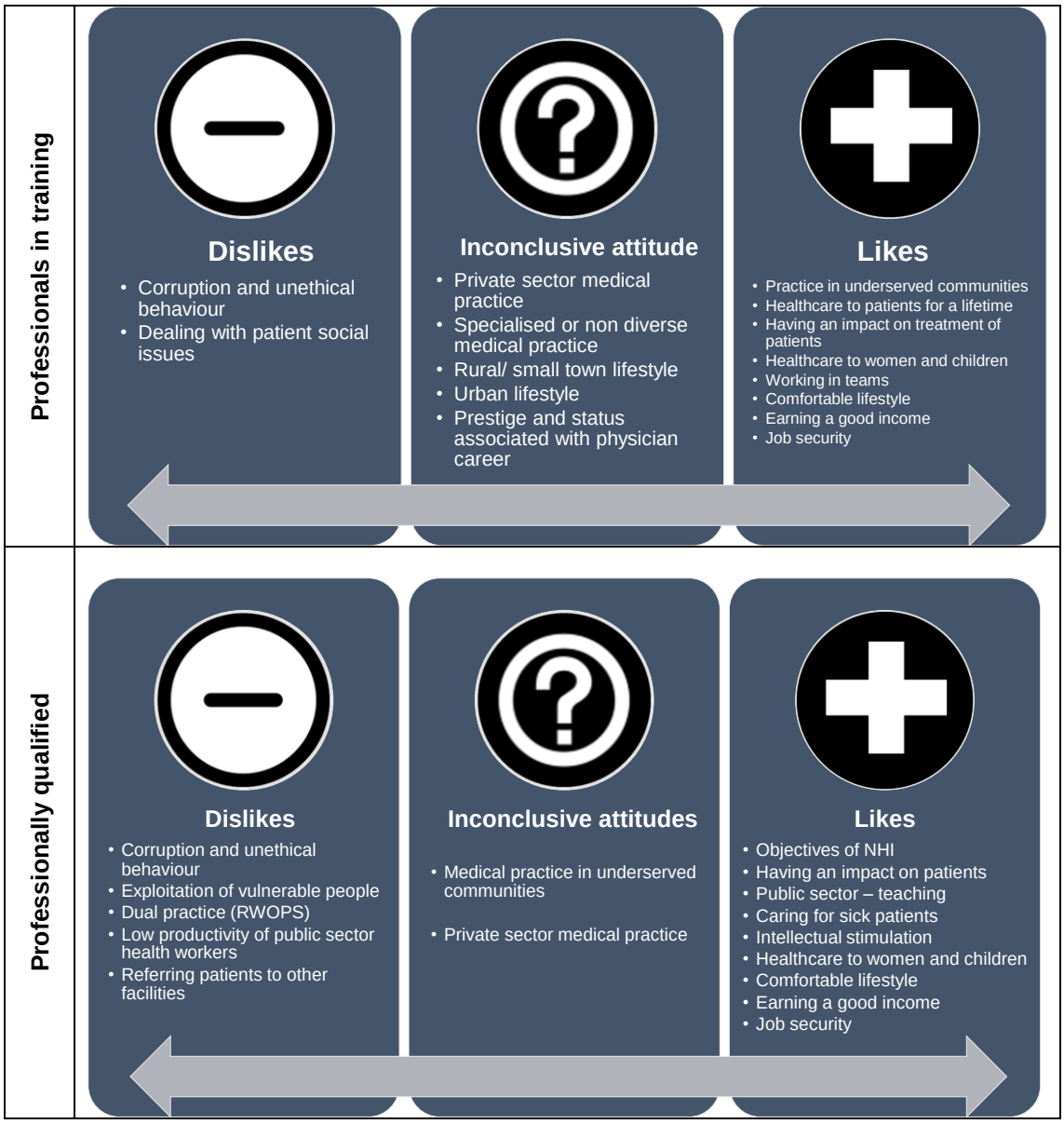
Figure 32: Physician likes and dislikes



4.3.3 Axial code: general attitudes: utility and cost values ("pro vs. con")

4.3.3.1 Introduction

The open codes in this section represent the general attitudes of participants to reflect whether or not they think various aspects related to practicing medicine and a physician career are beneficial and relevant. Ajzen (2005) refers to the nature of these attitudes as "pro-con". The researcher is of the view that "utility values" and "cost values", which are two categories of values identified by Wigfield and Eccles (2000:75), are useful to

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collectively describe the open codes in this section. “Utility value” refers to usefulness or relevance of an activity and “cost” refers to associated negative psychological experiences such as stress that may be associated with an activity.

The researcher believes these values have an impact on further career decision making of physicians, be it specialisation, general practice and location of practice. It is thus assumed that an investigation of these values will assist to understand the behavioural beliefs, normative beliefs and control beliefs as well as intentions and ultimate decisions of physicians pertaining to choosing a career as rural physician.

4.3.3.2 Open codes and participant responses

The general attitudes of study participants that emerged from the process of axial coding are presented by the codes in Table 26. The table includes examples of participant responses pertaining to their general attitudes towards the benefit or cost of a physician career. An interpretation of these results is discussed in Section 4.3.3.3.

Table 26: Open codes: general attitudes of study participants: utility and cost values

Axial code: general attitudes: utility and cost values		
Open code: a physician career offers good long term earnings potential		
Professionals in training	*It is extremely important. Not because we want to be rich, we want to be safe in this economic climate. If you are a doctor, you’re safe, regardless of what happens.*	6FG1_WF3
	To earning income and not really worried about how much you’re spending and all that. You still have to worry about that. But I feel that it could be more for what we actually do.	6FG2_AM1
	And I think if you look at your average income in South Africa and you see what people who do receive similar or even less can do that. What this teaches you, it’s obvious you can make it, and we’re in a profession where escalation will make people progress can be made, but that’s dependent on you yourself. So, and then obviously there is a difference between private and public. But that boils down to what drives you. If its money, I don’t know if it’s sustainable.	6FG2_WM1
	I didn’t think I’d choose medicine to be financially secure but I definitely think now, it’s a huge factor for me, because if I look at my friends who’ve studied 4 years now, and are starting at work and they’re struggling to find jobs and we’ve got the financial security. So for me it wasn’t a big factor at school, but now as money becomes	6FG3_WF3

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Axial code: general attitudes: utility and cost values		
	more important and I understand the value of having a constant, pretty good salary and being able to save and invest.	
Professionally qualified	*Look, currently I can't complain, I'm single at least so what we make is more than enough for a single person. Obviously I've got friends who are already working in private who as physicians are making a fortune, and you would of course one day like to know be in the same sort of income bracket.*	RS4_WM1
	I must firstly commend the Department of Health, I think for me as a first year Registrar I earn more than enough money to cover all my expenses, to afford a property, to afford a new car, to live comfortably.	RS5_WM1
	So, for me the lifestyle is important and the money, like I said, like anyone, you want to live a fulfilling life and you are working as well if you have got a family, you are working towards your children as well, fulfilling that, so money does play a role.	RS6_AF1
	Of course, money plays a big role.	RS6_AM2
	I think, having you know, financial security obviously gives your freedom and access to, not only South Africa, but the world.	RS8_AF1
	Money is important for sure. I happen to be, I was in management, hospital management and I left to study. And I found that, you know, like medical officers earn more than specialists.	RS9_AM2
Open code: a physician career is associated with lower income potential than other professional careers		
Professionally qualified	*You know what. Looking at what a specialist earns in the State, it's not attractive at all. You can imagine, you do 6 years of medical school. Then you have to specialise another 4 years. That's 10 years of your life studying. And if you look at other fields, other career fields, whatever in their 10 years, they're like CEO's or whatever. You get what I'm saying?*	RS2_AF1
Open code: a physician career provides good job security		
Professionals in training	*If the whole world's economic climate falls apart and the whole world is in depression, they will still give you a goat to fix a broken arm. You'll always be safe, always.*	6FG1_WF3
	It's more about job security than anything.	6FG1_WM1
	Next year is going to be great, I see it as something that we can't complain about, seeing that we walk into a job firstly, and we have that job security in this country which is a big plus point.	6FG2_WM1
Professionally qualified	*And for me I think the decision I took was that, luckily for me I'm in the profession where I'll never be poor, like I will never go hungry. I will always have a job, and enough money to be able to survive.*	RS6_AF1
Open code: South African physician training leads to better equipped physicians than foreign training		

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Professionally qualified	*Ja, so ek, ek… (sug). Ja, wat mediese opleiding aanbetref, dink ek nie ons land is sleg nie, as ek kyk na wat die ouens oorsee weet, dink ek die gemiddelde sesdejaar student is toegerus om meer te doen as die gemiddelde student van oorsee. Ons het nie die geld wat hulle het nie; hulle het residensie programme waar hulle opleiding kry vir jare en jare en jare en inloop in nog 'n "cushier environment" tot hulle "eventually" reg is om pasiënte te begin sien. Ons land werk nie so nie, so ek dink nie ons doen sleg nie want die goeters daar is nie, maar net om administrasie goeters en organisasie beter te kry.*	RS3_WM1
Open code: internship and community service contribute to skills development and confidence of physicians		
Professionals in training	*Well try and find a place which is somewhere in between or more towards the bigger places, especially for your first two years as intern. And then once you've acquired a competent level of skills, you can then for comm. service rather go to a more rural area. Then as a senior, 3 years in, with 3 years' experience in that field, you are more competent to then possibly run a casualty by yourself.*	6FG2_WM1
Professionally qualified	*I think for me, during the process of internship as well, you sort of get feedback as you rotate through the different specialties and you get a feel for them and my first rotation as an intern was in paediatrics and coming out of university, you are so anxious to be given such a huge responsibility, and I remember just being terrified through the entire experience. And just feeling like I needed to go back and re-do it. Just to make sure you know, that I got rid of those fears and anxieties that I had. And just also the encouragement from the staff within the paediatric department I think played a significant role in influencing my decision to pursue paediatrics further.*	RS8_AF1
	Because of exposure, for example, for me to go do medicine, while I was doing my medical training, I started doubting whether this was the right path for me, because of what I was being exposed, and I know a few of my friends who quit. Same thing applies when you are working. You want to know whether you are going to specialise. Once you start working, what you go through, you might have an intention to go and specialise	RS6_AM1
	I think that the guys who were working at Madwaleni and Zithulele, I think they learned a lot from their own bad experiences. Ok, so in terms of which is not a good way to learn medicine, so you know, you kill a patient, I won't do the same thing again.	RS7_WM1
Open code: rural placement during internship and/ or community service contribute to skills development and confidence of physicians		
Professionals in training Professionals in training	*For undergraduate studies, I don't think that the academic or tertiary hospitals is where we should be training. You should be training at the district levels. Because those are the sort of disease profiles that you see and the kind of things that you see every day. It's the general things. You know, if you go to an ENT clinic here when you do an ENT rotation, and you see so many weird tumours in the neck and things, and you never look in the ear you know. (Laugh) And then when you go to your general practitioner, you know when you do your internship or anything, then now when I went to this place, I did so many ENT exams and it's just, that's the kind of thing you need to*	6FG1_CF1

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	learn. That's what you doing. You're not doing that huge surgery.	
	Training in an internal, if you're an intern in that kind of sense, maybe a rural setting is not such a bad idea because then you get exposed more on your own you have to do something, you have to do the skills. A Registrar doesn't take over.	6FG1_WF3
	I think if just in the next 2 years you're in a place where you get to learn whether teaching things, doing it the right way and then you can go out and you can go into rural. You can go and do it on your own. There is not necessarily that help, but then at least you had the guidance and you know you're doing it correctly.	6FG2_WF1
	They optimise it for themselves and for the patients and those are the type of people that we especially as junior doctors and moving onto bigger things, need to get exposed to. And need to see that part, because we don't want to be put off by people who have been there,	6FG2_WM1
	I think it depends on what you obviously want to get out of the experience. Even now when we're having to consider which hospital we're going to go and do our internship at, people will base their decision to go do it at that academic hospital because they feel they get more training, whereas personally I'm choosing to go to a rural hospital, because I would rather have the hands on mass training.	6FG3_WF4
Professionally qualified	*I think it's absolutely necessary because we are overburdening tertiary hospitals, with um, irrelevant or almost conditions of the nature that that could be treated at a peripheral hospital. Would there be complications or would it be a more advanced form of whatever condition, a cancer, a congenital abnormality. There you should be referring it to a tertiary hospital and then, the learning experience in a tertiary hospital would also by definition, or by default, be so much better. Because we will be seeing things that we need to see.*	RS5_WM1
Open code: rural placement during internship and/ or community service causes stress and do not contribute to skills development and confidence		
Professionals in training	*I just think we definitely need more mentorship and we still need to learn a lot, so being thrown into the deep end is not going to make you learn more skills. It's going to freak you out and make you run away and you're not going to want to help anywhere. You're definitely not going to want to go into a rural area,*	6FG2_WF5
	Yes, and that's when bad things happen. Like what? Patients die and you feel sorry for the doctor whose there. Maybe it's because of his incompetent level, his confidence level which is nothing, but is it the systems fault or is it personal? Where was he supposed to learn these skills or find a place to properly apply them with supervision before going to apply them by himself? I think that's one thing that can be thought about by the higher powers in this country.	6FG2_WM1
	Exactly - and that's the problem that comes in with intern placements, where let's say the people who get second rounded, now sometimes they get sent man alone to the only place with a space left. And then they end up alone there. And then what type of care do they actually give?	6FG2_WM1
Professionally	*Waar in "rural" is jy baie geïsoleerd. "Fair enough", jy kan baie meer*	RS3_WM1

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qualified	*doen, en jy kan baie meer werkssatisfaksie kry as jy iets reg doen, maar ek dink jy neem ook baie keer besluite wat jy nie veronderstel is om te neem nie. Doen operasies wat jy nie veronderstel is om te doen nie of kyk na pasiënte wat jy nie toegerus is. So dit gaan afhang van waar jy is. Ek het dit, ek … dit was vir my baie… dit het my baie laat stres. Om te besef dat jy weet vanaand stop die bus by my en dan stop hy by jou vir narkoses, vir geboortes, vir sjirurgie, vir antibiotioka, vir inkubasie, vir ventilasie, vir alles, en ek bedoel ek was nie toegerus nie en ek het dit geweet.*	
Open code: a specialist physician career is positive and enjoyable		
Professionally qualified	*And I feel that the difference we can make there is far bigger in terms of the number of patients that you see and the impact you have on their quality of life. So, for me it's quite exciting and I think especially in Obs & Gynae and the field of HIV Aids, it is something that I really like.*	RS1_WF1
	You know I had the privilege to rotate through most of the specialities. I found that obstetrics and Gynae has got quite fulfilling outcomes. It's not as depressing; it's not having so much lack of hope as some disciplines where you find patients coming in severely ill, chronically ill, cancers. It is very little that you can do, or intervene.	RS2_AF1
	I am enjoying it almost 6 months later now in urology. I'm enjoying it very much.	RS5_WM1
Open code: specialist physicians have more expertise to deal with patient problems than general physicians		
Professionally qualified	*And at the time, based on what knowledge I had appeared correct, but now knowing more, it actually was not. So it's sort of an incentive to specialise and to study further because you can decide, but what you decide is not necessarily correct.*	RS4_WM1
	A person who is qualified has lots of influence. They're perceived to know what they are talking about.	RS9_AF1
	Personally, for me, I want to be a specialist doctor in a sense that it allows you to be an expert and serve better.	RS9_AM2
Open code: a physician career in the public sector is a positive experience compared to a career in the private sector		
Professionals in training	*Private, I don't think this country anywhere is rid of any politics or corruption or anyone that wants something in their pocket but in private I think there is too much politics. And it's too much money driven. The income is determined by the amount of patients you see, that then causes a lot of people to become less humane possibly, do things for the wrong reason. This is just my experience of it, not that I think private hospitals are bad.*	6FG2_WM1
Professionally qualified	*And there is always someone to ask in a state, whereas in a private, if you ask your enemy, your fellow gynaecologist, it's frowned upon to do.*	RS1_WF1

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	I think being involved in the academic setting, is definitely less demanding, than being involved in the private set up. Because in private, not only in terms of hours, but also in terms of the demand of the private patient these days, is of such a level. Obviously you will make more money, but will it be enjoyable? You will be operating to make money, to keep the hospital happy, you will be operating because you have all these expenses that, you have a big machine turning, the secretary you need to pay, the typist you need to pay all these things. But will it be furthering you as a person financially, surely in terms of intellectual academic stimulation, I'm not so sure.	RS5_WM1
Open code: a physician career in the private sector is pursued because of negative public sector experience		
Professionals in training	*The one advantage about private is that they sort of do things in a… they are more careful in their approach in the way they treat the patient. They don't want to be sued? Ja. That also, influences the practice and the outcome that they actually achieve. Are you saying its better quality? Ja, that sort of influences that. If you're in public sector is that (quality) not an issue? In public sector sometimes you just like, you know what, let me finish this and go home. You don't really care about your patients and the outcome*.	6FG2_AM1
Professionally qualified	*So, again, another factor which leads us going into private. So, that, you know, there is greener pastures. You actually earn a better living there, because I feel I cannot work so hard and sacrifice so much.*	RS2_AF1
	I love the private sector. I've worked in the private hospitals and I've worked in GP practices. The set-up is just different. Of course it has its negatives as well because private patients are very demanding, more so than the public service patients but things go much smoother. People are motivated to work, because they have money as an incentive. They've been paid to work and they know that. In the day with the theatre nurses you do work twice in a round compared to the state.	RS1_IF1
Open code: a physician career abroad is pursued because of negative experience as a South African physician		
Professionally qualified	*Meeste van my vriende is oorsee…90% van my vriende, van my goeie universiteitsvriende is oorsee…. Party na hulle klaar gespesialiseer het, party voor die tyd. Hmmm en veiligheid is definitief een. Effektiwiteit in die werksplek …minder werksfrustrasie in die sin van as jy iets wil doen, kan jy dit doen.*	RS3_WM1
Open code: a physician career in the private sector is associated with more risk than in the public sector		

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Professionals in training	*Just the money earned in the public sector makes it for me worthwhile to think about staying in the public sector without having the responsibilities and risk of going into private. If the public sector didn't pay enough then you must think about, am I earning enough for my work for all the hours I put in, and all the money I've paid to study. Paying for everything that I want to do. But, if you earn enough money there, and even if you get more in private, I think the risk and everything is just weighed up, I think public sector can still win.*	6FG2_WF1
	But what is the cost of going into private? To set up a private practice. If it's your own private practice and you take a week's holiday, you have no income, whereas if you're in the public sector you get a regular salary.	6FG2_WF2
Professionally qualified	*The stress is more because in the private sector you are taking responsibility for a lot of patients alone, so medical liability is higher. There is much more responsibility whereas, in the state sector there is a bit more of a shared responsibility.*	RS1_IF1
Open code: a physician career in the public sector is associated with lower earnings than a physician in the private sector		
Professionals in training	*So, and then obviously there is a difference between private and public.*	6FG2_WM1
Professionally qualified	*No, it's not a perception, you get paid a lot more, but it's like she said, you only get paid what you do with your hands. If you work harder in the state sector, you don't see it in your bank balance.*	RS1_WF1
	So, to me, salary wise working in the State, it's a joke. You're even embarrassed to tell your colleagues how much you earn. I mean your friends; how much you earn. Even my siblings, you know. They just know this Dr and it's a status. But, to really look at the salary, it's embarrassing. So, again, another factor which leads us going into private.	RS2_AF1
	Die ouens hierso in die staat het baie tyd vir families, maar hulle maak min geld. Die ouens hierso in privaat is êrens tussen die twee. Hoe meer jy werk, hoe meer geld maak jy, hoe minder jy werk, hoe minder geld maak jy, hoe meer tyd het jy. So dis 'n "toss of a coin", so ek dink dit gaan afhang van…. ek's nie getroud nie, van die tipe vrou wat ek kry en wat sy wil hê. Want ek is "happy" met wat ek doen, of ek geld maak of nie, dis hoekom ek nou nog in die Staat is.	RS3_WM1
	Look, currently I can't complain, I'm single at least so what we make is more than enough for a single person. Obviously I've got friends who are already working in private who as physicians are making a fortune, and you would of course one day like to know be in the same sort of income bracket. For now, I need to go and sub-specialise as well, definitely. For the foreseeable 4, 5, 6 years I'll be working here. But of course one day I probably will consider moving to private predominately for income.	RS4_WM1

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Open code: a physician career in the public health sector is associated with more stress and fatigue than in the private sector		
Professionally qualified	*Because in private I can see 20 patients and I don't have a stressful day. I can see 20 patients here, but I'll be very, very stressed, because I will be running around from one cubicle to the other, to look for things which are not there, to look for a Barco meter or whatever, but in private I'll get things quicker. And even the time, it's more limited. I'll see those patients in a few hours, but here, it can take the whole day and when I go home, I'm tired. I can't function, I can't do anything else, but I've seen equal number of patients. That side - the time is lesser than here, in public.*	RS1_AM1
	The stress is also there very much so in the state sector, but I mean than the sense of responsibility.	RS1_IF1
	Well, you feel used and useless. That's where you think about when you going to be valued by society enough to go through with it.	RS6_AM1
Open code: the public health sector is bureaucratic and ineffective compared to the private health sector		
Professionals in training	*I don't mind working there; it's just problematic because of the environment within the hospital. You have the skills, but equipment and support may not be there.*	6FG1_AF2
	I think if you're a doctor you definitely know you're going to have to work hard. You shouldn't be naïve, especially in a country like this and believe it's going to be easy. But, our system is not supportive.	6FG1_WF3
	There are 2 full wards which can take another 50 or so patients which aren't even being used, everything is empty in there. The operating theatres, there is one which is not functional at all	6FG2_WF3
	But the other problem they encountered is recently instead of the managing doctor taking care of finances and knowing what equipment is needed, they've handed the finances over to somebody who is an outsider to the hospital, who doesn't visit often, who doesn't know all the problems, and then they tell him what the problems are. A quarter of them get addressed and the rest of them are pushed under the rug for a while.	6FG2_WF3
	Half my time I've been running around trying to find needles and tubes and whatever, and it's quite frustrating if you look back at the day and you say, well, I haven't really done anything useful, just running around.	6FG3_WM1
Professionally qualified	*If I tell someone that I want a CTG and I want 10 CTG's so that I can monitor the babies, this will help me to reduce the perinatal deaths, and then you know what they will tell me, "No, internal medicine, they didn't ask for that. So, why are you asking for 10 CTG's?" Well, there is no understanding of "why".*	RS1_AM1
	If you look at the health and education, there are a lot of money that have been pumped in, but before the end of everywhere, that money is gone. Billions of money is gone and you don't know what happened to the money.	RS1_AM1

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	You go to ICU, you get from 12 beds, they've been cut to 6. All the ICU's, now its half. And people don't understand because there are people up there at the top who don't understand what does ICU mean. It means that if like now, I've got a patient who needs ICU, I have to stay with that patient the whole night, you know, pray and then trying. At least then this person can survive and maybe in the morning I will get an ICU bed. So, and then you call them and they say there is nothing that we can do because they don't understand the need of that ICU.	RS1_AM1
	And I feel like the people that are in charge of the money have no feel of what's happening on the ground. They have no insight into the real need and what it's like to work in a ward that doesn't have syringes, that doesn't have drugs and doesn't have a sonar machine. And to tell a patient you have cancer and I can't treat you.	RS1_WF1
	Now when I was at Kalafong, I was working in oncology and I had a lot of patients with cancer and at the time the radiotherapy machine wasn't fixed because the company wasn't paid so they refused to come out. And I had so many patients that I had to say to, "I'm sending you back to where you come from. I'm sending you back to KwaMhlanga. I will phone you when you can come back." And the patient asks you, "How is that going to influence my prognosis?" I have to tell them, "This will probably mean you are more likely to die." And I wanted to scream. So, and that's why people are leaving. That.	RS1_WF1
	There is not enough support from the whole system to be able to make a difference. You alone can't make a difference.	RS1_WF1
	Its only time that can tell how in 5 years from now how the healthcare system will be. Because at the moment, everything is crumbling down. Everything it's crumbling down.	RS1_WF1
	Jy kan doen wat jy geswot het om te doen. Jy hoef nie administrasie te doen nie. Jy hoef nie papierwerk in te vul nie. Jy hoef nie gevegte te veg wat eintlik administrasie is. Jy kan letterlik jou werk doen en daar's iemand anders wat administrasie doen…	RS3_WM1
	A lot of times here we need to tell people from rural hospitals, you know sorry, we don't have a bed for your patient. You need to do the best you can from where you are. We can, if we get a bed, we can help you out, but for now you'll have to just carry on. And many people die waiting to get here. So the system is causing them to get a sub-standard level of care.	RS4_WM1
	The bureaucracy I find is in many instances, the burden towards having an effective, functioning hospital, because there are so many red tape policies and nonsense you must get out the way, I need Panado, I need ibuprofen, I need this and this and this, I need these antibiotics. I don't care where you get it from, get it. You are not treating the patient, sign the order form, make sure there is always stock, I'm not interested in your excuses. Because at the end of the day, you are in your bed, 12 o'clock, 1 o'clock, 4 o'clock at night when the doctor stands at the bed and he treats somebody, and if the medicine is not there, you're not sitting with the bait.	RS5_WM1
	And I see no reason why a urologist who works for instance in private	RS5_WM1

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	in Nelspruit could not also commit one or two days a week, at Nelspruit hospital. I mean, the advantages, the trickledown effect of having a consultant in urology, why not have a registrar post there, or two, or three posts, where people are keen to come and specialise train there first for a year or two. And then they have a key or a card to say listen, I'm going to walk into a post to specialise at Tuks or Medunsa for that matter. There is nothing that prevents somebody doing that, however, the bureaucracy and the cumbersome obstacles that you must try and circumvent or overcome to do this, is so frustrating, that I would not even attempt it.	
	You find yourself in a very compromising position, where you are at the receiving end of the patient, and now you have to answer why we don't have Panado. You have to answer why there is no linen.	RS6_AF1
	Ja, I can't describe how frustrating it is to be in a place where you know what you're supposed to be doing, you know this is what you need, but it's just not there, the patient is in front of you, what do you do?	RS6_AF1
	You will find that the lifts are not working, and it's not clear why they're not being changed, and that directly affects us. For example, you have a patient who was admitted at night being observed. He was supposed to go to theatre and now, because the lifts are not working, you can't take the patient to theatre. And the patient lands up with complications and that has happened to me at least twice or thrice.	RS6_AM1
	Because I'm tired of complaining, so we feel very strongly about it, very strongly	RS6_AM1
	Well, I don't know. They say the longer you stay in public sector, the less positive you become, because I've seen, what I've seen, you can't stay for there too long. You can't be without positive energy, you try to change things, but after a while, people come with all these plans from provincial government and when they are supposed to be implemented it's a different ballgame altogether. And the people who manage us they lie about statistics when they get to financials.	RS6_AM1
	I got so frustrated and there were so many frustrations with just trying to refer patients to get the type of care that they actually needed versus oh, that's available, that's what you must just make do with and it's disheartening and it's frustrating and – the arguments that you have in trying to – so once you get the patient booked into and upgraded to referral. Then it's, these guys are striking and that they can't transfer the patient. It's just gets so frustrating after a while.	RS7_WM1
	Then they will tender for 7 ultrasound sonar machines, because they are convinced we need them, but then you don't have simple things like gloves…That was not making sense.	RS9_AF1
Open code: the public health sector has more health human resources challenges than the private sector		
Professionals in training	*Some people go to public sector because they can be lazy there and in private you have to work hard. In public you need not work that hard there as there are other people who will do your work, people are not paying you directly, you're still going to get your salary. So I think*	6FG2_WF1

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	it's an excuse for some people to be lazy which I don't think is right.	
	But then the other thing is I find the nurses in private are actually a lot better because it's the older nurses, the old way. Now, when you get the young nurses here in our academic setting, they abuse the students. We've heard them saying, "oh - the students are here now, we don't have to do any work. You can call them – they will come and put up drips.' It's actually rubbish.	6FG2_WF3
Professionally qualified	*Ja, you see, they've allowed those people to come in and like, in government you cannot just get rid of someone. I know. You can't get rid of someone. So, there are a lot of those people that they are struggling to get them out.*	RS1_AM1
	They start screaming and threatening people and saying the baby is going to die, you know, we need to do the Caesar now. Because you find you have to be extreme for people to actually do their work and come to action.	RS1_IF1
	The challenges that you are faced with on a daily basis, in terms of nursing staff not being willing or able or understanding of what your intention is, language barriers with patients, understanding that patients have.	RS5_WM1
	You want to take a patient to theatre; you will find there is no assistant person, because there is no staff. You have been in a situation where you refer caesarean sections to a provincial hospital of which they refuse to do in many instances, because there is no nurse to assist …there is not enough doctors.	RS6_AM1
	I think you need to sort out management and staffing and, um, stock taking and, just the basics, just basic management skills of a hospital. I don't see why Netcare can manage their hospitals so well, but the government can't. Is that because of the way they staff their management teams, is there just no experience, what is it, there is no accountability, but with Netcare there is.	RS7_WM1
	I think staff as well; it's like skeleton staff sometimes, especially when you're on call. There is, there will be like two people running the entire hospital, so then some areas get compromised while you're busy doing other things that are more important. And then you have to prioritise.	RS8_WF1
Open code: the public health sector is more corrupt/ unethical than the private health sector		
Professionals in training	*In Tembisa we heard of a doctor qualified in surgery, who does ultrasounds of the head and he charges the patients for R300. So there is evil.*	6FG1_WF2
Professionally qualified	*I don't know what's going to happen and you see, like now, the health system it's corrupt. I mean 2 years ago when I come to work I would be excited, now I'm thinking that I don't have this, I don't have that, what I'm going to do.*	RS1_AM1
	I feel like I want to say exactly the same twice over. I need to go	RS1_WF1

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	somewhere where I don't see corruption.	
	Ek kan sê vir hierso, ja hierso is baie onetiese gedrag, ja hierso is baie korrupsie, ja en ek praat nou van 'n groot tersiëre plek, kan jy dit sien. Maar ek dink jy gaan dit net soveel in "rural" areas kry en dit gaan nie verskil nie…	RS3_WM1
	But I must say as doctors, what I used to see for example was sessional doctors, sometimes they didn't even show up for the course. I mean I used to work with a GP who as an intern, if he would leave you there alone, he would tell you OK, I'll work between 8 and 12, and then you will work between 12 and morning.	RS6_AM1
	In Limpopo we had this thing of tender in each and everything. Then they will tender for 7 ultrasound sonar machines, because they are convinced we need them, but then you don't have simple things like gloves. That was not making sense. Say, you want to stitch a patient, there's not suture materials and then within a month, nothing in the hospital, not one of the sonar machines. Not one of the seven.	RS9_AF1
	To be honest in the Eastern Cape there is massive corruption. We must recognise there is lots of corruption, I'm sorry to say, that is the truth. Because you find out, the budget is supposed to be passed at April, but by July it is finished. This is true. Paid last year's… You can't see what the money was used for. It happens on a recurring basis.	RS9_AM2
	My perception, for example, I think for me it's important. My perception about the Eastern Cape is that it's corrupt, a broken system. So, I won't naturally want to work there. I want to work somewhere where I can make a difference, but I want to work somewhere where it's possible.	RS9_WM1
Open code: public health sector patients are less demanding and/ or educated than private health sector patients		
Professionally qualified	*Of course it has its negatives as well because private patients are very demanding, more so than the public service patients but things go much smoother.*	RS1_IF1
	I think being involved in the academic setting, is definitely less demanding, than being involved in the private set up. Because in private, not only in terms of hours, but also in terms of the demand of the private patient these days, is of such a level.	RS5_WM1
Open code: rural origin physicians are more likely to choose a rural career		
Professionally qualified	*I think it's sort of what you're comfortable with. You've grown up in a place and it's been your home, then you are more likely that you will go back and you feel like you can give back to your community, because the people there are kind of like your family. But then, if you have never been there and you live in an urban kind of area, you are less likely to land up in that setting.*	RS8_WF1
	There are, you know all the GP's who settled in the area, perhaps even grew up there, and I think for people who were raised in that	RS8_AF1

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Axial code: general attitudes: utility and cost values		
	environment, and then worked there and are at a stage in their life where they have settled, and they are the sort of people who are actually are the crux of the rural health system.	
Open code: the current generation of physicians will not consciously choose a career as rural physician		
Professionals in training	*I don't want to come back and study again, but I'm thinking rural. So you've made a decision? Sort of, I've thought about specialising. I'm 26 now, taking my own time in finishing this bloody degree. (Laugh) The thing is I'm planning on taking over my dad's practice and that will only be in about 4 years' time and by that time, he's really considering retirement. And the thing is there is still a lot of people in the community and white people and friends and family and if my dad were to go and retire in Hermanus, I can't think of any – this might sound wrong – but I can't think of any other white person that would move to Melmoth, out of their own choice. Because there is no school for the kids, the Spar closed down. (Laugh) So, I think if my brother or my cousin's child gets ill in the middle of the night and he has to go out 70 kms to the closest hospital. So my dad's practice is my life; that is where the farm is.*	6FG3_WM2
Professionally qualified	*And in terms of the younger generation, the only process that gets them there is this rotation of comm. serve and allocating based on the selections that you make. Otherwise many people wouldn't consciously make the decision to go and work in a rural setting for their internship or their comm. serve, it's only because they are sort of forced to do that.*	RS8_AF1

4.3.3.3 Discussion of general attitudes: utility and cost values

The general attitudes of study participants in the broader context of TPB background factors reflect a wide range of beliefs pertaining to utility and cost values about the income potential and job security associated with physician careers, the training and development of physicians, generalist vs. specialist medical practice, private vs. public sector medical practice and urban vs. rural medical practice. These beliefs are discussed, analysed and summarised in this section.

The first group of attitudes that are discussed in this section concern perceived benefits and costs to **income potential and job security** associated with a physician career. A significant number of participants in both research groups believe that a physician career offers good long term earnings potential compared to most other professions. They stated that financial security is an important outcome associated with a physician career. Breier and Wildschut (2007:1) state that although physician careers are often demanding, they are generally financially rewarding. Many participants also indicated

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that they are aware physicians can potentially be placed in the "top income bracket" and they lead privileged lives compared to the average South African and probably most of their patients in cases where they are employed in the public sector. In addition, about a third of the participants in the professionals in training group believe a physician career offers good job security. They indicated that physicians will always be employable, despite economic downturns. Only one participant from the professionally qualified group, an African female believes that a physician career is associated with lower income potential than other professional careers. She referred to her friends in other professionals such as chartered accountants who are already at CEO levels after ten years of working experience and earning more money for what she perceives to be less input, less stressful and not as emotionally taxing as medicine. This perception at some stage prompted her to consider leaving the medical profession and changing careers to business or financial management. Although this issue came to the fore in only one interview and the researcher is of the opinion that this is a matter that may be more prevalent in reality. Jansen (2014) states that: "It is a troubling story about young people in professions such as nursing, medicine, teaching and social work dropping out when the realities of work in South Africa hit them". He goes on to say that "…there are the rival stories from their friends who work in highly professional environments with bright lights and modern buildings in the financial sector. They hear about friends who are actuaries or computer science specialists or financial consultants who travel the world for their companies, and whose six-figure salaries make them comfortable without breaking a sweat…". In light of this observation by Jansen (2014), the researcher deducts that the particular participant may believe that the remuneration (and positive long term income potential) of physicians do not justify the effort, stress and burnout that physicians experience, particularly those who work in poorly functioning public hospitals with untenable working conditions. This could have a long term impact on career choices of academic performers who may anti-select medicine due to the perception that the overall "package" of remuneration in conjunction with working conditions and career advancement opportunities are less attractive than careers in finance of business.

Some of the participants in the professionally qualified group commended the NDoH for their efforts to ensure that physician remuneration in the public sector is competitive. George and Rhodes (2012:613) found that the implementation of the Occupational

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Specific Dispensation (OSD) for health workers which was implemented for public sector physicians in the 2008/2009 financial year contributed significantly to improve remuneration of the said group. Mahlati, P (2009) in George and Rhodes (2012:613) suggest that some categories of physicians received increases of up to 68% in that year. George and Rhodes (2012:613) furthermore found that the remuneration of certain categories of public sector physicians far surpassed the remuneration of their counterparts in countries such as the United Kingdom and Australia. This finding confirms that physicians often leave the public sector for reasons other than remuneration. Reid, Couper and Volmink (2011b) state that financial considerations are often less important than socio-cultural factors when physicians make career choices.

The researcher observed the following pertaining to whether demographic factors account for differences in participant attitudes regarding income potential and job security:

- An equal distribution of African and white participants in the professionally qualified group shared beliefs that a physician career offers good long term earnings, whilst mostly white Afrikaans speaking participants in the professionals in training group believe that a physician career offers good long term earnings in combination with job security.
- The majority of participants from both groups who believe that a physician career leads to good long term earnings potential and job security grew up in cities and have friends who currently work in the public health and/ or rural sector.

The second set of attitudes that describe utility and cost values associated with practicing medicine and a physician career relate to the **training and development of physicians.** A few participants from the professionally qualified group indicated that internship and community service contribute to developing skills and confidence of young physicians as they have an opportunity to rotate through various specialities and are given feedback on their potential, talent, competencies, shortcomings and mistakes, thus facilitating further development as a physician. In addition, about a third of the participants in the professionals in training group believe that rural placement during internship and/ or compulsory community service contribute to skills development and confidence of

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physicians whilst only two of the participants on the professionally qualified group shared the same belief. This attitude stems from the belief that disease profiles in rural areas pose more challenges for physicians and thus more learning opportunities. Rural physicians also work more independently and with less supervision which creates platform for learning. Participants from the professionally qualified group feel that if physicians in rural facilities are using rural placement as a learning opportunity and actually perform procedures on site instead of simply referring patients it would reduce the burden on tertiary and central hospitals to handle minor conditions and then by default the improve the learning experience at tertiary level.

Burch and Reid (2011b:25-26) confirm this finding, stating that the introduction of rural practice to medical students during undergraduate studies have more shown more benefits than downfalls both locally and internationally. A few participants from both groups thought that rural placement during internship and/ or community service do not support the development of physicians and actually causes more stress because there is little or no support or mentorship from other professionals and physicians are often left to their own devices which may not be in the best interest of patient care. These findings correspond with the results of a study by Jaques *et al*. (1998) which suggest that it is more likely physicians will have a positive experience of internship and/ or community service in a rural area if there were sufficient back-up from "…senior colleagues, which allowed for learning on the job and induced sufficient confidence to do more surgery at the rural hospital…".

The researcher observed the following pertaining to whether demographic factors account for differences in participant attitudes regarding physician training and development:

- African and white female participants from the professionally qualified research group shared beliefs that internship and/ or community service contribute to skills development and confidence of physicians whilst participants from all race and gender groups in the professionals in training group shared the belief that rural placement during internship and/ or community service enhances skills and builds

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confidence of young physicians. All of these participants had rural exposure during undergraduate studies;

- All participants who indicated that rural placement during internship and/ or community service contribute to skills development and confidence of physicians grew up in large cities;
- Most of the professionally qualified participants who indicated that internship and/ or community service contributes to skills development of physicians have friends working the public and/ or rural health sector whilst the majority of participants from the professionals in training group who indicated that rural placement during this period enhances skills development do not have friends working in the public or rural health sector which may suggest that the influences of the university and working colleagues at the teaching hospital probably have a higher impact at this stage of the development of physicians than what their friends would have.
- Other demographic factors do not seem to account for differences in attitudes in this regard.

Thirdly, the researcher identified utility and cost values with regard to **generalist versus specialist** medical practice. Two open codes were generated in this regard and reflect that professionally qualified participants regard specialist careers as positive and enjoyable and deem specialist physicians to be more qualified and competent to deal with patient problems than general physicians. About a third of participants in this group shared beliefs regarding the benefits of specialist career as opposed to generalist careers. They believe a specialist physician is able to make a bigger impact on the quality lives of their patients and it is a more rewarding and stimulating career. They furthermore believe that a specialist physician is able to provide better expertise and be more influential in the treatment and care of a patient than a generalist physician.

These findings correlate with the outcomes of various research studies conducted in many countries, including South Africa, which indicated that increasingly fewer medical students are interested in general practice as an occupation (Green, Nel, & Prinsloo, 2006:15, Lambert, Goldacre & Turner, 2003:194, Newton & Grayson, 2003:1179, Price & Weiner, 2005:419, Kiolbassa, Miksch, Hermann, Loh, Szecsenyi, Joos & Goetz, 2011). Reid (2011:72) states that the desire to specialise is often triggered by feelings of

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inadequacy experienced by generalist physicians during internship and/ or compulsory community service and their need to address gaps and shortcomings in their training. Du Plessis and Andronikou (2007:18-23) postulate that the high demand for specialisation is an international trend and locally there is strong competition for limited registrar posts, implying that many physicians who wish to specialise may not be selected for specialty programmes. This area warrants further research but falls outside the scope of this study.

With regard to whether demographic factors account for differences in participant attitudes regarding generalist vs. specialist physician careers, the researcher observed the following:

- White participants voiced their beliefs with regard to the enjoyment they derive from specialist medical practice whilst African and white male participants shared the belief that specialist physicians have more expertise to deal with patient challenges than general physicians.
- All the participants who contributed to these open codes grew up in large cities;
- Other demographic factors do not seem to account for differences in beliefs of participants with regard to the benefits and costs of generalist vs specialist careers.

The fourth set of attitudes discussed in this section relate to the utility and cost values of **practicing medicine in the private vs. the public health sector**. In this regard the researcher identified a number of open codes that reflect positive and negative outcomes associated with a physician career in any of the health sectors. A few participants from the professionally qualified group believe that a physician career in the public sector is a positive experience compared to a career in the private sector because it is deemed to be less demanding in terms of working hours and patients. One participant stated that a specialist physician career in the private sector is lonely and competitive as opposed to working in the public sector where physicians work in teams and have more professional and collegial support. This aligns with findings by Ashmore (2013) who concluded that public sector medical practice often provides more of a “team environment”. He furthermore pointed out that in the public health sector a specialist is often “shielded” by an intern or a registrar who work in the specialist’s team, however, in “private practice you don’t have that actually so you work a lot harder, so if there’s a problem with your

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patients late at night or after hours, you're it, you have to resolve that problem". Two of the participants in the professionals in training and one in the professionally qualified group stated that a career in the private sector may be attractive, but it is associated with more risk than the public sector. These participants believe a private sector practice costs more and the medical liability is not shared with other physicians as is the case in the public service. This finding correlates with research by Bhat (1999:26) who found that private practices are becoming less popular in India due to growing capital costs of location, equipment and technology.

Conversely, a number of participants in the professionally qualified group indicated that a career in the private sector is pursued because of negative experiences in the public sector. These participants regard the vigilance, focus on quality and efficient management systems of the private sector as beneficial. Some participants also pointed out that these are the same reasons why physicians seek greener pastures abroad. The findings by Ashmore (2013) concur with these beliefs where the working environment in private sector medical practice is described as "nice". Basu, Andrews, Kishore, Panjabi and Stuckler (2012:e1001244) confirm that according to popular view, the private sector health services may be deemed more efficient and effective than public health services, especially in low and middle income countries, however, their research found that private sector health services are often lacking accountability and transparency even if the systems are more efficient and quality focused.

As far as earnings potential is concerned, some participants from the professionals in training group raised the belief that physicians in the private sector earn more than their counterparts on the public sector mainly because they are in control of their working hours and the rate that they charge their patients. The majority of these beliefs (in favour of private or public sector) align with findings of previous studies regarding the reasons for specialisation which were also discussed in the literature review (Green *et al*., 2006b and Bland & Isaacs, 2002), however, arguments are also made that the private health sector is sustained and promoted by specialists and this also motivates the drive for subspecialisation in many cases. Hugo (2013) states that "…the implications for healthcare is devastating because that means your best brains becomes complete servants to that private healthcare industry with good intentions…".

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With regard to working in the public health sector, participants shared beliefs pertaining to benefits and cost that explain why the public health sector is often a less desired location to pursue a physician career. About a third of the participants in the professionally qualified group indicated that a physician career in the public sector is associated with more stress and fatigue than in the public sector. In this regard it is significant to note than all the participants in the group believe that the public health sector is bureaucratic and ineffective compared to the private sector and around half of the participants in the same group believe the public sector had health human resources challenges and is more corrupt than the private health sector. About half of the participants in the professionals in training group shared the beliefs regarding the public sector being bureaucratic and inefficient with the professionally qualified group.

Findings by Ashmore (2013) reflect a "…near universal condemnation…" of poor support services and inefficiency in the public health sector. Participants believe the public sector lacks equipment, medical technology, drugs and consumables, operates wastefully and inefficient, does not provide sufficiently competent and decisive administrative management, lacks human resources and professional support and condones unethical behaviour and corrupt practices by administrative and health professional staff alike. One participant pointed out that the longer a physician works in the public sector, the more risk he/ or she runs of falling into the "trap" of apathy and mediocrity that seems to define the public sector in a broader sense (Jansen, 2014). Once again, these findings concur with those of a study by Ashmore (2013), also confirming the fact that deep divisions seem to prevail between public sector physicians and hospital management which in turn impact negatively on trust and relationships in the workplace. In this regard, the advice of Jansen (2014) seems relevant to impact on the beliefs of physicians. He states "I think government needs to make the revitalisation of the public sector - hospitals, schools, social work departments, among others - a major priority for the next five years. The appointment of strong public-sector leadership selected on the basis of administrative and management competence, not political ties, would be a strong starting point. Either that, or we lose our most talented, enthusiastic young graduates to the private sector and to other countries while we remain stuck with moribund hospitals, schools and government departments".

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The researcher observed the following pertaining to whether demographic factors account for differences in participant attitudes regarding physician training and development:

- Participants in both research groups from all race, gender and language groups contributed significant beliefs with regard to the challenges of a physician working in the public sector. Afrikaans, Sesotho and Xitsonga speakers contributed the most beliefs in this regard;
- Professionally qualified participants who shared general attitudes pertaining to the benefits and disadvantages of a career in the public sector grew up in both rural and urban areas with a fairly equal spread between the two whilst contributions by professionals in training were all made by participants who grew up in cities. Participants who grew up in rural areas shared strong beliefs regarding the lack of health human resources in the public sector and the perception that medical practice in the public sector is associated with more stress and fatigue than the private sector.
- The majority of participants in both groups who indicated challenges in the public health sector have prior rural exposure and/ or working experience;
- The vast majority of participants in the professionally qualified group who contributed to beliefs around the public sector being a challenging environment to pursue a career have friends working in the public and rural health sectors whilst none of the professional in training seem to potentially have been influenced by friends in this regard.

The last set of attitudes that are discussed in this section concern the general beliefs of participants pertaining to choosing a career in an **urban vs. a rural area.** Participants from the both research groups indicated that the current generation of physicians will not conscientiously choose a career as rural physician. They believe that young physicians only work in rural because the system of community service “force” them to do so or they have an opportunity to take over existing private practices in rural areas without paying for them, e.g. they could inherit the practice from a family member. A study by Ross and Reid (2009:249) found that the compulsory community service system for physicians, which was introduced in 1998, is an effective recruitment mechanism to staff hospitals in

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rural areas, however, has not proven to be a suitable retention strategy. The study found that only 8% of community service doctors allocated to district hospitals in the "rural" provinces of KwaZulu Natal, Eastern Cape and Limpopo continued their careers in the same hospitals.

Agyei-Baffour, Kotha, Johnson, Gyakobo, Asabir, Kwansah, Nakua, Dzodzemenyo, Snow and Kruk (2011) found that the majority of Ghanaian medical students chose medicine as a result of their "desire to help others", however, it does not mean that they are willing to practice medicine in rural areas, even though that is where the "help" is probably most needed. Kale (1995a) established almost 20 years ago that students at the University of Cape Town felt the only way to attract physicians to rural areas would be through improved remuneration and legislation. The NDoH has subsequently implemented both suggestions in the form of rural allowances to augment physician salaries (Public Health and Welfare Sectoral Bargaining Council, 2004) and compulsory community service which must be completed prior to independent practice (Reid, Conco, Varkey & Fonn, 1999:234).

Only two participants from the professionally qualified group shared beliefs that physicians who originate from rural areas are more likely to pursue rural careers because they are comfortable and familiar with the context of living and working in a rural area. Much research has been done in this area, both locally and internationally. Couper *et al*. (2007:1083-1084) concluded that the personal attributes of professional healthcare workers such as whether they originate from a rural area and their value system are strong determinants of whether they will consider rural practice. This finding is supported by previous research conducted by De Vries and Reid (2003:792) which suggest that the South African situation is similar to the international trend which found that rural-origin medical graduates are more likely to choose rural careers in general practice than urban-origin students. Diab *et al.* (2012), however, state that "…although it is clear that rural-origin students are more likely to work in rural areas after qualification than urban-origin students, this is by no means a direct relationship. The majority of rural-origin students still ultimately practice in urban areas…". This resonates with findings by the researcher in this particular study.

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The beliefs regarding choosing a career as rural physician represent the main theme of this study and in the next chapter, the researcher unpacks the behavioural, normative and control beliefs as well as the impact of extended variables such as moral obligation, identification with the career and past behaviour of study participants which may impact on the intentions and ultimate decision to choose a career as rural physician.

With regard to whether demographic factors account for differences in participant attitudes regarding urban vs rural practice, the researcher observed the following:

- African female and white participants contributed beliefs in this regard;
- Both participants who indicated that the current generation of physicians will not conscientiously choose a rural career grew up in rural areas whilst the participants who indicated that physicians who grew up in a rural area are more likely to choose a rural career grew up in both cities and rural areas.
- Most of the contributors to this open code have prior rural exposure and/ or working experience and also have friends who work in public sector and rural areas

In summary, the attitudes of both research groups regarding their utility and cost values, expressed as positive, inconclusive or negative outcomes, i.e. “pro’s” and “con’s” of a physician career are presented graphically in Figure 33 below. The “pros” and “cons” are expressed from the perspective of choosing a career in the public sector, specifically in the rural health sector.

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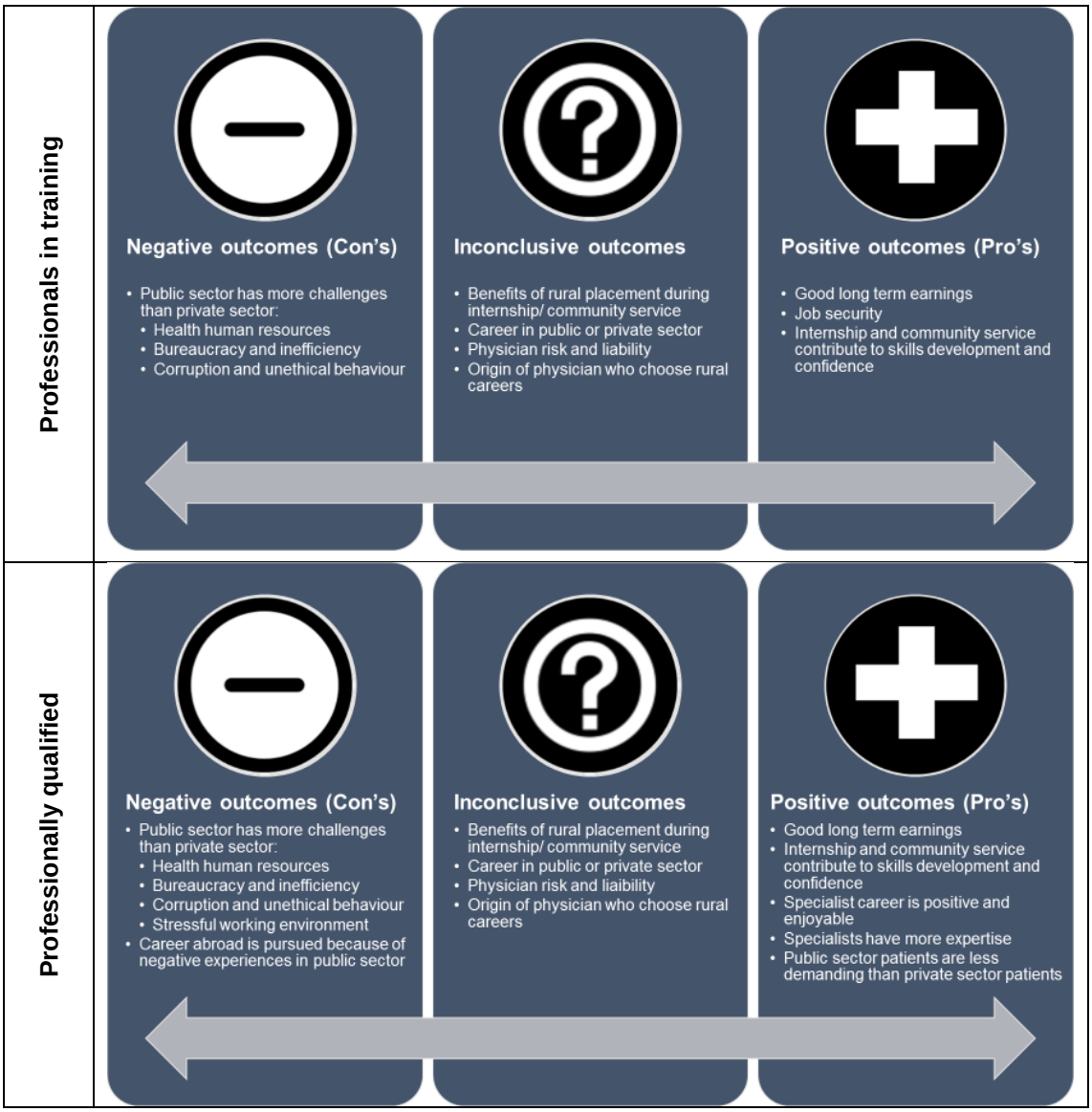
Figure 33: Benefits of physician careers



4.3.4 Summary: personal background factors

In this section, the researcher tabularised the results of the data analysis process, which involved axial and open coding, pertaining to general attitudes which may serve as personal background factors in the TPB model applicable to this study. The general attitudes were analysed and are discussed in terms of whether participants enjoy various aspects related to practicing medicine and a physician career and the importance of these aspects in defining their own identity and secondly whether they deem these aspects to be beneficial and relevant to their careers, including choosing a career as

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rural physician. The researcher made reference to relevant literature to support or oppose research findings.

In summary, the general attitudes of both research groups namely “professionals in training” (final year medical students) and “professionally qualified” (registrars) regarding the intrinsic and attainment values (expressed as “likes and dislikes”) and utility and cost values (expressed as “pro’s and con’s”) associated with a physician career in combination with the associated strength of the attitude are presented in Table 27 and Table 28 respectively. Attitudes that are associated with outright opposing (i.e. negative or positive) outcomes are listed in the tables in descending order of “groundedness” to reflect the strength of the subjective value of these attitudes for each research group (Alvira-Hammond, 2012; Archer, 2012; Friese, 2014). Those attitudes that reflected positive as well as negative outcomes, expectations or feelings are referred to as “inconclusive” or “mixed” and are excluded from the summary tables as they do not seem to have relevance to account for differences in predicting intentions between the two research groups.

Table 27: General attitudes of professionals in training: summary

General attitudes	Groundedness order
Attitudes associated with positive outcomes, expectations, feelings	**Professionals in training**
Likes public sector medical practice in underserved communities	1
Likes comfortable lifestyle	2
Believes physician career is associated with good long term earnings	3
Believes physician career is associated with job security	4
Likes having an impact on patients	5
Likes working in teams	6
Likes earning a good income	7

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General attitudes	Groundedness order
Likes delivering healthcare to patients for lifetime	8
Likes delivering healthcare to women and children	9
Believes internship and community service contribute to skills development and confidence	10
Attitudes associated with negative outcomes, expectations, feelings	**Professionals in training**
Believes public sector has more challenges than private sector due to shortage of human resources, bureaucracy and inefficiency, corruption and unethical behaviour, stressful working environment	1
Dislikes corruption and unethical behaviour	2
Dislikes dealing with patient social issues	3

Conversely, the professionally qualified reflected the following general attitudes in order of “groundedness”.

Table 28: General attitudes of professionally qualified: summary

General attitudes	Groundedness order
Attitudes associated with positive outcomes, expectations, feelings	**Professionally qualified**
Believes physician career is associated with good long term earnings	1
Likes comfortable lifestyle	2
Likes public sector medical practice - teaching	3
Likes intellectual stimulation	4
Believes a specialist career is positive and enjoyable	5
Believes specialists have more expertise than generalist physicians	6
Likes caring for sick rather than routine patients	7
Believes internship and community service contribute to skills development and confidence	8

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General attitudes	Groundedness order
Believes public sector patients are less demanding than private sector patients	9
Likes objectives of the NHI (on condition of "overhaul" of public health system)	10
Likes having an impact on patients	11
Likes delivering healthcare to women and children	12
Likes earning a good income	13
Believes physician career is associated with job security	14
Attitudes associated with negative outcomes, expectations, feelings	**Professionally qualified**
Believes public sector has more challenges than private sector due to shortage of human resources, bureaucracy and inefficiency, corruption and unethical behaviour, stressful working environment	1
Dislikes corruption and unethical behaviour	2
Dislikes referral of patients to other health facilities	3
Dislikes exploitation of vulnerable people	4
Dislikes low productivity of public sector health workers	5
Dislikes practice of dual practice ("RWOPS"")	6
Believes physicians seek career opportunities abroad because of negative experiences in public health sector	7

With regard to "inconclusive" or "mixed" general attitudes, it appears as though participants from the professionals in training group have no specific preferences regarding whether they "like" or "dislike" private sector medical practice, specialised medical practice, rural/ small town lifestyle, urban lifestyle and prestige and status associated with physician career.

Furthermore, the professionals in training seem to have mixed views regarding the "pro's and con's" of rural placement during internship/ community service, pursuing a career in public or private sector or the risk and liability associated with physician careers. As far

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as the professionally qualified group is concerned, they expressed mixed views about "liking or disliking" medical practice in underserved communities and private sector medical practice. They furthermore expressed similar diverse attitudes as the professionals in training towards the "pro's and con's" of rural placement during internship/ community service, pursuing a career in public or private sector or the risk and liability associated with physician careers.

As far as the use of demographic variables such as race, gender, origin (rural/ urban), home language, marital status, dependant family, previous work experience or training exposure to rural medical practice and family or friends working in the profession to account for differences in the personal background factors of all study participants, is concerned, the researcher summarised her findings in Table 29. The general attitudes in this table are listed in alphabetical order rather than in order of "groundedness" and reflect the joint general attitudes of the two research groups.

Table 29: Demographic variables and general attitudes: summary

General attitudes	Demographic variables					
Attitudes associated with positive outcomes, expectations, feelings	**Race and gender**	**Prior rural experience**	**Origin**	**Language**	**Marital status**	**Friends**
Believes a specialist career is positive and enjoyable		Yes	Urban			
Believes internship and community service contribute to skills development and confidence	African and white females	Yes	Urban			
Believes physician career is associated with good long term earnings			Urban			Yes
Believes physician career is associated with job security	Whites		Urban	Afrikaans		
Believes public sector patients are less demanding than private sector patients						Yes
Believes specialists have more expertise than generalist physicians	Africans, white males		Urban			

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General attitudes	Demographic variables					
Likes caring for sick rather than routine patients	White females		Urban	Afrikaans		
Likes comfortable lifestyle		Yes				
Likes delivering healthcare to patients for lifetime			Urban			
Likes delivering healthcare to women and children	Africans, White females		Urban			
Likes earning a good income			Urban		Single	Yes
Likes having an impact on patients	White females	Yes	Urban	English		
Likes intellectual stimulation			Urban		Married	
Likes objectives of the NHI (on condition of "overhaul" of public health system)	Males			Afrikaans Sepedi		No
Likes public sector medical practice in underserved communities (trainees) and teaching (professionals)	Females	Yes	Urban	Afrikaans English	Single	
Likes working in teams	Whites		Rural			
Attitudes associated with negative outcomes, expectations, feelings	**Race and gender**	**Prior rural experience**	**Origin**	**Language**	**Marital status**	**Friends**
Believes physicians seek career opportunities abroad because of negative experiences in public health sector	White males	Yes				
Believes public sector has more challenges than private sector due to shortage of human resources, bureaucracy and inefficiency, corruption and unethical behaviour, stressful working environment		Yes				
Dislikes corruption and unethical behaviour			Urban		Married	Yes

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General attitudes	Demographic variables					
Dislikes dealing with patient social issues		Yes	Urban			No
Dislikes exploitation of vulnerable people						Yes
Dislikes low productivity of public sector health workers			Rural			Yes
Dislikes practice of dual practice (“RWOPS””)			Urban			
Dislikes referral of patients to other health facilities	Africans and Whites			Afrikaans, English, isiZulu, Xitsonga		

The researcher did not explore demographic differences for general attitudes that reflected mixed outcomes, expectations or feelings, however, the observations in Table 29 collectively represent the researcher’s impression of the impact of demographic factors to account for differences in general attitudes of participants in order to create a social background context for the TPB model explored in the study. The open blocks in the table propose that those demographic variables do not account for differences in the general attitudes of participants who contributed to that specific item, whilst the completed blocks reflect more detail about the demographic profile of participants who contributed to the particular attitude.

Overall the researcher established that prior rural exposure and experience, physician friends working in rural facilities and to a lesser extent race and gender profiles seem to have a stronger impact on accounting for differences between different groups than other demographic variables that were tested. These findings however, warrant much deeper investigation in future research studies.

Collectively all of the above summaries present an overall impression of the personal background factors associated with study participants. As indicated earlier, the personal background profile may be expanded by adding emotions, personality traits, value systems and intelligence within the context of the TPB as a career decision-making model. These are areas that could be investigated in future research. As far as general attitudes are concerned, the researcher is of the view that the results summarised in this

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section are indeed useful to create a platform to contextualise the beliefs and intentions of study participants that were determined in this study and discussed in the next chapter. The researcher concurs with the suggestion by Ajzen (2011a; 2011b:85) that personal background factors are not necessarily directly connected to beliefs related to the core variables of the TPB, however, it seems that many of these beliefs are influenced by attainment, intrinsic, utility and cost values as discussed in the sections above. In addition, the researcher supports the view of Ajzen and Klobas (2013:213) that background factors may be influenced by social norms and "institutional context" such as socio economic or political environments. This is evident from the "cost" values identified in the study, i.e. participants from both groups have a strong dislike for challenges associated with public sector medical practice such as corruption, poor management and administration, inefficiency and stressful working environments. These challenges also characterise the rural health sector as described, by among others, Bateman (2012b:14-15); Malan (2013); Ashmore (2013) and Moosa *et al*. (2014) and may have an influence on their salient behavioural, normative and control beliefs pertaining to choosing a career as rural physician in South Africa.

4.4 SELECTIVE CODE: INFORMATION BACKGROUND FACTORS

4.4.1 Introduction

Fishbein and Ajzen (2005:1123) states that background factors such as previous exposure and access to information are "…expected to influence intentions and behavior indirectly by their effects on the theory's more proximal determinants…". Ajzen (2005:135) and (Ajzen, 2011b) lists past experience, media exposure and knowledge under "information background" factors. He does not specifically define what is meant with these categories, thus for the purposes of this study, information background factors are described as follows:

- ***Experience*** generally refers to "practical contact with and observation of facts or events". Typical synonyms are "involvement in", "participation in", "awareness of, observation of", "insight into" (Oxford Dictionaries Online, 2015). "Past experience" refers to experiences that "happened or a state that previously existed" (Oxford Dictionaries Online, 2015).

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- ***Media exposure*** refers to "experience of something", the "something" being media which is defined as "the main means of mass communication (television, radio, and newspapers) regarded collectively (Oxford Dictionaries Online, 2015)." Business Dictionary Online (2015) provides a more comprehensive definition of media, i.e.: "Communication channels through which news, entertainment, education, data, or promotional messages are disseminated. Media includes every broadcasting and narrowcasting medium such as newspapers, magazines, TV, radio, billboards, direct mail, telephone, fax, and internet."
- ***Knowledge*** refers to "…facts, information, and skills acquired through experience or education; the theoretical or practical understanding of a subject…" (Oxford Dictionaries Online, 2015). Business Dictionary Online (2015) adds two more perspectives, i.e. from an organisational point of view knowledge is "…the sum of what is known and resides in the intelligence and the competence of people…" and in a legal sense, knowledge refers to "…awareness or understanding of a circumstance or fact, gained through association or experience…".

For the purposes of this study, the researcher explored past experience and knowledge as information background factors, however, future studies may be expanded to explore the effect of media exposure, including the impact of social media within the context of the TPB as a career decision-making model. Past experience and knowledge are discussed under two separate axial codes in this study. The open codes, which represent smaller segments, i.e. subcategories or attributes that characterise each axial code are presented in tabular format in the various sections. The tables also include examples of participant responses under the various open codes as well as the unique participant code of the person who contributed the particular response.

4.4.2 Axial code: past experiences

4.4.2.1 Introduction

The open codes in this section represent examples of past experiences of participants relating to practicing medicine and pursuing a physician career, including experiences related to a rural physician career. The researcher classified the experiences as "positive" or "negative" for the purposes of analysis and discussion.

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The researcher believes these past experiences have an impact on further career decision making of physicians, be it specialisation, general practice and location of practice. It is thus assumed that an investigation of these experiences will assist to understand the behavioural beliefs, normative beliefs and control beliefs as well as intentions and ultimate decisions of physicians pertaining to choosing a career as rural physician.

4.4.2.2 Open codes and participant responses

The experience of study participants that emerged from the process of axial coding are presented by the codes in Table 30. The table includes examples of participant responses pertaining to their experience in various contexts related to a physician career, including a rural career. An interpretation of these results is discussed in Section 4.4.2.3.

Table 30: Open codes: research group experience

Axial code: experiences		
Open code: positive experience of physician career in formative years		
Professionals in training	*My mum is very involved in rural health and public health. She works in HIV medicine and I've just seen the difference that she's made doing minor things, well, seemingly minor things, the difference that the nurses and everything have made to rural clinics that have made me decide that I really wanted to do this.*	6FG3_WF3
Professionally qualified	*My parents have always given to the community a lot. So did your mother practice as well? Yes. She's a GP and she used to run a practice in a small town outside of Klerksdorp called Hartbeesfontein. And then also in Dikgane which is the township outside. So, she has always been very much involved in South Africa and she feels that it's such a privilege to be able to practice medicine and you should learn the language of the people you speak to.*	RS1_WF1
Open code: negative experience of physician career in formative years		
Professionals in training	*My mum is actually a doctor. She is a specialist physician. When I was in high school she used to work very long hours. I didn't want to become a doctor, because I thought you didn't have a family life.*	6FG3_WF2
Open code: positive experience of rotation (undergraduate/ internship/ community service)		
Professionally qualified	*You know I had the privilege to rotate through most of the specialities. I found that obstetrics and Gynae has got quite*	RS2_AF1

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Axial code: experiences		
	fulfilling outcomes. It's not as depressing; it's not having so much lack of hope as some disciplines where you find patients coming in severely ill, chronically ill, cancers.	
	And paediatrics, because I had done that in my comm. serve I just felt more comfortable with that. And I felt like, if I can just do this I know I'll stay up all night, that's what I said to myself. So if I can just be able to do this, I wouldn't mind staying up the whole night and so on.	RS8_AF1
	I think for me, during the process of internship as well, you sort of get feedback as you rotate through the different specialties and you get a feel for them and my first rotation as an intern was in paediatrics and coming out of university, you are so anxious to be given such a huge responsibility, and I remember just being terrified through the entire experience. And just feeling like I needed to go back and re-do it. Just to make sure you know, that I got rid of those fears and anxieties that I had. And just also the encouragement from the staff within the paediatric department I think played a significant role in influencing my decision to pursue paediatrics further.	RS8_AF1
Open code: negative experience of rotation (undergraduate/ internship/ community service)		
Professionals in training	*If I look at their faces – all the time run down….. They talk about their families, how much time do they really get to see their families. Some of them have established families already. And the one lady registrar from surgery had to go home the other day, because her child had an epileptic fit. And she was really torn, should she stay or should she go, because it's not a new thing.*	6FG3_WF1
	And also seeing what the Registrars go through in the departments, I don't know about the rest of them, but when one consultant asks a registrar what does this and this study say about that and that, it just makes my blood go ice cold. I don't just don't want to do it.	6FG3_WF2
Professionally qualified	*But I think going through the training, the training is not easy, it's not friendly. You get ridiculed, you get embarrassed, you get undermined, and it's a lot of hard work. So, I think over the years I just got discouraged and told myself, I don't want to go through this. I don't really think it's worth it, that I take a different path.*	RS2_AF1
Open code: positive experience of working in private health sector		
Professionally qualified	*The environment is nice, there is a team spirit and it's just so nice to be in the private sector.*	RS1_IF1
Open code: positive experience of working in public health sector		
Professionals in training	*I think if you're in an academic setting in the public sector, I think it's fantastic because things are very up-to-date there. People*	6FG2_WF3

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Axial code: experiences		
	are always eager to learn. They are there to learn so that they can qualify. So they need to know their work.	
Professionally qualified	*Ja, I ran a small clinic in one of the, because UCT SHAWCO, the student health and welfare society, they, we did little clinics with the, once you, reached 4th year and 5th year and 6th year, you were allowed to go to a clinic and actually, so they would bring in a doctor so they would be a GP that would come, with a group of say 5 – 5th year, 6th year medical students and then you would go and you would see patients. And you would see patients and diagnose little things like an earache or a stomach ache or something like that and there was a little dispensary that you could go and dispense medicines or whatever, but there was a GP sort of like, supervising everything and if obviously if something needs referral, you can write a referral letter and they could go to whichever sort of hospital or proper clinic, a great experience. Ja, which was nice…*	RS7_WM1
Open code: negative experience of working in public health sector		
Professionally qualified	*They start screaming and threatening people and saying the baby is going to die, you know, we need to do the Caesar now. Because you find you have to be extreme for people to actually do their work and come to action.*	RS1_IF1
	Very frustrated, it makes a job that you love, that you love, you don't study 6 years, work 3 years and then come back to study if you don't love the job. And it makes it that you hate it. You go home after a 30-hour shift and you didn't have fun, you didn't like it and you feel like you didn't help the patients.	RS1_WF1
	But now you know the problem was not, you were available the whole day to do the operation. You just wanted to do your job. But due to the lifts not working there and that is just one of the things.	RS6_AM1
	I think to me, it just seems that management and the departments that we work for function as a, they see it as a 9-5 job and they think that what we do is what they sit in the office and do all day. It's not the same, the way that we work is completely different and they just don't see that. Um, so I'd rather go and work in private practice where I can work for myself, and I can work the way that I want to work.	RS7_WM1
Open code: positive experience of working in urban health setting		
Professionals in training	*In the more urban setting, what I can compare with what we have at Steve Biko for example you see a patient with a clinical problem and then you can refer to social worker or there are a lot of people you can refer to. I think at the end of the day, you get so much more done and you feel a sense of job satisfaction.*	6FG3_WM1
Professionally qualified	*Well professionalism is mostly. And I think also having the knowledge to actually be able to help, which sometimes rurally*	RS4_WM1

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Axial code: experiences		
	is not really there, there is a bit of a problem, which is better offered in an academic in a city.	
Open code: negative experience of working in urban health setting		
Professionally qualified	*I think it's actually harder to deal with the urban patients than the rural. Urban patients seem to be a lot more demanding and their interpersonal stresses are far more involved, and they kind of involve you in them a lot more, than what the rural person does.*	RS8_WF1
Open code: positive experience of working in rural health sector (appreciated)		
Professionals in training	*Working in such a setting is not that bad, because you really make a difference. You get the guy who is yellow, yellow, yellow from obstructive jaundice and you get him out of there into a hospital. Or you get a child's a temperature of 42; you get them to the hospital.*	6FG1_WF3
	But I've personally been able to spend a month in rural Zululand and that's what I deem rural, where the people literally have nothing and they have nothing to give to you. Just your simple, active care. It could just be listening to them or something is what is going to make them better. That's my personal perception.	6FG3_WF4
Professionally qualified	*The rural is very nice; you meet a lot of people because it is busy. You are giving something in a rural area because in the urban area, they're going to a GP and they can afford it. In the rural area they're coming to you personally. In the urban area they're going to a GP because they just want to get a script or they have money. In rural area the patients appreciate it, you make a difference. And the patients come to me to say thank you. You are appreciated in rural.*	RS9_AF1
Open code: positive experience of working in rural health sector (working in multi-disciplinary teams)		
Professionals in training	*Medicine is working with people. Being in a team of people is also rewarding and I realised that the team that I was in, I enjoyed it a lot, because I didn't do surgery and a lot of people said it was a lot of work and stuff, but the team was being supportive and understanding and I didn't know. I didn't even know as the other people because the people I was working with were very nice.*	6FG1_AF1
	They are so passionate about what they do and it was just such a nice environment to work in. For the first time in my studies when we were working in the rural area, I actually felt like I was treated as part of a team. And yes, they're understaffed, but they also don't leave you on your own. They always very quick to say, if you need help, phone us.	6FG2_WF5

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Axial code: experiences		
Open code: positive experience of working in rural health sector (lifestyle)		
Professionals in training	*I love working in a rural area. I love the town, it was beautiful, I really enjoyed it.*	6FG1_WF3
Professionally qualified	*They have a wonderful, wonderful lifestyle. They live in an area, where it's different than living in a city. They have wonderful; they live on the border of the Kruger National Park, a view over the Crocodile River, which is almost idyllic. They have almost the best of both worlds. Living close to nature, close to what they enjoy and still offering a good service. And no, there is nothing that prevents me, and I'm actually keen, I would gladly enjoy or do something like that, living in a semi-urban setting like Nelspruit.*	RS5_WM1
Open code: positive experience of working in rural health sector (enhancing skills)		
Professionally qualified	*I did, for real. I learned more from the rural areas; I picked up a lot of skills there.*	RS9_AM2
Open code: negative experience of working in rural health sector (health management)		
Professionals in training	*But the other problem they encountered is recently instead of the managing doctor taking care of finances and knowing what equipment is needed, they've handed the finances over to somebody who is an outsider to the hospital, who doesn't visit often, who doesn't know all the problems, and then they tell him what the problems are. A quarter of them get addressed and the rest of them are pushed under the rug for a while.*	6FG2_WF3
Professionally qualified	*It's (corruption) everywhere. In a rural environment there is no one who is exposing it, but here, because there are people who are exposing it. It's kind of like; you know if I do it, I have to do it in this mad way, so that side, you find that there is no one who is exposing it. You know, in rural places, how we have been taught, or how things have been, if someone senior to you, talk that's final.*	RS1_AM1
	I worked in the Eastern Cape for a while and I used to see lots of patients coming in in the rural sector, and it's shocking.	RS1_IF1
	I hadn't been so frustrated back then during my community service and some of the other things, I would've been ok, if I'd been exposed to some of the things, and I suppose it's not every single place that you go to. And I was quite excited to go and work in a rural place, but…	RS7_WM1
	So for me, I went to this place called Ngwelezane. The only things that functioned were anaesthetics and surgery. The worst functioning part of it was primary health. Primary healthcare was so broken, so I really gave up on all my ideals about working on a primary healthcare level, because it didn't work.	RS9_WM1

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Axial code: experiences		
Open code: negative experience of working in rural health sector (working alongside traditional healers)		
Professionals in training	*I've had so many patients that I've seen in the paediatrics ward as a result of medications they have been given by the traditional healers, that caused them to complicate. One of the children that I had, actually passed on, because the condition was so severe.*	6FG3_AM1
Professionally qualified	*I've unfortunately been at the bedside of how many paediatric patients that have been treated with enemas or whichever bark or tree extract, that have succumbed to acute renal failure, due to acute tubular necrosis. And it's something that's disheartening and extremely paralysing, because here I am, equipped supposedly, with the most advanced medical knowledge that the world can provide, and I am not able to fully make these parents of the patient understand what has happened.*	RS5_WM1
	I worked in rural area for some time. I can tell you they know how to mess patients up and they never take responsibility for anything. Both from the patient's side and from the hospital management side. In a sense that they are able to refer patients to us, they write formal letters, they charge the same as the GP's, and they refer I don't know, very ambiguous, the patients are not informed, and they are allowed to do that. If something goes wrong with the patient, the patient's family never blames the traditional healer.	RS6_AM1
Open code: negative experience of working in rural health sector (expected to work above level of competence)		
Professionally qualified	*So ons het eintlik besef ons is "out of our depth"*	RS3_WM1
	While my limited rural experience was the bit of community obstetrics I did in Witrivier at Themba hospital, which was frustrating at the best of times. We had very little support, um, what was expected of us was way above what we were able to do at that stage.	RS5_WM1
	For me it was almost the same, but it was just a case of, I also worked in a rural hospital for two years, and just really feeling like as a generalist you have to be responsible for so many other conditions, and I felt like I really wasn't able to just get a handle on most of the problems and, um, just feeling like you are the jack of all trades, but almost inadequate across the board.	RS8_AF1
Open code: negative experience of working in rural health sector (isolation and boredom)		
Professionals in training	*I think that for me, when I was at mine it proved that the rural education that I just finished now, then it was difficult for me because I also come from a city and stuff and afterwards there was nothing to do after you came home from work.*	6FG1_CF1
	I mean we've already been in a community area like rural community. And that was quite difficult for 5 weeks without the	6FG2_WF3

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Axial code: experiences		
	support of your family that you're used to having. Sure, you can call them, but you just can't go home and get a hug when you're crying or something silly like that.	
Professionally qualified	*Yes, I didn't come home and I missed home so much. We could only communicate with people telephonically, and then my husband was my boyfriend. You are so lost and so far from life.*	RS2_AF1
Open code: negative experience of working in rural health sector (lack of support)		
Professionals in training	*The biggest problem with that place is the lack of staff. Because they are so understaffed, there are 2 full wards which can take another 50 or so patients which aren't even being used, everything is empty in there. The operating theatres, there is one which is not functional at all and there is not enough staff to look after the theatres.*	6FG2_WF3
Professionally qualified	*The only problem about rural medicine is that, there is no help. Mostly people who are working there are junior doctors who have just qualified or community service doctors. And when the senior doctors are not there, and not around, so the problem is that it's run by the sisters and its run by the most junior doctors. And I find that if you get a referral from the doctor who is referring you, he is not even around the hospital to ask.*	RS1_AM1
	So waar 'n suster veronderstel is om byvoorbeeld, jou te kan help om te "recus", het sy dit laas gedoen toe sy op "nursing college" was 30 jaar terug. Ja, wel dit was my ervaring gewees, dat jy sukkel om iemand, om iets te doen en meeste van jou stressors is om want jy kry iets nie, want iemand het dit nie "ge-restock" nie of dis nie terug in die kas nie of is verval of is oud, of hulle het dit nie, of die trok wat dit moes aflewer is gesteel, of die water is afgesny, of die elektrisiteitprop werk nie.	RS3_WM1
	I can relate in one example when I was involved, and it actually resulted in the death of a child. It wasn't my direct fault, it happened at … And it's since that day, um, I've always had a sense of apprehension when I am in a similar situation. It was an anaesthetic death, where I was the doctor in charge of the tonsillectomy. The nursing staff were not involved post-operatively and this is a child who saturated himself, and subsequently died even though we resuscitated for an hour and a half. It changes you, yes.	RS5_WM1
	We are from Witbank which is probably closer to rural…Just the knowledge that you get here (SBAH). This afternoon when we walk in here, knowledge is so easily accessible here, and there you just realise how precious that is, because it's not always accessible and experience, and just being able to, things that you were taught here that you can apply in a more, away from the academic setting. It changes your way of handling things and manage patients, how you make diagnosis.	RS8_WF2
Open code: negative experience of working in rural health sector (lack of medical technology/ infrastructure)		

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Axial code: experiences		
Professionals in training	*Yes, there is no development in the places that they're living in. There's nothing there except maybe a hospital or a clinic or something somewhere.*	6FG1_CF1
Professionally qualified	*But the limiting factor there is resources. You get patients that are sick that need to be transferred to the nearest hospital. A shortage of ambulances, them coming in late or colleagues in the referring hospitals refusing to accept your patient and patients complicating.*	RS2_AF1
	Whereas my experiences in sort of rural setting in South Africa, it's so difficult, there's nothing. I mean I worked at – when I was in varsity, we worked in a small little rural hospital in the middle of the Wild Coast and they were making do. They were using honey as dressings; because that is the only thing they had available to them you know, and you have got guys who are very inexperienced operating and doing you know.	RS7_WM1
Open code: negative experience of working in rural health sector (language barrier)		
Professionals in training	*It's quite fun to have that kind of experience and the only thing that's quite bad is the language barrier.*	6FG1_WF3
Professionally qualified	*The challenges that you are faced with on a daily basis, in terms of nursing staff not being willing or able or understanding of what your intention is, language barriers with patients, understanding that patients have…*	RS5_WM1
Open code: negative experience of working in rural health sector (lack of in service training)		
Professionally qualified	*En die tweede ding is indiensopleiding is baie swak buite 'n tersiëre hospital. Ons doen baie indiensopleiding hierso want, as jy heeltyd, mense moet jou die heeltyd, jy word heeltyd "gechallenge" deur klomp vrae, deur klomp departemente, en jou eie department en "what not". Waar, ek dink in die sekondêre en "rural" hospitale is daar geen indiensopleiding om van te praat nie. So waar 'n suster veronderstel is om byvoorbeeld, jou te kan help om te "recus", het sy dit laas gedoen toe sy op "nursing college" was 30 jaar terug. Ja, wel dit was my ervaring gewees.*	RS3_WM1
	If I look at Madwaleni, which was the little hospital, where I had some experience with in varsity, um, any training that came for the guys, for the doctors that were there, came from them, paying for their own accommodation and going and doing a course somewhere else. They had no support, literally nothing. They didn't have any, they might have a more experienced medical officer above them, but it was essentially 3 community service officers working, running the hospital.	RS7_WM1
Open code: negative experience of working in rural health sector (workload)		
Professionals in training	*I used to think that before I went to a rural hospital, it was better to actually have your workload and do a lot of different things, I thought it would be nicer, but I worked in OPD and I struggled, it*	6FG1_CF1

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Axial code: experiences		
	was just as draining, just as time consuming to work in a rural place as it was for me to work in an academic institution – it was just as tiring.	
	I just think that the patient load is enormous. Like when we were working in the out patients department, we could easily see more than 100 patients a day and we don't get through all of them. You end up sending half of them home. So, I think that's one of the greatest difficulties. You really don't spend enough time on each patient because you don't have the time to spend on them.	6FG2_WF3
Open code: negative experience of working in rural health sector (remoteness)		
Professionals in training	*But I also think a rural hospital in a sense is very different. Just towards a rural environment. For example, myself and 6FG2_WF3 worked in Tongaat hospital and just simple things like, your referral hospital is 2 hours away. So, things like that make a big difference. And when you manage a patient they will die effectively…*	6FG2_WF2
Open code: negative experience of working in rural health sector (expensive)		
Professionally qualified	*I can speak. I have done it in Bronkhorstspruit area, a rural area. My biggest challenge was petrol. It's expensive to get there. Yes, because my travelling was more than R5,000 per month. I mean, that's a lot of money out of your budget.*	RS9_AF1

4.4.2.3 Discussion of past experiences

This section is dedicated to a discussion of the impact of past experiences on further career decision making of physicians, be it specialisation, general practice and location of practice. The researcher identified four broad themes under this axial code namely experiences of participants pertaining to a physician career in their formative and student years, experiences of the private and public health sector, experiences of medical practice in an urban area and lastly experiences of medical practice in a rural area.

The first set of past experiences that are discussed in this study concern the experiences of study participants of physician careers in their **formative and young adult years**. A few professionals in training indicated they had negative experiences of physician careers when they grew up due to the long hours their physician parents worked and the high patient load their parents had to cope with. Conversely, one participant each of the professionals in training and professionally qualified groups shared positive experiences

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of physician careers and listed the inspiring examples their physician parents set for them, particularly with regard to making a difference in the communities they practiced medicine and their dedication to their patients. Paolilo and Estes (1982:787) found that parental influence was a strong factor in the career choice decision of physicians compared to other professionals such as accountants, attorneys and engineers. Another study by Lentz and Laband (1989:398) found that physicians tend to transfer a significant amount of knowledge to their children which often includes knowledge that may motivate the child to choose a career in medicine, knowledge that may support the child's application to medical school, knowledge that may assist the child to successfully complete medical studies and knowledge that may assist the child to be an effective physician such as bedside manner or information on treatment and care of patients. The researcher could not find evidence of studies conducted in South Africa regarding the impact of child hood experiences on career decisions of medical students or physicians who have physician parents.

As far as experiences during undergraduate studies/ internship and community service are concerned, almost a third of participants in the professionally qualified group shared positive experiences whilst only a few participants in both research groups shared negative experiences of a physician career in this period. Positive experiences included having a sense of purpose and being able to make a difference in the lives of patients. This finding aligns with research by Reid (2002:152) who found that despite frustrations, the majority of physicians regarded their community service period as a positive experience due to their perceived positive impact on the communities and patients they served during the time. Hatcher, Onah, Kornik, Peacocke and Reid (2014:14) found that the majority of community service physicians in their study reported positive community service experiences, particularly with regard to professional development and impacting positively on the community where they worked. Erasmus (2012) however, argues that due to the dire shortage of physicians in the country, interns and community service physicians are often exploited and discriminated against due to the long working hours and "degrading treatment" that these physicians are subjected to. Her arguments propose that the periods of internship and community service amount to human rights abuses and represent negative experiences for physicians. The researcher concludes that location, leadership, mentorship and management of the intern/ community service

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programme probably have a strong influence on how physicians perceive their experiences in this regard.

A few white female professionals in training observed and shared negative experiences of registrar training whilst they underwent specialty rotation whilst one professionally qualified African female participant indicated that she had very humiliating experiences during her registrarship which often caused her to question her own ability and impacted negatively on her self-confidence. It was not clear though whether this participant experienced actual discrimination or rather exhaustion due to the demanding learning environment. Her experiences resonate to some extent with research findings by London *et al.* (2009:26 who found that black registrars at the University of Cape Town experienced registrarship as more unwelcoming than their white counterparts, however, the exact reasons for this scenario required further investigation.

The researcher did not specifically explore the impact of rural training during undergraduate studies on the career intentions of medical students, however, Reid *et al*. (2011b:29) found that rural physicians were more than twice as likely to have had rural exposure during undergraduate studies and more than five times as likely to state that such exposure influenced their eventual career choice. Reid *et al*. (2011b:32) concluded that rural exposure alone may not influence students to choose rural careers, however, positive experiences whilst practicing rural medicine “appears to have this effect”.

The researcher observed the following pertaining to whether demographic factors account for differences in participant attitudes regarding health sector and heath policies:

- Mostly African and white females shared experiences of physician careers whilst growing up and undergoing physician training;
- All of the participants who shared experiences in this regard, had prior rural exposure;
- Other demographic factors did not account for differences between the different groups.

The second set of past experiences that are discussed in this section relate to **experiences of participants working in the private or public health sectors**. Only one participant from the professionally qualified group indicated that private medical

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practice was a positive experience for her because she enjoyed the working environment of the private sector. This aligns with Ashmore (2013) who found that physicians believe the working environment in the private health sector is pleasant compared to the public health sector. One participant each from the two research groups shared positive experiences of working in the public sector, specifically in an academic environment which is deemed to be on the forefront of medical research in the country as well as the opportunity to be involved in outreach programmes offered by the health sciences faculty as part of physician training and development. According to Price and Weiner (2005:15) physicians who pursued public sector careers justified their choices because of the opportunity to be involved in academic research and training.

On the other hand, around a third of the participants in the professionally qualified group shared negative past experiences of working in the public sector. These experiences included struggling with the low productivity and poor work ethics of public health professionals, patients dying as a result of negligence on the part of the health facility or staff, non-availability of medication, consumables or equipment, unmanageable patient load and unsupportive management. These experiences are confirmed in a study by Ashmore (2013) who found that participants complained and shared experiences pertaining to the lack of or damaged resources as well as hostile relationships with hospital management and other health workers. The majority of negative beliefs pertaining to a physician career in the public sector which was discussed in Section 4.3.3.3 above stem from negative experiences by study participants.

The researcher observed the following pertaining to whether demographic factors account for differences in participant attitudes regarding private vs public health sector:

- Participants who shared negative past experiences of working in the public health sector represent all races, genders and most of the languages spoken by participants. They are also evenly spread between rural and urban origins.
- The majority of participants who shared negative experiences of working in the public sector have friends who currently work in the public and/ or rural health sector.

The third group of experiences discussed in this section concern experiences of **working in urban areas.** A few participants from both groups made contributions in this regard

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and stated that they experienced urban medical practice as modern and higher level experts are more readily accessible and available to assist with patient care. These experiences are supported by historical legacy which focused on developing "high-technology hospital treatment" programmes (Breier & Wildschut, 2007:9). Past negative experiences in the urban health sector relate to dealing with patients who are more informed and consequently more demanding than their rural counterparts. Couper *et al*. (2007:1084) concur that urban patients often demand to be referred to specialists and are more informed about medication and treatment than their rural counterparts.

The researcher observed the following pertaining to whether demographic factors account for differences in participant attitudes regarding rural vs. urban health sector medical practice:

- Contributions with regard to urban medical practice were shared by Africans and Whites who grew up in large cities;
- Other demographic factors did not seem to account for differences regarding past experiences.

Experiences related to **working in the rural health sector** are the last set of experiences discussed in this section. Participants in the professionals in training group shared significant positive experiences of their exposure to the rural health sector. Around a third of the participants in this group indicated that they had positive experiences because they felt appreciated, they were able to make a difference in the lives of their patients and they found physicians who have chosen long term careers in rural areas to be compassionate and dedicated. The professionals in training also indicated that they had positive experiences of working in multi-disciplinary teams at rural health facilities and they enjoyed the rural lifestyle and physical environment. A few participants from the professionally qualified group shared the experiences of the professionals in training and also added that they experienced the opportunity to enhance their skills in a rural environment as positive. Noting that most of these experiences occurred during periods of internship and or compulsory service, the researcher includes the earlier discussion of findings by Reid (2011:32) and Hatcher *et al.* (2014:14) to explain the positive experiences of physicians pertaining to rural medicine.

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As far as negative experiences in the rural health sector are concerned, the professionals in training group indicated they had undesirable experiences with corrupt hospital administration, they were bored and lonely as there was no entertainment after hours, they experienced a lack of professional support and found the lack of medical technology and poor infrastructure in rural facilities to be frustrating. The remoteness of rural facilities and language barriers which made communication with patients challenging were also listed as negative experiences. High workloads also resulted in negative experiences as participants in this group felt they did not have sufficient time to treat each patient. The research of many authors concurred with these experiences. Hatcher *et al*. (2014:14) found that poor supervision in rural areas created negative experiences for physicians whilst many papers and articles shed light on the negative experiences of rural physicians which include dealing with corruption, fraud and negligence which in turn resulted in unavailability of technology or medicines and impact negatively on the ability of physicians to perform their roles (Bateman, 2012b:14-15; Malan, 2013). Lastly the participants in this group had negative experiences of working alongside traditional healers because of their different treatment approaches which often lead to complications and possible death of patients. Crisp (2012) concurred that working alongside traditional healers could be a negative experience for physicians. He states - "…if you want to work in a rural area like that and you have got other ethical or religious objections to working with them, you're going to be very unhappy because your patients do not comply and they – you just have to learn to work with them in that system...".

The participants in the professionally qualified group shared similar experiences as the professionals in training and indicated particularly discouraging experiences with health management in rural health facilities who did not seem interested to consult the physicians in those facilities or who were deemed to be corrupt and inefficient, causing much frustration for the participants in this group. RuDASA *et al*. (2011:25) suggest that management capacity in the rural health sector is generally weak, causing much frustration to physicians and other health professionals in those areas. Participants in this group also listed negative experiences of having to work above their level of competence and feeling stressed and inadequate because they knew they were out of their depth and unknowingly may have mismanaged patients, which may have resulted in unnecessary deaths. In their experience, rural health facilities do not perform sufficient

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in service training which result in out of date practices by health workers such a nurses. These findings concur with research conducted by Nkabinde, Ross, Reid and Nkwanyana (2013:932) who found that the almost 80% of physicians in community service experienced challenges to perform basic procedures due to a lack of confidence and absent supervision. The professionally qualified group furthermore indicated that in their experience it is more expensive to live and work in a rural area. This finding was confirmed by Crisp (2012) who indicated that demands for higher salaries in rural areas are justified to compensate physicians for inconvenience. He also states "…it just costs more to live in such places…".

As far as the impact of demographic factors to account for differences in participant attitudes regarding past experiences are concerned, the researcher established the following:

- Coloured, African and white female participants from both research groups expressed positive experiences of working in a rural area. All race and gender groups shared negative experiences of working in the public sector – the contributions are evenly spread across the various groups;
- The majority of participants in the professional in training group who shared positive experiences of working in a rural area had prior rural exposure and/ or working experience which suggests that rural exposure during undergraduate training could be an important facilitator or rural career choice if the experience was positive. Conversely – the majority of participants in both groups who shared negative experiences also has prior exposure and/ or work experience in rural areas. The majority of participants who indicated that rural environments lack support does not have prior rural exposure;
- The vast majority of participants in both groups who contributed experiences pertaining to rural medical practice grew up in large cities. It should be noted though that half of the participants who indicated negative experiences because of poor health management grew up in rural areas. Rural origin participants also shared negative experiences pertaining to working alongside traditional healers, the lack of support in rural health facilities and the isolation and boredom experienced outside working hours;

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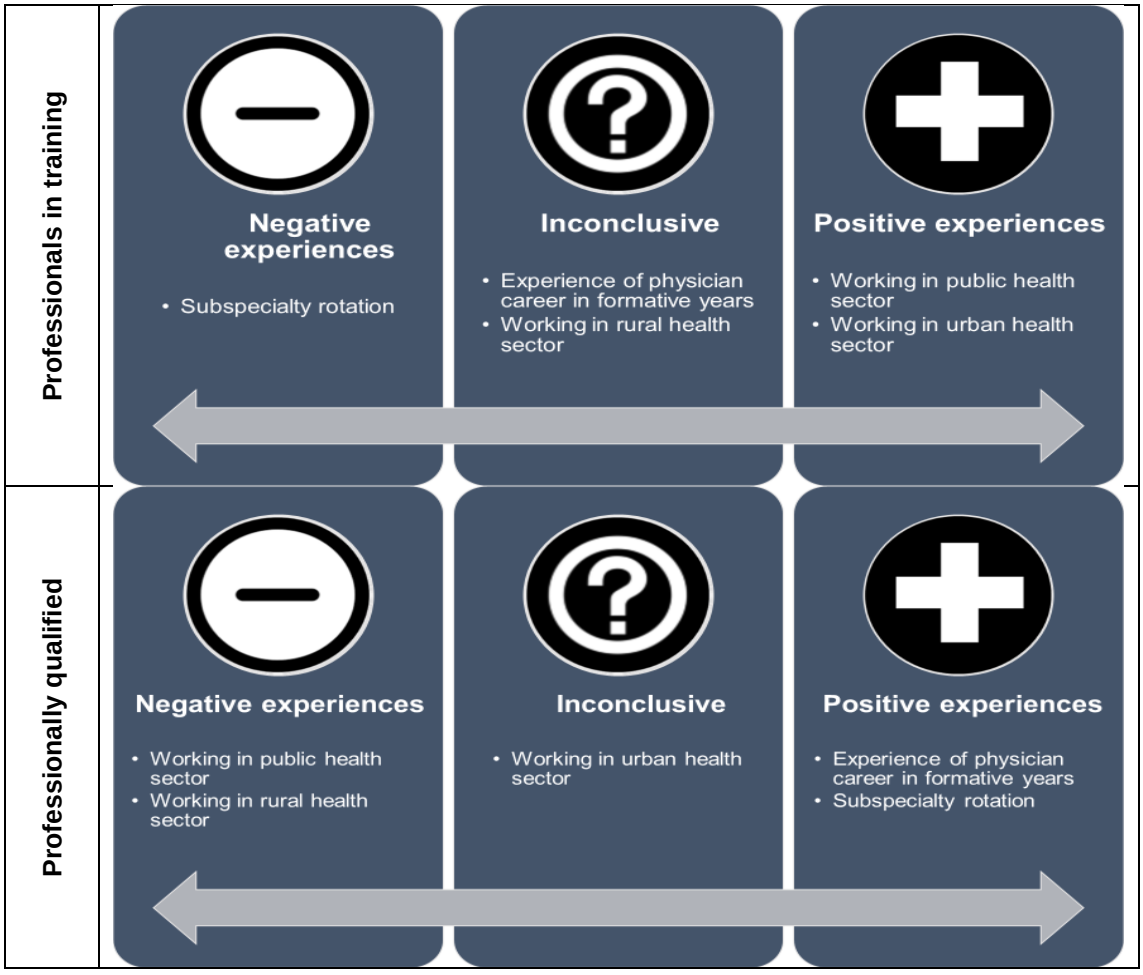
- The vast majority of participants in both groups who contributed positive experiences of working in a rural area have friends who are currently employed as a physician at a public and rural health facility – the same is true for those who shared negative experiences. In contrast the majority of professionals in training who shared both positive and negative experiences do not have friends who currently work at a rural health facility.

In summary, the background information of both research groups regarding their past experiences of physician careers and working in various health sectors are expressed as positive, inconclusive or negative experiences which are presented graphically in Figure 34.

Figure 34: Past experiences of physician careers in various health sectors



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The next axial code provides insight into the prior knowledge of study participants that are related to physician careers and various aspects pertaining to the South African health sector.

4.4.3 Axial code: knowledge

4.4.3.1 Introduction

The open codes in this section represent examples of participants' knowledge regarding, among others, physician careers, health policy and urban vs. rural health sector challenges. As described in Section 4.4.1, knowledge refers to "...facts, information, and skills acquired through experience or education..." (Oxford Dictionaries Online, 2015). The researcher believes that an analysis of the knowledge possessed by the two research groups will enhance understanding of the behavioural beliefs, normative beliefs and control beliefs as well as intentions and ultimate decisions of physicians pertaining to choosing a career as rural physician.

4.4.3.2 Open codes and participant responses

The open codes representing knowledge of study participants which emerged from the process of axial coding is presented in Table 31. The table includes examples of participant responses in this regard. An interpretation of these results is discussed in Section 4.4.3.3.

Table 31: Open codes: research group knowledge

Axial code: knowledge		
Open code: knowledge of what medical studies entail		
Professionals in training	*I think, but I'm not joking or anything but I wasn't sufficiently warned before I went into medicine (Laugh).*	6FG1_WF3
	And then as far as my parents are concerned they said they will pay, they will support, but I didn't enjoy the decision at all because I didn't have biology in school. I didn't have any background. I didn't know what it was. I just jumped into it, very stupid, really stupid.	6FG1_WF3
	Even now I still think I was a very stupid child to choose this. But I still can't think of anything I would rather do. Why do you feel you are being stupid? It is so much hard work. The studies or do you think the	6FG3_WF1

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Axial code: knowledge		
	job is going to be hard? All the studies. Sometimes it can be very uphill to get there.	
Open code: knowledge of what a physician career entails		
Professionals in training	*At schooling level, I think in terms of preparation, I didn't get any exposure to medicine, other than a very naïve idea about what being a doctor meant. It was just like a stethoscope and (laugh). It's not accurate at all. (Laugh). I think at school where people put forward the idea of being a doctor, then it wasn't the reality that we often see today.*	6FG1_CF1
	At high school, we never had much career counselling, especially not with regards to medicine. I think it's just so broad, they can't really go into that topic and everything else that everybody wants to do.	6FG2_WF3
Open code: knowledge of further career opportunities in medicine		
Professionals in training	*So, career guidance was, I don't think medicine itself had any career guidance whatsoever. We get exposed to different specialities all the time and you kind of see whether you like something or not, but as far as that is concerned, I don't think we would decide if we want to specialise or we want to be a GP or what we want to specialise in, when we go into internship, we might get more exposure. But, career guidance, we haven't received any career guidance in medicine itself. No.*	6FG1_WF3
	I also want to say that medicine is really versatile, you can be a GP for a couple of years and you can either work full time, or half time. You can work only on weekends or not. You can work in a private hospital or not. You can work in a public hospital or not. In the bundus or not. You have so many options. You can just do research. You can specialise, you can't specialise. It's also one of the things that prompted me to do medicine because it's so versatile, you can do anything.	6FG3_WF2
Professionally qualified	*So ek persoonlik is baie blootgestel, maar uit die mediese oogpunt uit, is mediese skool – dink ek het hulle die opsies vir jou genoem om te sê wat is die voordele en die nadele en by Tukkies het hulle mooi vir jou verduidelik, byvoorbeeld primêre gesondheidsorg behels dit, sekondêr behels dit, tersiër behels dit en afhangend van waar jy wil wees, gaan jy verskillende goeters kan doen, maar "obviously omdat jy baie tyd in sub-spesialiteite spandeer, is meeste van die studente geneig om te wil gaan spesialiseer as hulle klaar is.*	RS3_WM1
	And in terms of in varsity, I did my undergraduate here at University of Pretoria. First year was very, very useful because in the main campus we also used to have counselling sessions, where you could go, like if you're not coping and stuff, you could go and have a chat? Yes, have a chat. That's as far as it goes. Then, in terms of making the choice to specialise, um, it's something that I came to a decision after having gone through internship and community service, which exposes you to basically all the disciplines within medicine which you might not have seen.	RS6_AF1

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Axial code: knowledge		
Open code: knowledge of what a rural physician career entails		
Professionals in training	*I think Family Medicine has done well in giving us exposure to all of those different kinds of things. So, generally we've had Steve Biko academic experience here, and then we had an opportunity to go to a private practice and also look at how they work. And then, during a previous block, there was a block where we could go into a rural area as well. ….* *The university trying to expose us, to see what it's like to work there. That in itself is a way to get people to start going or thinking about going. Because it's a change of mind. It's like an idea of a profession not just about the money, it's a lifestyle.*	6FG1_CF1
	Not really. It was just what they asked us. What do we feel like doing? They didn't give us information based on why we should go to a rural area.	6FG2_WF3
Professionally qualified	*Honestly, there was no real guidance forward. There was no clear career path for people interested in that kind of thing.*	RS9_WM1
Open code: knowledge of primary health strategy (District Clinical Specialist Team policy)		
Professionally qualified	*I know it's probably coming, especially if NHI is going to take off. They will want to have more specialists in rural areas. It's probably a good idea, but only if the system underlying is fixed as well.*	RS4_WM1
	Yes. Urology is not there yet. Yes, yes.	RS5_WM1
	I think for me, if they introduce them in the setting that we're in currently, you're just going to frustrate them. You're going to bring in the specialists, then bring in the resources.	RS6_AF1
	I've heard of the whole district sort of plan with the anaesthetists, paediatricians, obstetricians, ja, um.	RS7_WM1
	If there is management of resources, so we know exactly there is so much budget for this, this, this. All the money is used, unlike now where you are told its coming from the province. You don't know why the province is keeping the resources. So I think that this (can work).	RS9_AF1
	I think it's a good idea, you know, because the district team is a paediatrician, an obstetrician, family physician and anaesthetist and you find out in most hospitals like clinics, those the small main services that people need from primary healthcare. So, I think that it's a very good system and so I have a few friends who are family physicians, who are working as district family physicians.	RS9_AM2
Open code: knowledge of rural challenges		
Professionals in training	*I think for me one of the things that I value the most is public service. It's one of the reasons I actually chose medicine. And I think given that our country, there is such a huge mismatch between how many people serving the urban population and how many people are serving the*	6FG1_CF1

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Axial code: knowledge		
	rural population. There is no way you can look at that and not say, it's not for me, I can't do that.	
	I'm saying it's quite difficult because most of the people are illiterate and so on. Language wise or language barriers? Also their understanding lacks. Sometimes you try to advise patients and stuff like that. So they don't understand the terminology that you use? They are not as well informed as the people in cities.	6FG2_AM1
	The public sector is much more rural. The public sector is much poorer than the private sector. They cannot afford even to go to the doctor. So you deal with the sick patients who can't afford the treatment.	6FG3_WF1
	And often in the rural sector you will be dealing with very sick patients who need transporting here and there, so I think the workload in the rural hospitals in the public sector is much bigger than a GP practice anywhere.	6FG3_WF3
	So try going to the middle of northern KZN and then you will know what rural is like. When they cannot speak a word of English, or a word of Afrikaans or anything. They've literally travelled 3 hours from their hut and they have no electricity, they have no water. I know we deal with those problems (like no electricity) for say diabetic patients that can't keep their insulin. We deal with that in an urban setting, but my personal opinion of rural medicine is different to what we've experienced here.	6FG3_WF4
	I think it's difficult to compare townships and rural. You can't compare Mamelodi and say Soweto with that little place in front of Ermelo that's all covered in smoke. They've got RDP houses in these townships and they've got telephone lines, so it's not such a schlep for them to live there. You can still get people who move from the one township to the other and they get a house in a normal rural setting the townships are falling apart and I think the type of patients that you get is different. I think the ones from Mamelodi and so on are more educated and stuff.	6FG3_WM2
Professionally qualified	*You know, me as a person would be scared about practicing rural medicine, but more so about what's happening in the country and some of the guys that are out there in the rural areas and the mismanagement that's going on in the rural areas. I worked in the Eastern Cape for a while and I used to see lots of patients coming in in the rural sector, and it's shocking. And not only that, you get a lot of doctors coming from other countries coming in and looking to find missionary rural settings and they mal practice and do damage to the patients. That's what's happening.*	RS1_IF1
	We need more on the ground, because, what we need to revert back, is that we need to revert back to a primary healthcare.	RS1_AM1
	My sister-in-law worked in a GP practice in a rural area east of Bloemfontein for a while. And she said that it was heart wrenching to see that patients don't get healthcare where they went to get it. They take the last bit of money they have and to come and see the doctor and then they pay R80 for a bag of medicine, and they don't have R80. Because, in the rural areas, that's where poverty is the most prevalent.	RS1_WF1
	I think probably they're getting a little more of a sub-standard level of care. Their needs are similar to what the people in the city will need in	RS4_WM1

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Axial code: knowledge		
	terms of what you need if you get sick, but for most, it just simply just doesn't happen. It's just not possible for most to be referred to an academic centre and to get the level of care which is needed.	
	I think also you can be influenced by having had that experience, because you realise, what a difference just the basic knowledge that you have makes that side, even just to rehydrate a child that's shocked correctly. Over here we take it so for granted because we do it every day, but when you realise there are places where that alone would save lives, you always have at the back of your mind, you know, am I at the right place, doing the right thing.	RS8_AF1

4.4.3.3 Discussion of knowledge

In this section the researcher discusses the impact of prior knowledge on further career decision making of physicians, be it specialisation, general practice and location of practice. The researcher identified three broad themes under this axial code namely knowledge about medical studies and physician careers, knowledge of primary health policy and knowledge of rural challenges.

The first group of knowledge items that are discussed in this section relate to knowledge about what **medical studies and physician careers** entail. A few participants from the professionals in training group stated that they had little prior knowledge of what medical studies would entail and that they are having regrets about having chosen to study medicine. Another group of professionals in training indicated that they had insufficient knowledge about what the career of a physician and the options within that career entail because of a lack of career counselling at school level. Two participants stated that a physician career is versatile and they aware there are various options and opportunities regarding further careers in medicine, but they have not gathered this information by means of career guidance.

Participants from both research groups stated that the health sciences faculty have programmes such as rural and speciality rotation programmes to expose students to available career options and opportunities, however, the university does not provide career counselling in medicine itself. Some of the participants in the professionals in training group indicated the university, in particular the Family Medicine department at the University of Pretoria, shared information about what a career as a rural physician

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entails, although others felt this information and/ or exposure was insufficient to assist them in their eventual career choices.

Carnall (1997:6) states that British physicians have limited access to career guidance and medical students often have no access to university services or they do not make use of such services where available. Carnall (1997:6) furthermore comments that "…although doctors are the most expensive workforce within the NHS, little information has been available for them to make informed decisions about their careers…". He blames this situation on the fact that "…much of the relevant information exists in the grey literature of the royal colleges and departments of health, regional postgraduate deans, and the BMA's central information bank, but it is less accessible where it is needed—in the libraries of district general hospitals, training practices, and medical schools…". He then went on to say that the absence of career guidance for physicians create a situation where many physicians may embark on further careers that are not suited to them and career choices are influenced by what others are perceived to be an appropriate career ladder rather than suited to the personality and talents of individual physicians. The researcher suspect that this culture, in the absence of comprehensive career guidance at secondary and tertiary education levels, still prevail in many instances in South Africa. The impression created by participants in this study is that information is shared with students or is available for further reading, however, the Health Sciences Faculty as such does not directly influence students towards further careers.

Lecturers and other physicians seem to have a much stronger influence on further career decisions. Breier and Wildschut (2007:32) state that research conducted by Professor Jocelyn Kane-Berman who investigated the difficulties faced by South African women physicians, found the absence of mentoring and career guidance as a major area contributing to the lack of information about medical studies and physician careers. Dambisya (2003:293) reported that more than 40% of medical students at the former Unitra (now Walter Sisulu University) received no career guidance about further careers in medicine during their undergraduate studies whilst only 7% felt they received "substantial guidance". Almost 60% of the students however expressed a need for such counselling and advisory service. He concluded that most physicians qualify with little or no career guidance, however, many such decisions are taken at undergraduate levels.

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The researcher observed that in this study that the majority of undergraduate students expressed intentions to specialise, however, actual career decisions are taken during internship and/ or periods of compulsory community service (refer Section 5.5.2 of this study) which found that the vast majority of professionally qualified participants seem to have chosen their further careers prior to completing their community service period.

The researcher observed the following pertaining to whether demographic factors account for differences in knowledge regarding what medical studies and physician careers entail:

- Afrikaans and English speaking female participants from white and coloured race groups were the main contributors to gain understanding with regard to the knowledge (or lack thereof) of research groups pertaining to what medical studies and physician careers entail;
- The participants who stated they have knowledge about what a physician career in a rural area entails all grew up in large cities, but had prior rural exposure during their undergraduate studies;
- Other demographic factors do not seem to account for differences between the knowledge that research groups had in this regard.

The second item discussed in this section concerns **knowledge of primary health policy.** About a third of the participants, representing African and White males and females in the professionally qualified group and who grew up in cities, indicated they have some knowledge of the NDoH' s strategy to deploy DCST's in health districts to strengthen among others the primary health care system of South Africa. None of the professionals in training had heard about the strategy at the time when the researcher collected data for this study. The researcher could not locate any studies performed in South Africa that investigated whether physicians are informed and knowledgeable about health strategy policy in the country, however, she accessed a study by Ramokate and Basu (2009:444-445) which tested the knowledge, attitude and practices of health professionals with regard to healthcare waste in a hospital environment and found that physicians were significantly less knowledgeable about waste management policies and practices than other health professionals such as nurses. The researcher is not

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convinced this finding proves that physicians are less informed about health policy and strategy in general and is of the opinion this aspect warrants further research.

The third item pertaining to knowledge that is discussed in this section concerns the knowledge participants have of **rural challenges**. Around a third of the participants in both research groups indicated they have an understanding and insights into the challenges of practicing medicine in a rural area. Participants from the professionals in training group mentioned they are aware and informed of poverty and social challenges that are prevailing in rural areas, the language barriers they would experience if they should practice medicine in rural areas, the lack of infrastructure and services that characterises rural areas and the differences between rural areas and peri urban areas such as large “townships” outside urban areas.

Participants from the professionally qualified group shared similar insights and knowledge and added examples demonstrating their awareness of corruption and unethical health practices as well as poor service delivery by health facilities in rural areas. Participants reflected a clear understanding of the potential impact and contribution that physicians can make in rural areas. Versteeg *et al*. (2013a) confirm that the issues raised by study participants are indeed the most prevalent rural challenges and priority focus areas. Sections 5.2.2 and 5.2.7 of this study respectively provide greater insight into the beliefs of physicians regarding rural environments in general and more specifically practicing medicine in a rural environment.

The researcher observed the following pertaining to whether demographic factors account for differences in knowledge regarding what rural challenges entail:

- Participants from all race and gender groups shared their knowledge in this regard. These participants speak Afrikaans, English, Xitsonga and Setswana;
- The majority of participants in both research groups who contributed inputs to this item have prior rural exposure and/ or working experience;
- Half of the participants who shared insights and knowledge about rural health challenges grew up in rural areas.

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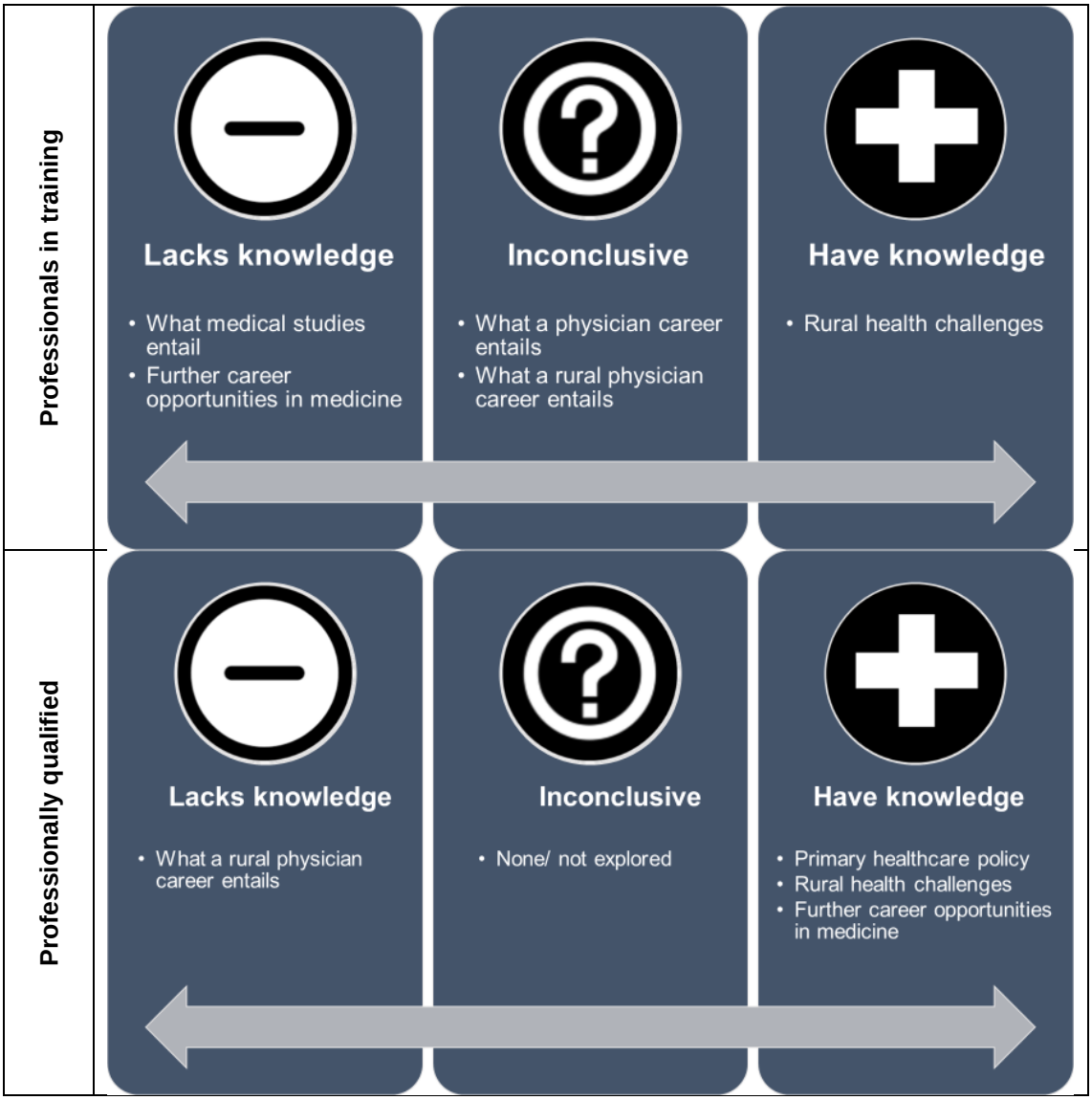
In summary, the background information of both research groups regarding their knowledge is presented graphically in Figure 35.

Figure 35: Knowledge of research groups



4.4.4 Summary: information background factors

The researcher tabularised the results of the data analysis process, which involved axial and open coding, pertaining to past experiences and prior knowledge of study participants which may serve as information background factors in the TPB model applicable to this study. The experiences and knowledge were analysed and are

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discussed in terms of whether participants had positive or negative experiences relating to practicing medicine and pursuing a physician career, including a rural physician career as well as whether they are knowledgeable regarding matters such as physician careers, health policy and the challenges of various health sectors in South Africa. In all instances, the researcher made reference to relevant literature to support or oppose research findings.

In summary, the experiences and knowledge of both research groups namely "professionals in training" (final year medical students) and "professionally qualified" (registrars) are presented in Table 32 and Table 33 respectively. Experiences and knowledge that are associated with outright opposing (i.e. negative or positive) outcomes are listed in the tables in descending order of "groundedness" to reflect the strength of the subjective value of these beliefs (Alvira-Hammond, 2012; Archer, 2012; Friese, 2014). Those experiences and knowledge items that reflected positive as well as negative outcomes, expectations or feelings are referred to as "inconclusive" or "mixed" and are excluded from the summary tables as they do not seem to have relevance to account for differences in predicting intentions between the two research groups.

Table 32: Experiences and knowledge of professionals in training: summary

Experience and knowledge	Groundedness order
Experience and knowledge associated with positive outcomes, expectations, feelings	**Professionals in training**
Knowledgeable about rural health challenges	1
Positive experience of working in urban health sector	2
Positive experience of working in public health sector	3
Experience and knowledge associated with negative outcomes, expectations, feelings	**Professionals in training**
Lacks knowledge about what medical studies entail	1
Negative experience of subspecialty rotation	2
Lacks knowledge of further career opportunities in medicine	3

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On the other hand, the professionally qualified reflected the following experiences and knowledge in order of "groundedness".

Table 33: Experiences and knowledge of professionally qualified: summary

Experience and knowledge	Groundedness order
Experience and knowledge associated with positive outcomes, expectations, feelings	**Professionally qualified**
Knowledgeable about primary health care policy of government	1
Knowledgeable about rural health challenges	2
Positive experience of subspecialty rotation	3
Knowledgeable about further career opportunities in medicine	4
Experience and knowledge associated with negative outcomes, expectations, feelings	**Professionally qualified**
Negative experience of working in rural health sector	1
Negative experience of working in public health sector	2
Lacks knowledge of what a rural physician career entails	3

With regard to use of demographic variables to account for differences in the information background profile of all study participants are concerned, the researcher summarised her findings in Table 34. The attitudes in this table are listed in alphabetical order and reflect the joint demographic profiles of the two research groups.

The researcher did not explore demographic differences for experience and knowledge items that reflected mixed outcomes, expectations or feelings, however, the observations in Table 34 collectively represent the researcher's impression of the impact of demographic factors to account for differences in experiences and information participants in order to create an information background context for the TPB model explored in the study. The open blocks in the table propose that those demographic variables do not account for differences in the general attitudes of participants who contributed to that specific item, whilst the completed blocks reflect more detail about the demographic profile of participants who contributed to the particular aspect.

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Table 34: Demographic variables and information: summary

Experience and knowledge	Demographic variables					
Experience and knowledge associated with positive outcomes	**Race and gender**	**Prior rural experience**	**Origin**	**Language**	**Marital status**	**Friends**
Knowledgeable about further career opportunities in medicine	African female, white male			Afrikaans, English, isiXhosa		
Knowledgeable about primary health care policy of the government	Africans, white males		Urban	Afrikaans, English, isiXhosa	Married	
Knowledgeable about rural health challenges		Yes		Afrikaans, English, Setswana, Xitsonga	Single	Yes
Positive experience of subspecialty rotation	African and white females			Afrikaans, English, isiZulu, Xitsonga		
Positive experience of working in public health sector	Whites	Yes	Urban	English		No
Positive experience of working in rural health sector	Africans, Whites	Yes	Urban	Afrikaans, English, French		
Positive experience of working in urban health sector	Whites		Urban	Afrikaans, English	Single	
Experience and knowledge associated with negative outcomes	**Race and gender**	**Prior rural experience**	**Origin**	**Language**	**Marital status**	**Friends**
Lacks knowledge about what a rural career entails	Whites	Yes	Urban	Afrikaans, English		No
Lacks knowledge about what medical studies entail	White females	Yes		Afrikaans	Single	No
Lacks knowledge of further career opportunities in medicine	White females			Afrikaans		No
Negative experience of subspecialty rotation	African and white females			Afrikaans, IsiZulu		
Negative experience of working in public health sector	Indian females, African males, whites	Yes		Afrikaans, English, Sesotho		Yes
Negative experience of working in rural health sector		Yes	Urban			

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Overall it was found that the origin of participants, i.e. whether they grew up in rural or urban areas, their prior rural exposure and experience and to a lesser extent their race and gender profiles seem to have a stronger impact on accounting for differences between different groups than other demographic variables that were tested. As stated in the summary section of the previous selective code, these findings however, warrant much deeper investigation in future research studies.

Collectively all of the above summaries present an overall impression of the experiences and knowledge of study participants. As indicated earlier, the information background profile may be expanded by adding media exposure, including social media within the context of the TPB as a career decision-making model. These are areas that could be investigated in future research. In opposition of the views held by Ajzen (2011a; 2011b:85) that background factors are not necessarily directly connected to specific beliefs related to the core variables of the TPB, the researcher is of the view that strong connections can be drawn between information background factors and behavioural beliefs and intentions. Some of these connections will be explored in the research results of this study, however this is an area for deeper investigation in future studies.

4.5 CHAPTER SUMMARY

The purpose of this chapter was to discuss the researcher's findings pertaining to the background factors associated with the TPB that was tested in this particular study. The researcher applied processes of open and axial coding to generate and analyse data that explain the social, personal and information background factors associated with further career decisions of the selected target groups, i.e. final year medical students and registrars, including choosing a career as rural physician.

The three main background factor themes in the chosen TPB model (refer Figure 18) were discussed as separate selective codes in this chapter. The social background factor was mainly explored using biographical information supplied by the participants prior to the focus group and/ or interview sessions. The researcher enhanced this information using participant responses pertaining to their upbringing, partner careers and location of undergraduate studies. The exploration of personal background factors provided insights into the general attitudes of the selected target groups to reflect their intrinsic,

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attainment, cost and utility values related to a career in medicine and more specifically a rural physician career. As far as information background factors are concerned, the researcher investigated the impact of past experiences and prior knowledge on the career decision making of participants, including choosing a career as rural physician.

In the next chapter, the researcher presents the results, analyses and findings of research conducted to test an extended version of the TPB in the context of choosing a career as rural physician. The chapter is dedicated to explore the core variables of the chosen TPB model as well as additional variables and intentions pertaining to a career choice that favours rural medicine.

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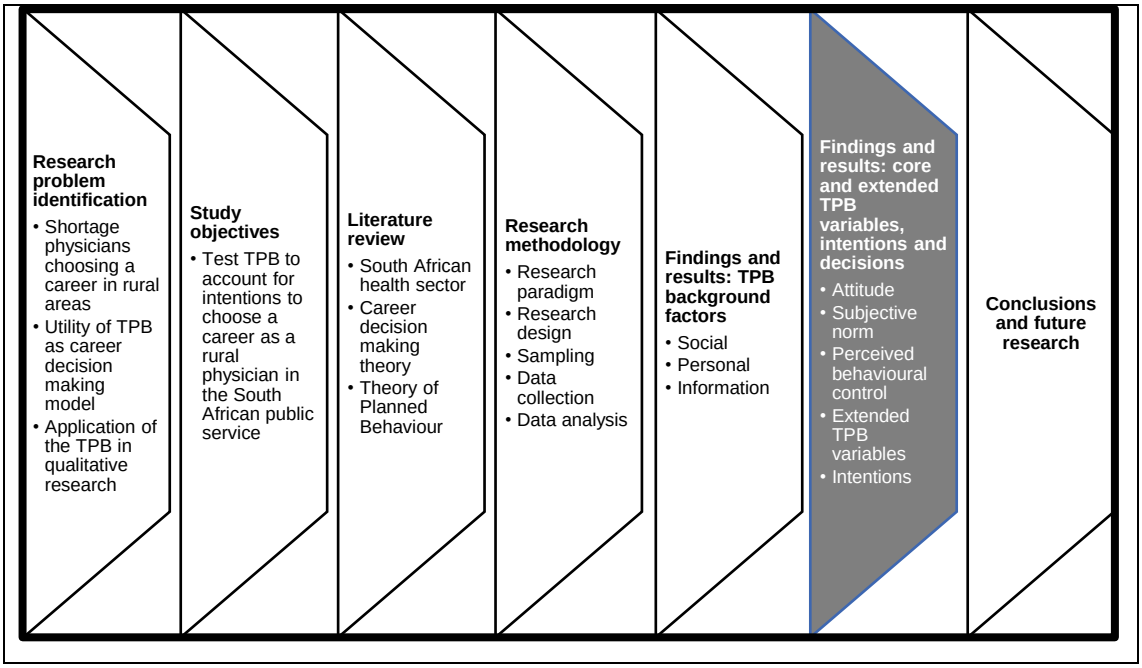
CHAPTER 5: ANALYSIS AND FINDINGS: CORE AND EXTENDED VARIABLES OF THE TPB, INTENTIONS AND BEHAVIOUR

5.1 INTRODUCTION

In the previous chapter the researcher reported and presented the results, analyses and findings pertaining to the background factors that may impact on the career intentions of study participants, including the intention to choose a career as rural physician. As indicated previously, background factors can provide valuable information about the possible origin of beliefs that are related to the core variables of the TPB (Ajzen, 2005:134).

In this chapter, the researcher presents the results, analyses and findings of research conducted to test an extended version of the TPB in the context of choosing a career as rural physician in this chapter (refer Figure 36).

Figure 36: Overview of Chapter 5



Source: Researcher's own summary.

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As detailed in Section 2.4.1 of this document, Ajzen (2005:127) states that the extended version of the TPB provides the informational foundation of the three core variables of the TPB which comprise:

- ***Attitude towards the behaviour*** which are informed by behavioural beliefs. Behavioural beliefs represent an individual's belief about consequences or outcomes of particular behaviour;
- ***Subjective norm*** which are informed by normative beliefs. Normative beliefs represent an individual's perception about the particular behaviour, which is influenced by the judgement of important and significant people and stakeholders; and
- ***Perceived behavioural control*** which are informed by control beliefs. Control beliefs represent an individual's beliefs about the presence of factors that may facilitate or inhibit performance of the behaviour.

In addition, the researcher explored whether additional or extended variables that were identified prior and during the course of the study, assisted to improve the predictive value of intentions regarding choosing a career as rural physician. This approach was applied to test the postulation of Conner and Armitage (1998:1429) that: "In each case there appears to be growing empirical evidence to support their [additional variables] addition to the TPB and some understanding of the processes by which they may be related to other TPB variables, intentions, and behavior".

As reflected in Figure 37, each of the core variables of the extended TPB used for this study are deemed to represent a selective code in the coding process. The additional or extended variables that were chosen for inclusion in the study, namely career identification, moral obligation and past behaviour are discussed under a separate selective code. Similarly, the last selective code includes an analysis and findings pertaining to intentions of study participants, specifically with regard to choosing a career as rural physician.

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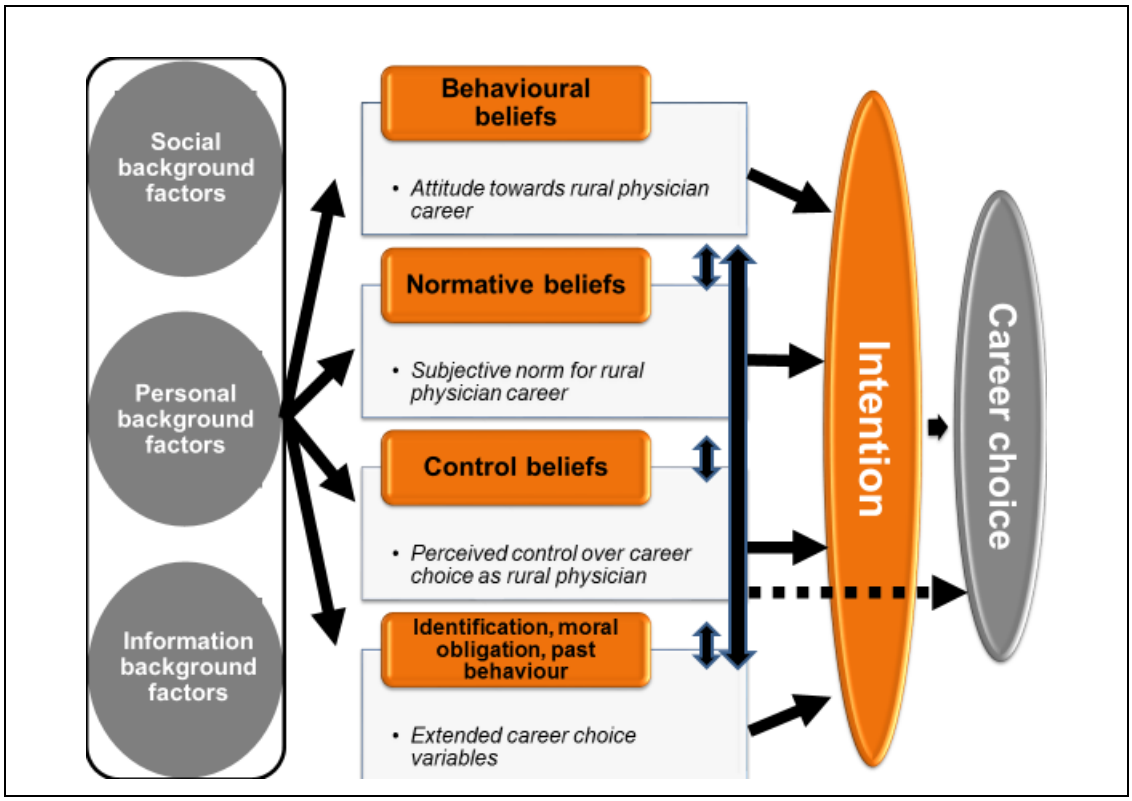
Figure 37: TPB model: core and extended variables, intentions and decisions



Source: Adapted from Ajzen (2005:135) for purposes of this study

Even though it is reflected in the extended TPB model used in this study, the actual decision to take up a rural career is not discussed in this document. This follows the approach by Ajzen (2006) to regard intention as the "…immediate antecedent of behavior...". It is thus assumed that the consolidation of attitude towards a rural physician career, the perceived pressure from social influencers and perceived control over the decision to choose such career as well as additional variables such as identification with the career, moral obligation to choose such career and past behaviour in terms of career decisions will lead to the development of intentions to choose a rural physician career. According to Ajzen (2011b:75), the more favourable an attitude and subjective norm is perceived to be and the greater the perception of control is, the more likely a person would be to perform a certain behaviour, thus reflecting the concept of intentions being regarded as the "…immediate antecedent of behavior…".

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The various selective codes pertaining to the core and additional variables of the TPB as well as career intentions of study participants are discussed in more detail in the next few sections.

5.2 SELECTIVE CODE: ATTITUDE

5.2.1 Introduction

According to Ajzen (2014) attitude toward a behaviour represents the degree to which execution of such behaviour is valued positively or negatively by an individual. In line with the expectancy theory of motivation which was first described by Victor Vroom in 1964, Ajzen (2014) argues that a person's attitude towards a behaviour is determined by the "…total set of accessible behavioral beliefs linking the behaviour to various outcomes and other attributes…".

Ajzen (2014) further states that the "…strength of each belief is weighted by the evaluation of the outcome or attribute, and the products are aggregated…". According to Ajzen (1991:191) behavioural beliefs represent the "…subjective probability…" that a certain behaviour – in this case choosing a career as rural physician – will lead to a certain outcome. Ajzen (2014) stresses that although a person may have many beliefs with respect to any behaviour, only a relatively small number are "readily accessible" or "salient" at any given time.

During the coding process, the researcher identified six axial codes to reflect the behavioural beliefs of the two research groups towards choosing a career as a rural physician. These themes generally reflect the significant or "readily accessible" beliefs held by final year medical students and registrars pertaining to choosing a career as a rural physician and include beliefs about the following:

- Beliefs about a rural environment;
- Beliefs about a rural lifestyle;
- Beliefs about the characteristics, independence and contribution of rural physicians;
- Beliefs about the advantages of a rural physician career;
- Beliefs about career development of a rural physician; and

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- Beliefs about a rural physician job, i.e. clinical practice and working environment.

Each of these axial codes are analysed and discussed in the next few sections.

5.2.2 Axial code: beliefs about the characteristics of a rural environment

5.2.2.1 Introduction

The open codes listed in this section represent the salient beliefs of study participants regarding the expected outcomes of a rural environment, including a rural health environment in South Africa, as described in Section 2.2.3.1 above. These beliefs, in combination with their personal values of the expected outcomes, reflect the attitudes of the study participants towards a rural environment. The expected outcomes may have positive and/ or negative values to study participants (Ajzen, 2014b:30).

Noting the variables of SCCT (Lent, Lopez, Lopez & Sheu, 2008:52-62), the researcher suggests these beliefs may have a positive influence on career choice as a rural physician if the social and economic conditions in a rural environment are deemed positive and advantageous by the decision maker.

5.2.2.2 Open codes and participant responses

The salient beliefs that emerged from the process of axial coding are presented by the open codes in Table 35. The table includes examples of participant responses pertaining to their beliefs regarding the characteristics of a rural environment and reflect the unique participant code of the contributor in each instance. An interpretation of these results is discussed in Section 5.2.2.3.

Table 35: Open codes: beliefs about the characteristics of a rural environment

Axial code: beliefs about the characteristics of a rural environment		
Open code: a rural environment is characterised by a pleasing physical environment		
Professionally qualified	*I like a slow lifestyle with access to nature and if there is no mall in a 500 km radius I will be very happy.*	RS1_WF1
	By dieselfde hospitaal is daar elke twee jaar, is daar nuwe dokters wat kom. Dis naby Mosambiek, so hulle hou daarvan om vining oor	RS3_WM1

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Axial code: beliefs about the characteristics of a rural environment		
	die grens te ry Mosambiek toe, bietjie te gaan vakansie hou, terug te kom, bietjie te werk, bietjie suid te ry en St Lucia toe te gaan. Bietjie binneland toe – Kruger Wildtuin se kant toe te gaan. En selfs van daai ouens is daar party ouens wat, vir hulle is dit 'n passie om dit te doen, en ander ouens wat net daar is vir die "fun". So ek dink die ouens wat langtermyn "invested" is in die "rural communities" is gewoonlik die ouens wat "invested" is, soos wat jy sê, in hart en siel daarin is.	
	They live in an area, where it's different than living in a city. They have wonderful; they live on the border of the Kruger National Park, a view over the Crocodile River, which is almost idyllic. They have almost the best of both worlds. Living close to nature, close to what they enjoy and still offering a good service.	RS5_WM1
Open code: a rural environment is characterised by economic stagnation and poverty		
Professionals in training	*Rural is very different from an urban area in that they don't have the same facilities that we do. They can't just quickly pop down to a Superspar or to a shopping centre*	6FG2_WF3
	The public sector is much more rural. The public sector is much poorer than the private sector. They cannot afford even to go to the doctor. So you deal with the sick patients who can't afford the treatment.	6FG3_WF1
	But I've personally been able to spend a month in rural Zululand and that's what I deem rural, where the people literally have nothing and they have nothing to give to you.	6FG3_WF4
Professionally qualified	*Because, in the rural areas, that's where poverty is the most prevalent.*	RS1_WF1
	I can't go to KFC during lunch, because I can't go where I am. Sometimes I miss my breakfast and I'm so hungry I don't have. There is nothing here, nothing to buy, and eat. Not even cool drink. The shops don't have fridges. The cool drinks are on the shelf.	RS9_AF1
	So you can't go out. I can't move out of my house and buy a house there because it will have no value. Because if I go there, that's how South Africa was made. Even if I do get electricity and water, if I put my money there I am not getting anything out of it. There is no value, the rural houses are cheaper, but you get nothing for it. You can't go and stay there forever.	RS9_AF1
Open code: a rural environment is characterised by lack of/ decay of/ limited access to infrastructure		

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Axial code: beliefs about the characteristics of a rural environment		
Professionals in training	*It's a difficult thing to define as such because in our country, a developing country, it's hard to say what exactly is rural. And I think you can't compare it to anything in Australia rural or European rural, because our rural areas are completely different. I think we can think about rural as about people who don't have access, sometimes people don't have as much, also people who live in townships and don't have, that's what I mean by no access.*	6FG1_CF1
	They might not necessarily have the same infrastructure as we do. So, their roads are going to be very different. They might not have as much access to water and electricity like we do, but if you think of it that way, then what is a township like, or a place with a lot of shacks. Is that now rural or do you count that as part of urban because of the area that they live in. They might still have no electricity, no water…	6FG2_WF3
Professionally qualified	*Just poor roads, not enough electricity and lighting sometimes, not enough water, poor resources at the hospital.*	RS8_WF1
	Rural is where I am. There is no network in the clinic, so once I'm in, I can't talk to anybody. And then there is no water most of the time, most of the time there is no electricity most of the time. 80% of the time there is no electricity. 90% of the time there is no water.	RS9_AF1
Open code: a rural environment is characterised by neglected/ lack of development		
Professionals in training	*I think it is a general perception out there that rural medicine is in the sticks and you have to live in a hut. But you can drive half an hour outside Pretoria and you can find a rural clinic. Most of the clinics we visited throughout our degrees were rural clinics in Atteridgeville or further out. People tend to think there is no electricity, no roads in rural medicine.*	6FG3_WF3
	Yes, there is no development in the places that they're living in. There's nothing there except maybe a hospital or a clinic or something somewhere.	6FG1_CF1
Professionally qualified	*But I used to run a clinic in Cape Town as a student and we took our doctors to townships that were quite far from Cape Town and that didn't have access. And it was essentially something that rural medicine in that we had very limited resources and masses of patients.*	RS1_WF1
	Where would we want our kids to grow up and where do we want them to go to school, because obviously for me coming from a rural place, the struggle that I went through. I'll not allow my children to go through whatever I went through because I used to walk 8 kms to school every day. Now in the morning and in the afternoon and that's 16 kms per day to go to school for 5 years - for the high school.	RS1_AM1
	Categorically for me, I can state rural is the "goat crossing the road" … (Laugh)…right in front of the hospital. That for me defines rural and I know I have arrived, it's a rural hospital, I have no confusion.	RS8_AF1

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Axial code: beliefs about the characteristics of a rural environment		
	We've had chickens in the clinic.	RS9_WM1
Open code: a rural environment is characterised by isolation and distance from developed areas		
Professionals in training	*So try going to the middle of northern KZN and then you will know what rural is like. When they cannot speak a word of English, or a word of Afrikaans or anything. They've literally travelled 3 hours from their hut and they have no electricity, they have no water. I know we deal with those problems (like no electricity) for say diabetic patients that can't keep their insulin.*	6FG3_WF4
	But I also think a rural hospital in a sense is very different. Just towards a rural environment. For example, myself and 6FG2_WF3 worked in Tongaat hospital and just simple things like, your referral hospital is 2 hours away. So, things like that make a big difference. And when you manage a patient they will die effectively…	6FG2_WF2
Professionally qualified	*How would he feel me going to the bundus?*	RS2_AF1
	In Port Shepstone we did a lot of the, sort of the outreach to what was a very sort of rural population, they're in little villages in the mountains and all that. So you could call what we did was rural medicine and we did, while I was doing community service we used to do clinics. So we would get in a car and we'd drive out and go. That's one aspect of it. I see rural medicine as you are alone, like Madwaleni or Zithulele and I think sort of those little hospitals, those to me are sort of like a rural hospital.	RS7_WM1:
	Sometimes, it's also the distance from proper care and then when patients that are referred to us, it takes them 7 hours to get here.	RS8_WF2

5.2.2.3 Discussion of beliefs about the characteristics of a rural environment

As far as the salient beliefs associated with rural environments are concerned, study participants shared only one belief that is associated with a positive outcome, namely that the physical attributes of a rural environment are pleasing. On the contrary, participants from both research groups shared four beliefs pertaining to a rural environment that are associated with negative outcomes. These beliefs suggest that rural environments are characterised by economic stagnation, limited access to or a decay of infrastructure, neglected pace of development and isolation and distance from developed infrastructure and services.

The first belief discussed in this section relate to the **physical attributes of rural environments**. A few participants from the professionally qualified group identified the natural physical attributes of a rural environment as potentially pleasing and associated

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with positive outcomes pertaining to working and living in a rural environment. This finding supports the research conducted by Couper *et al*. (2007:1084) which found that that the natural physical environment may be a contextual factor that positively influences a decision to practice medicine in a rural environment. The researcher is, however, of the view that due to the fact that only a few participants listed this as a salient belief, the strength of this belief is insufficient to have an impact on the decision of a physician to choose a career in a rural environment. The implication of this view is that the practice often used by health professional recruiters to attract foreign physicians to rural areas with brochures and websites showing a romantic representation of the natural surroundings of certain rural areas in the country may not be an effective strategy to attract local physicians to rural areas. Local recruiters use similar recruitment advertising methods as the United Kingdom and Australia when they recruit health professionals in developing countries. Rogerson (2007:24) refers to this approach as “place promotion and imaging”.

The researcher made the following observations, taking into consideration demographic information provided by participants which were linked to the responses and the open codes, regarding their beliefs about the physical attributes of rural environments:

- Mostly white Afrikaans speaking participants who grew up in large cities from the professionally qualified group believe rural environments are characterised by pleasing physical attributes;
- Prior rural experience did not have an impact on beliefs in this regard;
- There were no differences in the beliefs of married or single participants or those with or without family and friends working in rural environments.

The second group of beliefs in this section relate to **socio economic circumstances** of rural environments. Generally, the two research groups shared similar beliefs that rural environments are characterised by economic stagnation and a higher prevalence of poverty than what may the case in peri urban and urban areas. The professionally qualified research group quite strongly highlighted the belief that the economic stagnation in rural areas can be attributed to the absence of popular retailers, convenience stores and food chains generally found in peri urban and urban areas. In addition, they believe that although the cost of living and opportunity to spend money

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may be lower in rural areas, the value of property is lower and buying a house in a rural area is deemed to be a poor financial investment. This belief probably stems from historical practices where rural household ownership was often tied to traditional forms of land tenure which complicate the ability of rural households to leverage their assets to generate wealth (National Treasury, 2011,192 & 202). Gumede (2008:15) also explains that rural areas are mostly characterised by "second economy" characteristics, although "first economies" may also be found in rural areas. "First economies" are usually internationally integrated whilst "second economies" are generally "marginalised" and characterised by large scale poverty, unemployment, underdevelopment, poor skills and disconnection from "first economies". Gumede (2008:5) furthermore states that poverty is not universally defined in South Africa, however, uses the following description by Statistics South Africa to conceptualise poverty: "…the denial of opportunities and choices most basic to human development to lead a long, healthy, creative life and to enjoy a decent standard of living, freedom, dignity, self-esteem and respect from others…".

The researcher made the following observations, taking into consideration demographic information provided by participants which were linked to the responses and the open codes, regarding their beliefs about the socio economic circumstances of rural environments:

- There were no differences in the beliefs of different race groups amongst participants regarding the poor socio economic circumstances of rural environments. Most of the contributions from the professionals in training group were made by white Afrikaans speaking females, whilst African females in the professionally qualified group came out strong in expressing their beliefs pertaining to the poor socio economic circumstances in rural environments;
- The majority of beliefs generated under this axial code represent the views of participants who grew up in urban areas;
- The majority of participants in both research groups who believe rural environments are characterised by economic stagnation and poverty, have prior working experience in a rural area;
- There were no differences in the beliefs of married or single participants. The majority of participants in the professionally qualified group who expressed beliefs in this

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regard, are married whilst all of the participants in the professionals in training group are single;

- Family members working in a rural environment did not influence the beliefs of participants; and
- Whilst it is inconclusive whether friends working in a rural environment have influenced the beliefs of the professionally qualified group, it was found that participants in the professionals in training group are seemingly not influenced by their friends who are working in rural areas.

The third group of beliefs described in this section relate to challenges pertaining to **remoteness and poor infrastructure** in rural environments. Both research groups pointed out they believe that remoteness and distance from developed infrastructure and services are significant and differentiating attributes of rural environments. This belief is confirmed by Hugo (2013) who highlights that the remoteness of rural environments is the main differentiator from other areas that are characterised by similar socio economic profiles. RuDASA *et al*. (2011:22) mentions distance as one of the single biggest barriers for rural communities to "fully realise their right to access quality healthcare". Furthermore, both research groups identified the absence of infrastructure or access thereto as well as completely neglected infrastructure in rural environments as significant factors that would have an impact on the decision to live and work in a rural environment. The professionally qualified group highlighted their beliefs that health facilities in rural areas have very basic and limited equipment and often lack access to infrastructure and services such as water, sanitation and electricity. Eagar (2014) states that whilst the South African government has made progress with the upliftment of rural health facilities in the last 20 years, much effort is still required to address challenges such as infrastructure and the allocation of resources in rural environments and specifically rural health facilities.

It is important to note that both research groups stressed the fact that although the concept "rural" may be associated with lack of access to infrastructure or distance from infrastructure in a South African context, many peri urban areas ("townships") close to the major urban areas in the country display the same characteristics as rural areas, i.e. lack of access to electricity, water, sanitation, road infrastructure, inadequate nutrition

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and inhabited by poor and vulnerable communities who are dependent on government social security grants. Kaufman and Stavrou (2004:389) define "township" in a South African context as follows: "…township is an urban settlement set aside for blacks and coloureds under the apartheid regime. Often they are located some distance from formally 'white' cities, but in Durban [and most other large cities in the country], a few fall within the city boundaries. Townships are usually densely populated and are highly diverse economically, ranging from squatter and shack settlements to veritable mansions..." Based on the contributions of study participants, the researcher deducts that they believe conditions in squatter and shack settlements, which are found in urban, peri-urban and rural areas, represent similar conditions to their perceptions and beliefs about rural areas. This belief confirms the experience by Hugo (2013) that many health professional students believe rural areas constitute anything outside of large urban areas. He stated that "…you will get students who's been in a township and they will tell you they were in a rural. So for, I think quite a number of students, the word 'rural' equals poor…".

In responding to the research question whether demographic factors, also deemed as personal background factors in the TPB model used for the purposes of this study, account for differences in the prediction of a career choice as rural physician, the researcher made the following observations:

- There were no differences in the beliefs of different race groups amongst participants regarding the remoteness and poor infrastructure of rural environments;
- The majority of beliefs generated under this section represent the views of participants who grew up in urban areas, however, participants who grew up in rural areas also made contributions in this regard;
- The majority of participants in both research groups who expressed negative beliefs in this regard have prior working experience in a rural area;
- Marital status and family members working in a rural environment did not influence the beliefs of participants; and
- Whilst it is inconclusive whether friends working in a rural environment have influenced the beliefs of the professionally qualified group, it was found that participants in the professionals in training group are seemingly not influenced by their friends who are working in rural areas.

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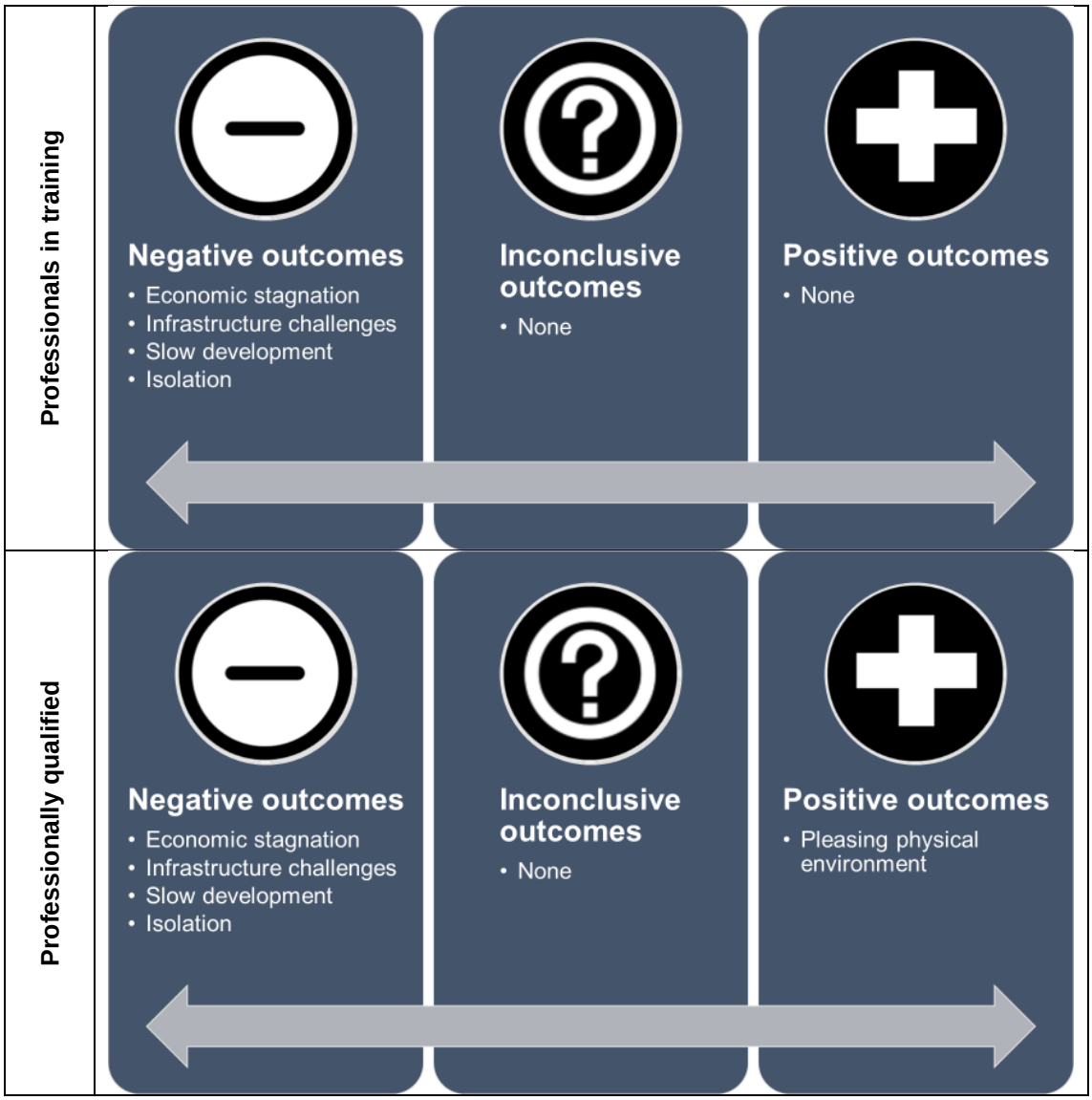
In summary, the beliefs of both research groups regarding the outcomes associated with a rural environment in combination with their associated value of the expected outcomes are presented graphically in

Figure 38. Beliefs that are associated with outright negative or positive outcomes are listed as such. In cases where participants presented beliefs with both positive and negative outcomes, which carry a similar weight in the view of the researcher, they are classified as “inconclusive”. The overall salient beliefs of both groups are also reflected in the figure to enable comparison between them.

Figure 38: Behavioural beliefs and subjective value of outcomes: rural environment



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The next axial code unpacks beliefs of study participants regarding a rural lifestyle and the impact thereof on various life roles of physicians who choose to become rural physicians.

5.2.3 Axial code: beliefs about a rural lifestyle

5.2.3.1 Introduction

The open codes generated by the researcher in this section represent the salient beliefs of study participants regarding the expected positive and negative outcomes of a rural lifestyle. These beliefs, in combination with their personal values of the expected outcomes, reflect the attitudes of the study participants towards a rural lifestyle. The expected outcomes may have positive and/ or negative values to study participants (Ajzen, 2014b).

In terms of Super's theory of career development (Super, 1980), these beliefs could inform future decisions about the impact of other life roles such as being a parent, spouse, etc. that physicians need to consider as part of their career development and decision making, including the decision to practice medicine in a rural environment.

5.2.3.2 Open codes and participant responses

The salient beliefs that emerged from the process of axial coding are presented by the open codes in Table 36. The table includes examples of individual participant responses pertaining to their beliefs regarding a rural lifestyle. An interpretation of these results is discussed in Section 5.2.3.3.

Table 36: Open codes: beliefs about a rural lifestyle

Axial code: beliefs about a rural lifestyle		
Open code: a rural lifestyle supports the attainment of a better quality of life		
Professionals in training	*I don't think that OSD's is the only way for us to get incentive to go there. I think that we don't have. The university trying to expose us, to see what it's like to work there. That in itself is a way to get people to start going or thinking about going. Because*	6FG1_CF1

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Axial code: beliefs about a rural lifestyle		
	it's a change of mind. It's like an idea of a profession not just about the money, it's a lifestyle.	
	I'm not planning on working 8 – 5 every day, not like my dad does. He farms from 5 – 8 and then he's a GP from 8 – 1. He sees like 50 patients in that time and then from 1 – 4 he does farm work. I'm not planning on farming at the moment, but I definitely want to be at work at 07h30, work till about 2pm. And then I don't know whether I'll get a wife that I can go home to, or go fishing or play golf. (Laugh)	6FG3_WM2
Professionally qualified	*And I think for me, practicing in the rural areas is nice because primarily I don't like cities. I like small towns in the rural places. So the lifestyle there for me, is preferable. I like a slow lifestyle with access to nature and if there is no mall in a 500 km radius I will be very happy. I think that's the general answer and like I said previously, rural makes life feel like your impact you are making on the community.*	RS1_WF1
	By dieselfde hospitaal is daar elke twee jaar, is daar nuwe dokters wat kom. Dis naby Mosambiek, so hulle hou daarvan om vining oor die grens te ry Mosambiek toe, bietjie te gaan vakansie hou, terug te kom, bietjie te werk, bietjie suid te ry en St Lucia toe te gaan. Bietjie binneland toe – Kruger Wildtuin se kant toe te gaan. En selfs van daai ouens is daar party ouens wat, vir hulle is dit 'n passie om dit te doen, en ander ouens wat net daar is vir die "fun".	RS3_WM1
	They have a wonderful, wonderful lifestyle. They live in an area, where it's different than living in a city. They have wonderful; they live on the border of the Kruger National Park, a view over the Crocodile River, which is almost idyllic. They have almost the best of both worlds. Living close to nature, close to what they enjoy and still offering a good service.	RS5_WM1
	But you have fun, because you build camaraderie with your colleagues that are working there. So I think that's kind of the romantic view of where the guys get it from, is because the guys come back from community service, you must go and do there, it's fun for a year and then it just gets frustrating.	RS7_WM1
Open code: a rural lifestyle does not support the attainment of a better quality of life		
Professionals in training	*I think that for me, when I was at mine it proved that the rural education that I just finished now, then it was difficult for me because I also come from a city and stuff and afterwards there was nothing to do after you came home from work.*	6FG1_CF1
Professionally qualified	*I'll not allow my children to go through whatever I went through because I used to walk 8 kms to school every day. Now in the morning and in the afternoon and that's 16 kms per day to go to school for 5 years - for the high school. You get my point.*	RS1_AM1
	Yes, I didn't come home and I missed home so much. We could only communicate with people telephonically, and then my husband was my boyfriend. You are so lost and so far from life.	RS2_AF1

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Axial code: beliefs about a rural lifestyle		
	And then the only limiting factor then would be a social life because, unless they can make malls in the rural as well, then maybe life will be better (laugh). One will have no complaints, because then you have a hard day at work and then you just want to relax and watch a movie. Such things you can't do in the rural areas.	RS2_AF1
	And, also I feel like the rural setting can never really compare to the city for example, it's a totally different ball game recruiting doctors to work in Cape Town. They've got Table Mountain, they've got the ocean, um, those people that have children, there are the schools that they can send the children to. In the rural setting, there is nothing of that nature. There is no Table Mountain, there is no ocean and you would have, your work would be almost the liveliest component of your life and not many people are willing to, or able to sustain that.	RS8_AF1
Open code: a rural lifestyle is not deemed suitable to raise and educate children		
Professionals in training	*I don't want to come back and study again, but I'm thinking rural…. I can't think of any – this might sound wrong – but I can't think of any other white person that would move to Melmoth, out of their own choice. Because there is no school for the kids, the Spar closed down. (Laugh) So, I think if my brother or my cousin's child gets ill in the middle of the night and he has to go out 70 kms to the closest hospital.*	6FG3_WM2
	Being a female for me is a big thing, I want to have children and I want to look after them. I don't know, in terms of a career choice further on, that is a big thing, how much time I will have with my children. And you must be in a place where they can grow up and have opportunities and things, so children do play a big role in the future.	6FG2_WF1
Professionally qualified	*Where would we want our kids to grow up and where do we want them to go to school, because obviously for me coming from a rural place, the struggle that I went through. I'll not allow my children to go through whatever I went through because I used to walk 8 kms to school every day. Now in the morning and in the afternoon and that's 16 kms per day to go to school for 5 years - for the high school. You get my point. So, I would want my children to attend school where they won't be going miles and miles away. I want my children to go far beyond where - I didn't get an opportunity to go and study overseas but I want my children to go overseas and study there. It's something different.*	RS1_AM1
	It definitely will, it definitely will because it means uprooting, like you mean moving away from Pretoria, going wherever? Ja. It means the child must come out of school. Is there a good enough school wherever you are going to go, because that's important, as well as for your partner, they will need to find a job, depending on where, which field they are involved in. So, it does, become difficult.	RS6_AF1
	I think for me, if I can have immediate access to my family. Because obviously if I can go to a rural hospital, I wouldn't take my family there. Why not? I mean where would the kids go to	RS6_AM2

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Axial code: beliefs about a rural lifestyle		
	school, such things? And where would my wife work? So, if I had to sacrifice and go to a rural hospital, then accessibility in terms of the transport and the roads, has to be very good. If I need to go and see my family, then I'll be willing.	
	When I started I always had at the back of my mind that I always want to help in the rural, however, it happens. Obviously at this stage in my life it would be impossible for me to go into rural. Why is that? Simply because I'm married, my husband works in Johannesburg and I've got 2 kids. So, it won't be practical, but growing up, and before I could become a doctor, I always had it in my mind to help where I can. So I'm hoping I have that opportunity one day.	RS8_IF1
	I think children for us who've got it. Younger children and wives. And well paid? Well paid I think with kids, if you want your kids to go to a good school, and have them doing gymnastics and hockey, then you can't go and sit in a rural area.	RS9_WM1
Open code: a rural lifestyle and environment is safe		
Professionals in training	*Statistics show the level, the concentration per population crime is much higher in the city than it is outside the city, much higher. Joburg, Pretoria, Cape Town. That's the order, 1, 2, 3. So, I think that's the wrong perception. You're actually safer in a town, already.*	6FG1_WF3
	To go back to this point raised about the crime rate… It is safer in rural than in towns and cities, but I think that kind of depends on where in rural from one place to another.	6FG1_AF1
Open code: a rural lifestyle and environment is not safe		
Professionals in training	*I stayed alone – my colleagues were with me and we also lived in a house in the community. They were not around for one weekend. They went to Mozambique. So, then I was alone in the house. I did not feel safe at all. Only because I was alone, I don't think it was because of any other reason. It was just being me. So, I just couldn't imagine living in a house alone. If something happens to you, you don't have anyone around who can help. I think that's where the fear for me came from.*	6FG1_CF1
	I'm not concerned with the health risks for me. In the rural areas, I'm concerned about security risks. I never feel completely safe.	6FG1_WF1

5.2.3.3 Discussion of beliefs about a rural lifestyle

With regard to the salient beliefs associated with a rural lifestyle, study participants shared the belief that a rural lifestyle is associated with both positive and negative outcomes as far as quality of life is concerned. In addition, they believe that a rural lifestyle is not conducive to raise and educate young children. Participants thirdly raised

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both positive and negative outcomes regarding safety and security issues in a rural environment.

The first set of beliefs discussed in this section relate to outcomes pertaining to **quality of life** in a rural environment. Participants from the professionals in training group listed the beliefs that a rural lifestyle offers the opportunity to live a slower paced life than people living in urban areas. This finding corresponds with research conducted by Couper *et al.*(2007:1084) that a positive experience of rural life is an important factor in retaining physicians in rural areas. In addition, people can combine a career in a rural setting with other careers or interests such as farming or exploring nature, thereby creating opportunities for better work-life balance. The professionally qualified group came out strong in confirming these beliefs and added that a rural lifestyle is more relaxed and less demanding than an urban lifestyle. Crisp (2012) points out that sometimes physicians open up a private practice in a rural area and perform sessions in a public rural health facility just so that they can enjoy the slower and more relaxed rural lifestyle. On the other hand, participants from both groups highlighted their beliefs that a rural lifestyle is inconvenient due to the absence of retail facilities, entertainment opportunities, support structures and isolation. Participants from the professionally qualified again presented stronger beliefs in this regard. They also dismissed the notion that the pleasant natural surroundings would make up for the lack of social interaction with friends and family or the absence of places and activities that constitute a “social life”. Couper *et al*. (2007:1084) found that a network of friends is an important “staying” factor to persuade physicians to practice in rural areas. Crisp (2012) has the following views which aligns with the researcher’s findings: “It’s not that they want bigger salaries, it’s that if you want to go to a movie you have to travel 150 kms to go and watch a movie. It makes taking the weekend off and travelling a long distance…In this country if you want a TV you have to buy a DSTV, it’s not an option that maybe you want to get DSTV. In Australia you live in what’s designated rural area the government pays for your TV. So, it’s all those little things that make it inconvenient. If you want to nip out to the café here and go and buy a pint of milk, you can. You can’t if you live in rural. You have to really plan ahead and if you run into problems you travel far and it just costs more to live in such places.”

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The researcher made the following observations pertaining to whether demographic factors have an impact on beliefs regarding a rural lifestyle, taking into consideration demographic information provided by participants which were linked to the responses and the open codes:

- African participants from the professionally qualified group held strong beliefs a rural lifestyle does not support the attainment of a better quality of life. White participants from the professionally qualified group seem to hold an opposite view namely that a rural lifestyle supports the attainment of a better quality of life;
- The majority of participants from the professionally qualified group who believe that a rural lifestyle does not support the attainment of a better quality of life, have prior rural working experience, whilst the majority of the professional in training group who believe a rural lifestyle fulfils quality of life needs, have spent some time in rural areas during undergraduate studies. This finding suggests that previous experience may have an impact on the decision to choose a career as rural physician;
- The participants who shared beliefs regarding whether a rural lifestyle supports the attainment of a better quality of life or not, mostly grew up in urban areas. There were slightly more participants who believe that a rural lifestyle supports the attainment of a better quality of life;
- The majority of participants who expressed positive and negative beliefs regarding a rural lifestyle do not have family members working in the rural health sector, so it can therefore be assumed that their beliefs are not influenced by family;
- There were no differences in the beliefs of participants with or without friends working in a rural environment, thus it is assumed that friends do not have an influence in this regard.

The second set of beliefs with regard to a rural lifestyle concerns the suitability of a rural lifestyle to **raise a family with children**. Participants from both groups believe a rural lifestyle is unsuitable to raise a family due to the perceived lack of quality educational and other development opportunities for children in rural areas. The participants from the professionally qualified group weighted this belief quite strongly. One participant from the professionally qualified group shared the example that he did not want his children to endure the same hardships he had as a schoolboy growing up in a rural area, having to walk long distances to school on a daily basis. Furthermore, the professionally qualified

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group felt strongly that the absence of opportunities for partners and spouses in rural areas will have a negative impact on lifestyle as spouses and partners will either not be able to live with the physician at their location or will not be able to contribute financially to the household due to limited or no job opportunities in the rural environment. Couper *et al*. (2007:1084) found that the support and satisfaction of spouses or partners are important factors that determine retention of rural physicians. This finding confirms the notion that career choices and development of physicians are influenced by life roles such as being a parent or a spouse and it suggests that a career choice to practice medicine in a rural area may be a short lived one. This finding was confirmed by Crisp (2012) who states that: "Ja it's a sustainability issue rather than an initial decision to go. Because for many youngsters who choose to go it's quite a sexy choice to go for two or three years and then you get married and maybe your spouse does or doesn't have a health related job, or an education job or something out there, but then you get a baby, and now the dynamics change dramatically, and now it's not sustainable to stay home out in the rural area anymore."

The researcher made the following observations pertaining to whether demographic factors have an impact on beliefs regarding a rural lifestyle, taking into consideration demographic information provided by participants which were linked to the responses and the open codes:

- African participants from the professionally qualified group hold strong beliefs that a rural lifestyle is not suitable to raise and educate children. There were no significant findings pertaining to whether participants from race groups other than African participants believe that a rural lifestyle is not suitable to raise and educate children;
- Prior rural experience does not have an impact on the belief of participants that a rural lifestyle is not suitable to raise and educate children;
- There were slightly more participants from a rural origin who hold the belief that a rural lifestyle is not suitable to raise a family and educate children than those who grew up in cities and large urban areas;
- The majority of participants who believe that a rural lifestyle is not suitable to raise and educate children are married, however, not all of them have children as yet;
- None of the participants who expressed beliefs in this regard have family members working in the rural health sector; and

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- Friends working in a rural environment do not have an impact on the belief of participants that a rural lifestyle is not suitable to raise and educate children.

The third set of beliefs discussed in this section represent beliefs regarding **safety and security** in rural environments. A few participants from the professionals in training group shared beliefs about whether a rural environment is safer than urban areas and it seems they have the perception that rural areas have less violent crimes and are thus safer than urban areas such as Johannesburg or Cape Town. One participant pointed out she was scared to live and work in a rural area, because she was living alone in a house whilst working in a rural environment for a short while and did not have a social support structure who could assist her in times of need. This finding also corresponds with the findings of Couper *et al*.(2007:1084) that rural areas are perceived as safer and this could be a positive influencer to attract and retain physicians in rural areas. This is however, not deemed a strong belief because of the limited contributions by participants in this regard and thus do not correspond with studies that found crime and safety concerns to be a strong influencer of the attraction and retention of health professionals in rural areas (Padarath *et al.,* 2009; De Vries *et al.* (2010:227) and Hatcher *et al*., 2014:6). An important finding to note is that none of the participants in the professionally qualified group contributed salient beliefs regarding safety and security in a rural environment as such. This might be because they accept that crime and various degrees thereof are a reality and ever present, irrespective of locality.

The researcher made the following observations pertaining to whether demographic factors have an impact on beliefs regarding safety and security in a rural environment, taking into consideration demographic information provided by participants which were linked to the responses and the open codes:

- All contributions were made by English or Afrikaans speaking females, be it positive or negative beliefs;
- Prior rural experience does not have an impact on the beliefs of participants in this regard;
- Participants who grew up in urban areas seem to believe that a rural environment is not safe, whilst origin did not have an impact on those who believe a rural lifestyle is safe;

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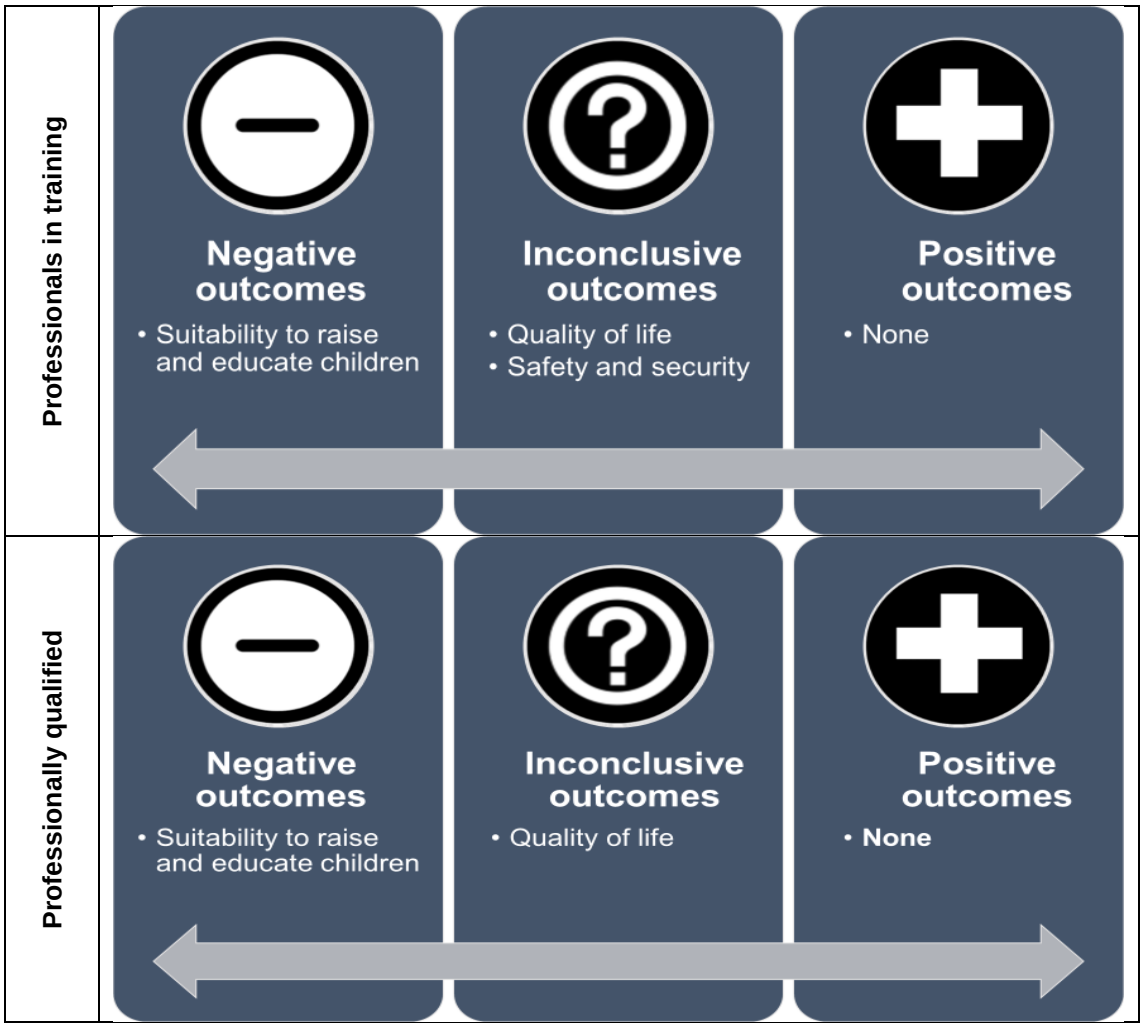
- Marital status, dependants and friends and family working in a rural environment do not seem to have an impact on beliefs in this regard.

In summary, the beliefs of both research groups regarding the outcomes associated with a rural lifestyle in combination with their associated value of the expected outcomes are presented graphically in Figure 39. Beliefs that are associated with outright negative or positive outcomes are reflected as such. In cases where participants presented beliefs with both positive and negative outcomes, which carry a similar weight in the view of the researcher, they are classified as “inconclusive”. The overall salient beliefs of both groups are also reflected in the figure to enable comparison between them.

Figure 39: Behavioural beliefs and subjective value of expected outcomes: rural lifestyle



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The next axial code details the behavioural beliefs held by participants regarding the characteristics and contributions of rural physicians.

5.2.4 Axial code: beliefs about the characteristics, independence and contribution of rural physicians

5.2.4.1 Introduction

The open codes in this category represent the significant beliefs of study participants regarding the expected positive and negative outcomes of being a rural physician as far as traits, values, abilities, characteristics, independence and contribution of rural physicians are concerned. These beliefs typically reflect the attitudes of the study participants towards rural physicians (Ajzen, 2014b).

Noting the principles of trait-factor and career choice theory by John Holland as described by Stead and Watson (2006:35), the researcher suggests that these beliefs could potentially inform decisions by physicians to choose a rural career if they perceive their abilities, skills and values to match those of a rural physician as described in this study. This further suggests that identification with the profile of a rural physician might be relevant in career choice that favours rural medical practice.

5.2.4.2 Open codes and participant responses

The salient beliefs that emerged from the process of axial coding are presented by the open codes in Table 37. The table includes examples of individual participant responses pertaining to their beliefs regarding the profile of a rural physician and associated competencies. An interpretation of these results is discussed in Section 5.2.4.3.

Table 37: Open codes: beliefs about the characteristics of rural physicians

Axial code: beliefs about the characteristics and contribution of rural physicians		
Open code: rural physicians are passionate and resilient		
Professionals in training	*They are so passionate about what they do and it was just such a nice environment to work in. For the first time in my studies when we were working in the rural area, I actually felt like I was treated as part of a team. And yes, they're understaffed, but they also*	6FG2_WF5

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Axial code: beliefs about the characteristics and contribution of rural physicians		
	don't leave you on your own. They always very quick to say, if you need help, phone us.	
	But what I've found with in the rural areas, is those are the type of people, especially those that stay on, year after year, those are the ones who do medicine for the right reasons. The passion, compassion and the way they treat patients. They treat patients the way they'd want to be treated, even within that type of structure and infrastructure and whatever is available.	6FG2_WM1
	They optimise it for themselves and for the patients and those are the type of people that we especially as junior doctors and moving onto bigger things, need to get exposed to. And need to see that part, because we don't want to be put off by people who have been there, but rather the money chasers, they end up here, and then those are the people who discourage people like us who actually did have a passion. But for some people who maybe aren't that strong, as an individual that can be totally killed or destroyed.	6FG2_WM1
Professionally qualified	*And then very calmly take a piece of suture and suture up the jugular vein in the clinic.*	RS1_WF1
	So ek dink die ouens wat langtermyn "invested" is in die "rural communities" is gewoonlik die ouens wat "invested" is, soos wat jy sê, in hart en siel daarin is.	RS3_WM1
	I agree, I think it should be a passion and love that is able to oversee and overlook all the other problems.	RS6_AF1
Open code: rural physicians have strong sense of accountability and responsibility		
Professionals in training	*For the first time in my studies when we were working in the rural area, I actually felt like I was treated as part of a team. And yes, they're understaffed, but they also don't leave you on your own. They always very quick to say, if you need help, phone us.*	6FG2_WF5
	You are forced to take on a very paternalistic way of approaching medicine when going to rural. I think that's something you have to be very aware of as it's a big responsibility.	6FG3_WM1
	Especially in a rural setting, and it's so much more important even than in an urban setting, because you are the only person that these people have.	6FG3_WM1
Professionally qualified	*Ja, because the way we are viewed are like an informant of the community, you know, not just like any other professional which is the case in cities, you know, you are just another professional. But in rural areas, patients develop bonds with you and they go to you for other problems, social issues as well. So, the way you handle yourself, not that you should be less here, but you're expected to be an even more responsible manner in rural than in city.*	RS6_AM1
Open code: rural physicians are not motivated by money, convenience and status needs		

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Axial code: beliefs about the characteristics and contribution of rural physicians		
Professionals in training	*Usually like she said now, you live close to where you work and I think that's something you also have to decide beforehand, never mind an urban or rural practice. Do you want to live in a rural area, are you maybe someone who likes outdoors or are you someone who prefers an urban setting, being close to shopping centres. (Laugh) Someone who wants something as stupid as Woollies. Or do you want to milk your own cows in the morning.*	6FG3_WM1
Professionally qualified	*Ek dink die ouens wat vir lang termyn daar is, is die ouens wat daar wil wees in my ervaring. Ek het oor 'n paar ouens se pad gekom wat nou vir 'n paar jaar, en ek praat, die ou in Noord-Natal by wie ons was, is nou vir 17 jaar daarso. So dit is uhhhh, hy het sy gesin daar groot gemaak, hy't kinders daar aangeneem. Hy het sy lewe daar gemaak.*	RS3_WM1
	Die ou wat in die middel van nêrens gaan 'n liefdadigheidspraktyk oopmaak (nie) en in hoenders betaal word (nie).	RS3_WM1
	It will have to be someone really laid back, relaxed, wanting simpler life, less stress maybe, less traffic. I suppose if you have a better quality of family life maybe in the rural area.	RS4_WM1
Open code: rural physicians have a strong community connection		
Professionals in training	*I think in rural areas you have a much better, stronger sense of community and I think that's what I would enjoy about working in rural areas. I think you would get to know your patients a bit better.*	6FG2_WF4
Professionally qualified	*You have to love the community. Have a connection? Ja, and there must be something in it for you as expectations, you feel that you are content in terms of family, you feel safe, you are around people who value you and then you are making fairly decent living. It has to do with the expectations, you know. Especially in public, because public and private are two different things.*	RS6_AM1
	There are, you know all the GP's who settled in the area, perhaps even grew up there, and I think for people who were raised in that environment, and then worked there and are at a stage in their life where they have settled, and they are the sort of people who are actually are the crux of the rural health system	RS8_AF1
Open code: rural physicians are able to work independently		
Professionals in training	*It was insane, but there it's like, it's just you, and you have to make all the decisions and it's not necessarily like treating a patient, it's more of triage. Who are you going to send to the hospital and who are you going to take away, who can stay here, because you don't have anything there. So that was also quite a different experience.*	6FG1_WF3
	I do think the opportunities in the rural is more like she said, you treat the patient there or they die. Where here you just refer	6FG2_WF1

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Axial code: beliefs about the characteristics and contribution of rural physicians		
	everyone basically and there you have to do things and think much more independent? I think that is nice, I think.	
Professionally qualified	*I think for me, very much, the people that stay in rural medicine are the cowboys of medicine. They are very, very brave people that will sit in a clinic and remove a massive tumour from a patient's neck without anaesthetic and then accidently cut a hole in the jugular vein. And then very calmly take a piece of suture and suture up the jugular vein in the clinic. Whereas most people will know that if you hit the jugular vein you've got a couple of minutes and the patient is dead. That pressure will just make you crumble, because you're alone, there is nobody.*	RS1_WF1
	Just, doctors in rural areas like what I know are very competent, very competent. So there is no need for supervision in many instances.	RS6_AM1
Open code: rural physicians are able to work independently, but do not necessarily make appropriate diagnosis/ clinical decisions		
Professionals in training	*And that's the problem that comes in with intern placements, where let's say the people who get second rounded, now sometimes they get sent man alone to the only place with a space left. And then they end up alone there. And then what type of care do they actually give?*	6FG2_WM1
Professionally qualified	*Waar in "rural" is jy baie geïsoleerd. "Fair enough", jy kan baie meer doen, en jy kan baie meer werkssatisfaksie kry as jy iets reg doen, maar ek dink jy neem ook baie keer besluite wat jy nie veronderstel is om te neem nie. Doen operasies wat jy nie veronderstel is om te doen nie of kyk na pasiënte wat jy nie toegerus is.*	RS3_WM1
	You can make your own decisions, but is your decision necessarily correct? And I think it's what happens, unfortunately a lot of the time, people make decisions independently, but it's not necessarily always correct. I can see now, if I compare now what we do here, after having more knowledge, compared to what I did in community service at X Hospital, I mismanaged patients, is what it boiled down to. So I was very autonomous in deciding what I want to do. And at the time, based on what knowledge I had appeared correct, but now knowing more, it actually was not. So it's sort of an incentive to specialise and to study further because you can decide, but what you decide is not necessarily correct.	RS4_WM1
	For me going into work in rural is like being thrown in at the deep end. It has its pro's and con's. The pros are that if I can give you an example. I did internship for one year and my rotation of obstetrics was only in August. Yes, but before I started obstetrics, I'd already done more than 30 Caesarean sections. That is an advantage in terms of being exposed, however, the risk is that you are more likely to do the wrong thing.	RS6_AM1
Open code: rural physicians are not able to work independently		

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Axial code: beliefs about the characteristics and contribution of rural physicians		
Professionals in training	*Yes, and that's when bad things happen. Like what? Patients die and you feel sorry for the doctor whose there. Maybe it's because of his incompetent level, his confidence level which is nothing, but is it the systems fault or is it personal? Where was he supposed to learn these skills or find a place to properly apply them with supervision before going to apply them by himself? I think that's one thing that can be thought about by the higher powers in this country.*	6FG2_WM1
Professionally qualified	*Ek het dit, ek … dit was vir my baie… dit het my baie laat stres. Om te besef dat jy weet vanaand stop die bus by my en dan stop hy by jou vir narkoses, vir geboortes, vir sjirurgie, vir antibiotioka, vir inkubasie, vir ventilasie, vir alles, en ek bedoel ek was nie toegerus nie en ek het dit geweet.*	RS3_WM1
	So, I never wanted to be in that position where I thought, I don't want to see this patient, or I don't want to see that patient. It put a lot in my mind that I definitely wanted to specialise in something and concentrate on it. And be good at it? Exactly what they were saying. To be good at one thing and not be petrified of one thing and avoid it at all costs.	RS8_WF1
Open code: rural physicians improve healthcare in rural communities		
Professionals in training	*Another thing about the rural areas, is that you can actually follow up on a patient much more easily than it is in the city because here you. I know a lot of people who are coming from underprivileged and then you kind of forget about them. But like, for example, my hubby when he was doing his community service, your patient become your friend and then you can follow up on them much more easily and know that this one is wherever and be like, why aren't you coming and you find that the person has been very sick in the house for a very long time.*	6FG1_AF1
	I want to go to where people need me the most, not because of people pushing. I believe in my heart that I am needed by people that do not have the means and access, so I would rather go to their doorsteps which is in those case, the rural areas where access to healthcare is limited.	6FG1_AF2
	Working in such a setting is not that bad, because you really make a difference. You get the guy who is yellow, yellow, yellow from obstructive jaundice and you get him out of there into a hospital. Or you get a child's a temperature of 42; you get them to the hospital.	6FG1_WF3
Professionally qualified	*And I feel that the difference we can make there is far bigger in terms of the number of patients that you see and the impact you have on their quality of life. So, for me it's quite exciting and I think especially in Obs & Gynae and the field of HIV Aids, it is something that I really like.*	RS1_WF1
	And that's what I found in my experience with my two working colleagues in Calvinia, most dominant obviously, a coloured environment. Even though they had a great burden of trauma, because of all the alcohol, or the social habits that these local people have, they still felt empowered, the sisters were	RS5_WM1

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Axial code: beliefs about the characteristics and contribution of rural physicians		
	supportive, um, they were definitely understaffed for the amount of people they were treating, however, they never felt they were overworked. Even though they probably were. Yes, they could relate to the community. The community was appreciative of what they were doing and the staff there were supportive of them being in a difficult situation. And this made them committed to their job.	
	I think also you can be influenced by having had that experience, because you realise, what a difference just the basic knowledge that you have makes that side, even just to rehydrate a child that's shocked correctly. Over here we take it so for granted because we do it every day, but when you realise there are places where that alone would save lives, you always have at the back of your mind, you know, am I at the right place, doing the right thing.	RS8_AF1
Open code: rural physicians are valued and appreciated by the community		
Professionals in training	*In the rural area they're like a God.*	6FG1_WF3
	He said he thinks that the people in deep rural areas look up to doctors. He felt appreciated there. In the city you are not appreciated.	6FG1_AF1
Professionally qualified	*The community doesn't even know where the doctors come from. But the community in rural definitely end up knowing where they come from, whether they're part of the community or not.*	RS6_AM1
	The rural is very nice; you meet a lot of people because it is busy. You are giving something in a rural area because in the urban area, they're going to a GP and they can afford it. In the rural area they're coming to you personally. In the urban area they're going to a GP because they just want to get a script or they have money.	RS9_AF1
	In rural area the patients appreciate it, you make a difference. And the patients come to me to say thank you. You are appreciated in rural.	RS9_AF1
Open code: rural physicians are not able to make meaningful contributions to healthcare		
Professionals in training	*But the other problem they encountered is recently instead of the managing doctor taking care of finances and knowing what equipment is needed, they've handed the finances over to somebody who is an outsider to the hospital, who doesn't visit often, who doesn't know all the problems, and then they tell him what the problems are. A quarter of them get addressed and the rest of them are pushed under the rug for a while.*	6FG2_WF3
Professionally qualified	*So waar 'n suster veronderstel is om byvoorbeeld, jou te kan help om te "recus", het sy dit laas gedoen toe sy op "nursing college" was 30 jaar terug. Ja, wel dit was my ervaring gewees, dat jy sukkel om iemand, om iets te doen en meeste van jou stressors is om want jy kry iets nie, want iemand het dit nie "gerestock" nie of dis nie terug in die kas nie of is verval of is oud, of hulle het dit nie, of die trok wat dit moes aflewer is gesteel, of die water is afgesny, of die elektrisiteitprop werk nie. So, dis daai simpel*	RS3_WM14

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Axial code: beliefs about the characteristics and contribution of rural physicians		
	goeters wat jou onderkry, en dan ook, jy… daar is nie baie geleentheid om indiensopleiding te doen en die indiensopleiding wat gedoen word is nie effektief nie.	
	But your level of care is much different. You can only do so much. If you have a patient who has got a severe pneumonia who is not doing well, you know, oxygen, antibiotics, if it doesn't work, sorry.	RS4_WM1
	And another thing is that, management, let's say provincial management. When they go to hospitals they never want to find out what doctors think, because most of the time, no they speak to the management, the CEO's, more often or not that is the person where the problem is. Yes, but they never bother to ask us what do you think about, one, two, three, four things. You will see them from a distance, they don't even greet you.	RS6_AM1
Open code: specialist physicians in rural settings contribute to improving healthcare and clinical governance through the District Clinical Specialist Teams and outreach programmes		
Professionally qualified	*Absolutely. I'd actually like to do something like that. I mean you can still teach which is fulfilling? But in a rural setting you can always teach, because then you are always there. The sisters are always there. And I find the sisters in the rural setting, much more ready to learn and they ask questions and they are interested and I love that. You can give guidance which is appreciated? I'd really like it.*	RS1_WF1
	I think it's absolutely necessary because we are overburdening tertiary hospitals, with um, irrelevant or almost conditions of the nature that that could be treated at a peripheral hospital.	RS5_WM1:
	I think it's a good idea, you know, because the district team is a paediatrician, an obstetrician, family physician and anaesthetist and you find out in most hospitals like clinics, those the small main services that people need from primary healthcare.	RS9_AM2
	Exactly, exactly!! Because that is a powerful thing. They report to the Minister, so they speak directly to the Minister, so where the MEC's are not performing, they just go to the Minister.	RS9_AM2
Open code: specialist physicians in rural settings do not have an impact on improving healthcare and clinical governance in rural settings		
Professionally qualified	*It doesn't help if you have a specialist, who is in the middle of nowhere, but you don't have ICU equipment, you don't have proper medication to treat patients. You need to first then look at your system, to get it on par, to be able to have human resources available to work there. So it will probably work if the system overhaul is done.*	RS4_WM1
	I think for me, if they introduce them in the setting that we're in currently, you're just going to frustrate them. You're going to bring in the specialists, then bring in the resources. That's how I see it. And the resources are what? What they will need. And you can't have a specialist and for example, your lab can only do basic tests, do you understand? You can't have a specialist and you can only do x-rays, you can't do further than that. Then, what's	RS6_AF1

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	the point of the specialists being there. You must have the drugs that they might need, that they might know of, whereas the MO's may not be aware of, do you understand? Which actually might be better for the patient, which is the reason why most of the time you will actually refer patient to a higher institution, because you want them to get those resources. I don't know how they feel about it because if they don't have those necessary resources then what are they going to do? How are they going to use their skill?	
	Now I've got to go and work at a small district hospital somewhere and all I'm doing is a spinal anaesthetic, you know and its basic anaesthetics, you know, if that's what I'm going to be doing, I might as well stay in a larger centre.	RS7_WM1

5.2.4.3 Discussion of beliefs about the characteristics, independence and contribution of rural physicians

The majority of beliefs generated by study participants under this axial code are associated with positive outcomes which suggest that the traits, abilities and contribution of rural physicians are recognised and respected by other physicians. There are however, a few beliefs pertaining to the characteristics of rural physicians that are associated with both positive and negative outcomes. The strength of these beliefs vary between the research groups and in some cases between participants with different demographic profiles.

The first group of beliefs discussed in this section relate to the beliefs of participants regarding the **personality traits and qualities of rural physicians**. Participants from the professionals in training group believe that physicians who choose long term careers practicing medicine in a rural environment do so for the "right reasons" and are not "money or status chasers". They believe rural physicians are emotionally strong, have a passion for rural medicine and are generally compassionate people. They further believe rural physicians respect their patients and they generally display good bedside manner as they interact with rural patients in a reassuring and comforting manner despite communication and language barriers that are often prevalent in rural areas. Couper *et al.* (2007:1085) confirmed that personal qualities and values are important influencers in the decision by physicians and other health professionals to choose a rural career. Bateman (2013b:708) elaborates further by stating that rural recruitment and retention is

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highly influenced by "…solid and committed vocational leadership, backed by a deep and appropriate array of general clinical skills…". These findings are further supported by Reid (2011:74) who states "… we have a unique position in the medical world by virtue of our commitment to our patients in rural communities, which carries with it the need to develop an extremely wide scope of practice, as well as attributes such as flexibility and creativity. These characteristics set rural medical practice apart, and demand specific training and recognition…".

Participants from both groups believe that rural physicians are willing and able to work in a focused manner under trying circumstances with limited resources. Research conducted by Jaques *et al*. (1998:17) found this quality to be critical for the success of rural physicians, i.e. the ability to "…carry the clinical load, particularly after hours, when coping with emergencies alone can be "terrifying…". The professionals in training group believe medical students should be exposed to physicians who have chosen long term careers in rural areas to learn and be inspired by their example. Participants from the professionally qualified group shared the beliefs of the professionals in training group and added that rural physicians are the "heart and soul" of the rural health system. They generally have more patience than physicians in other settings due the vulnerable nature of the patients they treat. Reid (2011:74) highlights the fact that rural physicians should be adaptable in relating to the context of their patients, the resource constrained environment, the language and culture of the communities they serve.

Participants from the professionals in training group believe rural physicians have a strong sense of accountability and responsibility as they tend to have a protective approach towards medical students and newly qualified physicians where they work together in teams. The professionally qualified group proposed that the fact that rural physicians are deemed trusted members of the community, place a huge responsibility on them to conduct themselves professionally and ethically. In a study to explore the educational factors that influence the urban-rural distribution of health professionals in South Africa, Reid *et al*.(2011b:29) state that rural physicians tend to be significantly more accountable to the community that they serve than urban physicians.

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Participants from both groups believe rural physicians are not motivated by money, convenience or status needs. They suggested that people who prefer a more relaxed lifestyle and work-life balance are probably more inclined to consider a rural career than a person who is motivated by money, status and convenience. One participant from the professionally qualified group pointed out that a physician who chooses a rural career wants to be there and has the desire to “make a life there” and “contribute to society”. The story of Dr Jenny Nash, the 2014 recipient of the prestigious Pierre Jacques Rural Doctor of the Year award, personifies this finding. “Being a doctor at a PHC clinic has never been considered glamourous work in the medical fraternity and yet here is where the foundation of health begins…. But Jenny does not only do what is expected of her. She is always willing to go beyond the call of duty to improve health care at her own and other facilities.” (RuDASA, 2014).

The researcher observed the following pertaining to whether demographic factors account for differences in participant beliefs regarding the traits of rural physicians:

- Those who believe that rural physicians are passionate about rural healthcare and chose their careers based on lifestyle preferences rather than a need for money and status are mostly white and speak Afrikaans or English;
- African participants generally believe that rural physicians have a stronger connection with the communities they serve than those who work in urban areas;
- White participants generally believe that rural physicians have a strong sense of accountability and responsibility;
- The vast majority of participants who contributed positive beliefs regarding the dedication, community connection, accountability and status needs of rural physicians have prior experience working in a rural environment, mostly during their compulsory community service years;
- The vast majority of participants who shared positive beliefs about the traits of rural physicians grew up in urban areas. Physicians who originate from rural areas shared the belief that rural physicians have a stronger community connection than their urban counterparts;
- Marital status and dependants seem to have no influence on beliefs regarding the traits of rural physicians;

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- None of the participants who shared beliefs regarding the traits of rural physicians have family members working in rural health, thus it is not possible to ascertain the impact of family on beliefs in this regard;
- The vast majority of participants, especially from the professionally qualified group, who contributed positive beliefs regarding the traits of rural physicians have friends working in the rural public health sector, thus suggesting that friends could potentially have an impact on shaping the beliefs of physicians regarding the characteristics of rural physicians.

The second set of beliefs that are discussed in this section concern beliefs of participants regarding the **ability of and opportunity for rural physicians to practice medicine independently** i.e. without the support and assistance of other physicians, including access to specialist physicians. Both research groups shared strong beliefs associated with both positive and negative outcomes regarding the ability of and opportunity for rural physicians to practice medicine independently. On the positive side, participants from the professionals in training group believe that a rural physician is able to work independently because they are often the single clinical decision maker regarding patient care in a rural health facility. In many cases they are required to make swift decisions regarding the treatment of a patient and they have to be confident that their clinical approach and treatment is appropriate. The professionally qualified participants shared the belief that rural physicians are able to work independently and added that rural physicians are often required to stay focused under extreme pressure, knowing that they don't have the support of a clinical team and specialist intervention when treating patients. Crisp (2012) confirm the finding that rural physicians are often forced to work either alone or with very small teams where they have to multi-skill. He says physicians who choose a rural career "…went there because you knew you would not have the professor doing the surgery, you would be doing the surgery… I did 2 000 anaesthetics in five years, I did 100's, I did 100 Caesar's just in my last year, but I was the only doctor in the whole hospital. So the amount of clinical experience that these guys are able to get, some of it is maybe it is a little bit cowboy and cavalier and you worry that it's not properly trained even if you are the mercenary minded person. But the fact is you get to do a lot of stuff…".

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On the negative side, participants from both groups felt that even though rural physicians might be deemed competent and able to work with no or limited supervision, participants from the professionals in training group felt they often make incorrect diagnosis or clinical decisions due to a lack of skills, a lack of confidence or insufficient support by the health system. The professionals in training further believe this limits the quality of care provided by a rural physician. Participants from the professionally qualified group shared stronger beliefs, based on their own experience, that whilst rural physicians might be very autonomous in their decision making and derive work satisfaction from having such control, they are possibly guilty of mismanaging patients. The group believe that rural physicians often make decisions about patient care that should have been consulted with specialists and other health professionals and that frequent mistakes could cause undue stress and loss of self-confidence on the part of the rural physician. Quite a few of the professionally qualified participants pointed out that their feelings of inadequacy and incompetence whilst practicing medicine in a rural health facility, as part of their internship or community service, motivated them to specialise further as they wanted to be able and confident to make correct the diagnosis and are of the view that being a specialist would better equip them to practice medicine independently and competently. These beliefs correlate with the findings of a study by Jaques *et al.*(1998:12) which ascertained that those physicians that coped with being the only physician in a rural facility generally had access to senior colleagues which allowed for learning on the job and building of confidence, whilst those who felt stressed and not in control generally described the professional isolation and lack of resources as “terrifying”.

The researcher observed the following pertaining to whether demographic factors account for differences in participant beliefs regarding the ability of rural physicians to practice medicine independently:

- There were no differences between different race groups regarding beliefs pertaining to the ability and opportunity of rural physicians to practice medicine independently;
- The majority of participant contributions regarding the independence of rural physicians were made by participants who have previously worked in a rural environment. An equal number of participants believe they are able to function independently than those who believe rural physicians cannot work effectively in isolation. Notably participants from the professionally qualified group, who have

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previous working experience in a rural environment, believe rural physicians are not able or supported to practice medicine independently;

- Participants from a rural origin seem to have stronger beliefs than those who grew up in an urban environment that rural physicians are able to practice medicine independently. All participants who believe rural physicians are not able to function well in isolation are from an urban origin.
- Marital status and dependants seem to have no influence on beliefs regarding the independence of rural physicians;
- None of the participants who shared beliefs regarding the independence of rural physicians have family members working in rural health, thus it is not possible to ascertain the impact of family on beliefs in this regard; and
- The vast majority of participants, especially from the professionally qualified group, who contributed beliefs (albeit positive or negative) regarding the independence of rural physicians have friends working in the rural public health sector, thus suggesting that friends could potentially have an impact on shaping the beliefs of physicians regarding the independence of rural physicians.

The third set of beliefs discussed in this section relate to beliefs regarding the ability of **rural physicians to connect with and contribute to a rural community**. The professionals in training group believe that rural physicians usually have strong connections with the community they serve. They believe rural physicians are appreciated by the patients and broader rural community. Participants from the professionally qualified group support the beliefs of the professionals in training group and added the belief that a physician who chooses a long term career in a rural environment is someone who feels comfortable, safe, accepted and valued in a rural community. They further believe that physicians who settle and stay in a rural environment for long are the "crux" of the rural health system because they made the community connection, developed bonds with patients and familiarised themselves with the social context of their patients. Crisp (2012) confirm these beliefs. He states physicians who choose rural careers often "…are the people who go because they deliberately feel some kind of humanitarian or religious or other contributions. It's a calling and their calling is to a rural area to impoverished communities, to people who don't have access to whatever, so it's not to say that people who choose to work in urban

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areas don't have callings or don't have some kind of missionary zeal, but it's a particular kind of humanitarian spirit and they are the guys who stay for long…".

Both research groups shared considerable positive beliefs that rural physicians play a major role in improving healthcare in rural communities. The professionals in training group believe the contribution of rural physicians to rural healthcare is positive because they are able to establish closer relationships with patients and are better able to follow up on their progress to monitor whether patients follow prescribed treatment due to their connection with the community. The professionals in training further believe that rural physicians could make a major difference to the quality of life of poor and vulnerable communities in deep rural areas because they give healthcare access to patients who would otherwise have suffered greatly or even died had they not been treated by a physician. Almost half of the professionally qualified participants shared the belief that rural physicians could have a significant impact on individual patient quality of life as well as upliftment of the community. They believe that the burden of trauma in rural environments is exemplified by the poor socio economic circumstances of rural people and the potential positive impact of a rural physician to improve social circumstances is thus significant. The professionally qualified group agreed with the belief shared by the professionals in training that rural communities are usually appreciative to have access to a rural physician, much more so than urban patients who often take access to healthcare and more specifically access to specialist care for granted. The professionally qualified group also believe that rural physicians can potentially make a significant difference to rural healthcare by applying just basic medical knowledge and skills. Couper *et al.* (2007:1084) found that "…awareness of the needs in rural areas…" due to the absence of physicians and other health professionals is a facilitating factor that influences the decision of physicians to choose a rural career.

In an article that appeared in the Mail and Guardian (Robinson, 2014), Dr Mzamo Jakavula, a senior medical officer who worked in a rural facility during his community service, offers the following perspective about the contribution of rural physicians "…there isn't a single day that I did not look forward to going to work. You know why? The patient. The typical rural patient is so appreciative of your efforts. They made me enjoy my work so much. I learnt a lot from working there. I learnt how to be humble. I

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learnt to love older people and how to communicate with them. I wouldn't substitute that experience for anything for it is exactly what is lacking in my colleagues today. It is the rural experience which gives doctors the humanity our patients yearn for in us..."

A few participants, however, believe that even if rural physicians have the desire and ability to make meaningful contributions to rural healthcare, they are constrained to do so and thus have very little impact on rural healthcare. Both research groups indicated that rural physicians often have to function in an unsupportive and dysfunctional health system due to the absence of health and administrative support staff – either due to vacancies or strained labour relations. The professionally qualified group shared stronger beliefs in this regard, mainly due to their personal experience having worked in rural environments previously. They believe the potential contribution to be made by a rural physician is limited if medical technology and equipment are not available or not in working condition; if health management do not consult rural physicians for input into policy or operational decisions and if hospital management do not allow for sufficient in service training opportunities for physicians and other personnel at rural health facilities. Jakavula in (Robinson, 2014) states that: "…current and future doctors like myself have inherited a health system fragmented by historical inequalities, interspersed with ongoing financial, administrative and logistical challenges that make patient care that much more difficult…. Over and above, I believe that we need a change in mind-set…".

As far as the contribution of specialist physicians who choose career in rural environments are concerned, only the professionally qualified participants shared beliefs in this regard. Some participants believe that specialists can make a difference to improving rural healthcare through teaching and training and providing mentorship and guidance to physicians in general practice and other health professionals. They suggested the contribution of specialists in rural medical practice could reduce the number of patient referrals and thus relieve the burden on tertiary and central hospitals to treat patients that could have been assisted at primary and secondary levels of health care. This belief correlates with observations by Jaques *et al.* (1998:3) that "…too often referrals from rural areas to tertiary centres are inappropriate, resulting in swamping of secondary and tertiary centres with patients who should have been managed at peripheral facilities of the Health Care System." The professionally qualified group

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furthermore shared the belief that the NDoH' s PHC intervention to deploy district clinical specialist teams DCST's in every district can enhance primary healthcare in rural areas significantly as the specialists in the DCST's have access to leadership in the provincial and national health decision making hierarchy which could uplift the quality of health care in a rural area and provide a platform for rural health advocacy. Three participants from the professionally qualified group however, indicated that the presence of specialists in rural areas serve no purpose and will only frustrate them if the necessary human resources support system and advanced equipment and technology are not available to enable the specialist to provide specialist health services. One participant indicated that this requires a health system overhaul which is in place on paper at the moment, but not yet evident in practice. The professionally qualified group also believes a rural career choice is restrictive for specialists as they have limited opportunity to apply and development their specialist skills in a primary health care setting in a rural environment. Nathan and Rautenbach (2013:144-146) identified the fact that specialists working as members of the DCST's may be restricted in their scope of practice which in turn may result in limited clinical development and skills losses. The researcher could not find any other study conducted in South Africa pertaining to the experiences of specialists working in a rural environment.

The researcher observed the following pertaining to whether demographic factors account for differences in participant beliefs regarding the contribution of rural physicians to rural healthcare:

- There were no substantial differences between different race groups regarding beliefs pertaining to the positive contribution made by rural physicians, including specialist physicians, to rural healthcare. There were also no differences between different race groups of those who believe that rural physicians are not making a contribution to rural healthcare;
- A vast majority of participants from both research groups who believe that rural physicians contribute to the upliftment of communities and improve healthcare in those communities, have previous experience of practicing medicine in a rural environment;
- A vast majority of participants from both research groups who believe that rural physicians contribute to the upliftment of communities and improve healthcare in

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those communities, grew up in urban areas. Participants who believe that rural physicians deal with more socio economic and personal challenges of patients than their urban counterparts mostly have a rural origin which reflects their enhanced understanding and experience of rural life;

- Marital status and dependants seem to have no influence on beliefs regarding the contribution of rural physicians;
- The vast majority of participants who contributed positive beliefs regarding the value and contribution of rural physicians have no family working for the rural or public health sector thus suggesting that family does not impact on the beliefs of physicians in this regard;
- Most of the participants in the professionally qualified group who shared beliefs with positive outcomes regarding the value and contribution of rural physicians, including specialist physicians who choose rural careers, have friends who are working in the public rural health sector, suggesting that friends in the profession might have a significant impact on the decision of a physician to choose a rural career.

In summary, the beliefs of both research groups regarding the outcomes associated with the characteristics, independence and characteristics of rural physicians, in combination with their associated value of the expected outcomes, are presented graphically in Figure 40.

The next axial code details the behavioural beliefs participants hold regarding the advantages of a rural career choice for physicians.

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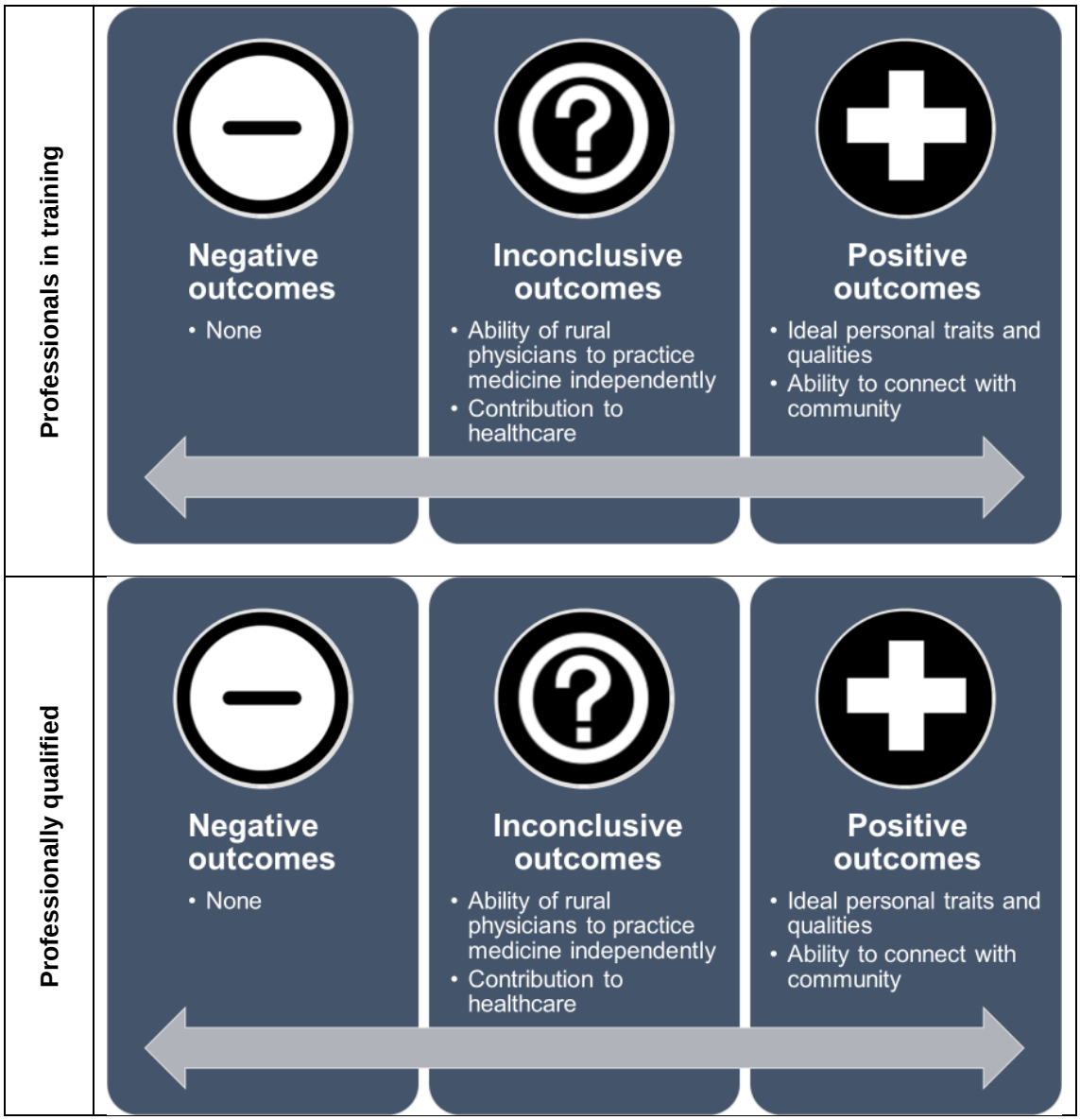
Figure 40: Behavioural beliefs and subjective values of expected outcomes: rural physicians



5.2.5 Axial code: beliefs about a rural physician career

5.2.5.1 Introduction

The open codes generated by the researcher in this section represent the salient beliefs of study participants regarding the expected positive and negative outcomes of a rural career choice. These beliefs, in combination with their subjective values of the expected outcomes, reflect the attitudes of the study participants towards a career as rural physician (Ajzen, 2014b).

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A large proportion of these beliefs originate from previous experiences of participants (own and others) and represent the typical factors that would influence a physician to consider a rural career choice. Krumboltz's Social Learning Theory and the SCCT as described in Stead and Watson (2006) and in Lent and Brown (2013), propose that previous experience of a career is likely to influence future decisions about such career.

For the purposes of this study, the term "career" is described as follows: "The meaning of work-related experiences in relation to the individual's life roles across his or her lifespan". This description summarises the view of Stead and Watson (2006:183) and is applicable in a South African context by being more inclusive as it incorporates terms such as "work", "vocation" and "advancement".

5.2.5.2 Open codes and participant responses: beliefs about a rural physician career

The salient beliefs that emerged from the process of axial coding are presented by the open codes in Table 38. The table includes examples of individual participant responses pertaining to their beliefs regarding the career of a rural physician and associated positive and negative outcomes. An interpretation of these results is discussed in Section 0.

Table 38: Open codes: beliefs about a rural physician career

Axial code: beliefs about a rural physician career		
Open code a rural physician career is attractive		
Professionals in training	*Honestly I do not picture myself in a private practice and also not just private GP space, but also the private hospitals. I want to go to where people need me the most, not because of people pushing. I believe in my heart that I am needed by people that do not have the means and access, so I would rather go to their doorsteps which is in those case, the rural areas where access to healthcare is limited.*	6FG1_AF2
	Because I want to see everyone from when they're a baby to when they grow up. I'd rather be working in a small town as a GP, but probably be specialising in a range of things, that many other doctors could be.	6FG3_WF4
Professionally qualified	*For me, rural medicine has always been something I idealise a little bit.*	RS1_WF1

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Axial code: beliefs about a rural physician career		
Open code: a rural career is not attractive		
Professionals in training	*I think it's definitely when people who study like us and you speak to them about considering rural, you get the impression they see it's not as glamorous as being in an urban setting and there is not that much money.*	6FG3_WM2
	I don't mind working there; it's just problematic because of the environment within the hospital. You have the skills, but equipment and support may not be there.	6FG1_AF2
Professionally qualified	*And, that would personally break me. I would not be able to work in an environment where there was so little support and so little drugs or just basic things available. So, how can it be expected for me to perform these miracles to patients, for patients that I don't have the support financially or in terms of the necessary resources?*	RS5_WM1
	My perception about the Eastern Cape is that it's corrupt, a broken system. So, I won't naturally want to work there. I want to work somewhere where I can make a difference, but I want to work somewhere where it's possible.	RS9_WM1
Open code: a rural physician career is enjoyable		
Professionals in training	*It's quite fun to have that kind of experience*	6FG1_WF3
	I think in rural areas you have a much better, stronger sense of community and I think that's what I would enjoy about working in rural areas.	6FG2_WF4
Professionally qualified	*So dit was verskriklik lekker gewees, die tyd dat ek daar was.*	RS3_WM1
	Um, uh, but you have fun, because you build camaraderie with your colleagues that are working there. So I think that's kind of the romantic view of where the guys get it from, is because the guys come back from community service, you must go and do there, it's fun for a year and then it just gets frustrating.	RS7_WM1
	Where I was working last year, it's considered rural. It's not deep rural. It's considered rural. The place is about 40 kms from the house where I was staying. I was extremely happy. I got a rural allowance; I drove my car and had a petrol allowance. I was chuffed. I was earning lots of money there. I was driving to and from work every day, seeing my family and loved the community. I would drive as far as 120 kms sometimes. But, it was fun, because I got a decent petrol allowance. I wouldn't mind going back there after I qualify.	RS9_AM1
Open code: a rural physician career is unenjoyable		
Professionals in training	*But I think if I had my family around, or anyone else, then I think I would be able to spend more time with them and that would be valuable, and I would have enjoyed that kind of thing. But, ja, I*	6FG1_CF1

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Axial code: beliefs about a rural physician career		
	was just alone so it was a different experience and I think I would've liked it more had I had other people surrounded by me.	
	That's one of the main reasons, I wouldn't go rural. It's for the life outside of the work.	6FG1_WM1
Professionally qualified	*Dis heeltemal iets anders en dis baie lekker vir 'n paar maande, maar na dit raak dit nie meer lekker nie. Hoekom raak dit nie meer lekker nie? Want jy's alleen. Maar as jy gaan saam met 'n vrou en jy bou 'n huis en alles, dan is dit 'n ander storie.*	RS3_WM1
	While my limited rural experience was the bit of community obstetrics I did in Witrivier at Themba hospital, which was frustrating at the best of times. We had very little support, um, what was expected of us was way above what we were able to do at that stage.	RS5_WM1
Open code: a rural physician career choice is wise		
Professionals in training	*If I was following what I think would be the good thing to do, I would go back rural.*	6FG1_WF1
	I don't know if I have a romantic idea about it, but for me, I would like to experience rural, rural because I think it would take me out my comfort zone. And because then I'd know what's really going on in the country, if that makes any sense, with the local population, and not only in South Africa, in Africa in general.	6FG1_WF1
Professionally qualified	*Absolutely. I'd actually like to do something like that [DCST]. I mean you can still teach which is fulfilling? But in a rural setting you can always teach, because then you are always there. The sisters are always there. And I find the sisters in the rural setting, much more ready to learn and they ask questions and they are interested and I love that.*	RS1_WF1
Open code: a rural physician career choice is foolish		
Professionals in training	*Ja, it's a different kind of experience, but from being like you can't train as a Registrar where there is not a university. You can't be a specialist actually in a rural setting.*	6FG1_WF3
Professionally qualified	*As a specialist the disadvantage that you have is that I mean the resources you are limited to what you can do. You have been trained to do some certain procedures, but even if you want to help the patient, you can't help the patient, because you don't have the resources. You cannot be able to do the hysterectomy. You are not able to do some other things that you wish you can do, and you can help this patient, and only you are forced to refer everyone to provincial hospital or to tertiary.*	RS1_AM1
	Eh ja dis, geld is in die stede soos Johannesburg en Kaapstad hoofsaaklik. So die ouens wat regtig geld wil maak gaan Johannesburg toe of gaan Kaapstad toe of bly in Pretoria, gaan Durban toe. Hulle is nie die ou wat in die middel van nêrens gaan	RS3_WM1

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Axial code: beliefs about a rural physician career		
	'n liefdadigheidspraktyk oopmaak nie en in hoenders betaal word nie.	
Open code: a rural physician career is not advantageous for physicians		
Professionally qualified	*So, like I have just pushed myself away from the rural places, because I realise that after internship or com service, I go to rural places, then that thought of just opening my own practice and just doing making money will come along and I'll forget about specialising. So, I made sure that I don't go there so that I can specialise.*	RS1_AM1
	Also, if you want to grow academically it's a big challenge there, because the things that you can do are quite limited. Because of resources.	RS2_AF1
	I also worked in a rural hospital for two years, and just really feeling like as a generalist you have to be responsible for so many other conditions, and I felt like I really wasn't able to just get a handle on most of the problems and, um, just feeling like you are the jack of all trades, but almost inadequate across the board.	RS8_AF1
Open code: A rural physician career is not advantageous for specialist physicians		
Professionally qualified	*As a specialist the disadvantage that you have is that I mean the resources you are limited to what you can do. You have been trained to do some certain procedures, but even if you want to help the patient, you can't help the patient, because you don't have the resources.*	RS1_AM1
	I think for me, if they introduce them in the setting that we're in currently, you're just going to frustrate them. You're going to bring in the specialists, then bring in the resources. That's how I see it. How are they going to use their skill?	RS6_AF1
Open code: a rural physician career (in the public sector) is associated with good long terms earnings potential		
Professionals in training	*I think the extra money is actually forcing people to go back because I think they also realise that it shouldn't be forgotten. I think bursaries help to take people back. And a rural allowance also attracts people.*	6FG1_AF1
Professionally qualified	*It depends where you are working...How rural your place is, sometimes, its 18%, 20%, 23%... It depends how rural you go. You can earn quite a lot in the rural environment.*	RS9_AM1
	Money is important for sure. I happen to be, I was in management, hospital management and I left to study. And I found that, you know, like medical officers earn more than specialists. That's a fact. Yes, medical officers earn more than specialists, you know. It's not the money really, you understand? Personally, I took a pay cut.	RS9_AM2
	So, like I have just pushed myself away from the rural places, because I realise that after internship or com service, I go to rural places, then that thought of just opening my own practice and just	RS1_AM1

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Axial code: beliefs about a rural physician career		
	doing making money will come along and I'll forget about specialising. So, I made sure that I don't go there so that I can specialise. To remain focused? Ja, remained focused. So, it's not everyone, but most of my friends are there, most of them are making a lot of money in… Polokwane? No, the rural areas - Ja, they're making a lot of money down there.	
Open code: a rural physician career (in the public sector) is not associated with good long term earnings potential		
Professionals in training	*I think it's definitely when people who study like us and you speak to them about considering rural, you get the impression they see it's not as glamorous as being in an urban setting and there is not that much money.*	6FG3_WM2
Professionally qualified	*So mens kan ook gaan kyk, ek dink nie jy kan vergelyk, maar as ek vergelyk sal ek as ek "generalise", die ouens wat geld wil maak, gaan nie "rural" nie want hulle weet daar's nie geld nie, wel…*	RS3_WM1
	Eh ja dis, geld is in die stede soos Johannesburg en Kaapstad hoofsaaklik. So die ouens wat regtig geld wil maak gaan Johannesburg toe of gaan Kaapstad toe of bly in Pretoria, gaan Durban toe. Hulle is nie die ou wat in die middel van nêrens gaan 'n liefdadigheidspraktyk oopmaak nie en in hoenders betaal word nie.	RS3_WM1
Open code: a rural physician career can be combined with other careers/ jobs (e.g. private practice, farming, etc.)		
Professionals in training	*I'm not planning on working 8 – 5 every day, not like my dad does. He farms from 5 – 8 and then he's a GP from 8 – 1. He sees like 50 patients in that time and then from 1 – 4 he does farm work. I'm not planning on farming at the moment, but I definitely want to be at work at 07h30, work till about 2pm. And then I don't know whether I'll get a wife that I can go home to, or go fishing or play golf. (Laugh)*	6FG3_WM2
Professionally qualified	*I also think that from my experience that I've seen, some of the GP's that have stayed in the rural setting for long, it's also about the benefits, or the kickbacks that they can get from being in that setting. If they can work in the government hospital at the same time, run their GP practice, it ends up sort of compromising one of the two. But I find that it then becomes more lucrative for those people who can, in the same vicinity, have their private practice and have the hospital and even if they don't live like, in the community perhaps within 100 kms or so away in a bigger town, then where the rural hospital is, they are able to make it work in that fashion.*	RS8_AF1

5.2.5.3 Discussion of beliefs about a rural physician career

The set of open codes generated by the researcher in this section reflect similar measures used in quantitative studies by Arnold *et al.*(2006:374-390) and Van Hooft *et al.* (2006:156-166) who tested the applicability of the TPB to account for occupational

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intentions (refer Section 2.4.3 for an overview of the studies). Participants shared beliefs that have both positive and negative outcomes as far as the attractiveness, enjoyment, wisdom of career choice, experience and advantages of a rural career are concerned. The strength of these beliefs vary between the research groups and in some cases between participants with different demographic profiles.

As far as the first set of beliefs regarding **attractiveness**, or appeal, of a rural career are concerned, participants from the professionals in training group shared the belief that a rural career is attractive because it provides physicians with opportunities to contribute to community upliftment, to work in multi-disciplinary health professional teams and to treat a variety of patients, including patients representing different generations. This outcome corresponds with findings by Couper *et al.* (2007) who proposed that the opportunity to contribute to the upliftment of rural communities is an influencing factor for physicians to choose rural careers. Reid (2011:72) highlights that rural medicine has an extremely wide scope of practice that demands a unique set of skills from physicians to be able to "…cope with any patient with any problem, at any time in any place…". The same research group however, believe a rural physician career is not attractive as it is not a prestigious career choice and working in a rural hospital environment is associated with a lack of professional support, inadequate resources and is not deemed conducive for learning and development.

These findings correlate to some extent with research by Price and Weiner (2005:417) which found that physicians choose careers in the private sector because of poor management of the public health system. Reid (2011:72) states that a rural physician career is professionally, socially and emotionally more demanding than other careers in medicine. Using the groundedness principle of ATLAS.ti (Archer, 2013) as a proxy for subjective value of the expected outcome of a belief, the researcher found that more participants in this group believed that a rural physician career is attractive than those who believe it has unattractive outcomes.

Participants from the professionally qualified group shared beliefs that a rural physician career is attractive due to its "romantic image" and the perception that living among rural people would be a pleasant experience, however, more participants in this group believe

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that a rural physician career is unattractive due to perceptions of higher instances of mismanagement and corruption in rural health care; the fact that rural physicians often have to work alongside foreign trained physicians, especially those from Cuba who are perceived to have different values, work ethics and clinical approaches than locally trained physicians and negative perceptions about the long term income potential of a rural career choice. Participants from the professionally qualified group shared the belief held by professionals in training that a rural health working environment is not attractive due to the lack of support, resources, equipment and medical technology in rural health facilities.

Bateman (2013a:603-605) provides more insights into the challenges and opportunities pertaining to Cuban physicians as well as South Africans training in Cuba to become physicians and according to him, the views held by prominent public health experts in the country differ greatly regarding the contribution of these physicians and correlate with the beliefs of the participants in this study. As far as corruption in the rural health sector is concerned, the researcher did not find any studies to support these beliefs however, reports in the media regarding alleged corruption in various provinces with large rural areas are abundant in recent years and consistently reflect gross mismanagement and endemic corruption in the health system (Bateman, 2011:14-15; Malan, 2013 & 2014; Section 27, 2013:27; Gqirana, 2015).

The researcher observed the following pertaining to whether demographic factors account for differences in participant beliefs regarding the attractiveness of a rural physician career:

- The vast majority of participants who believe a rural physician career is attractive are white female professionals in training. Noting that this research group was dominated by white females, the finding is deemed important, but not highly significant;
- A significant majority of participants from both research groups who shared beliefs regarding the attractiveness of a rural physician career have previous study or work experience in rural areas;

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- Language, marital status and dependants seem to have no influence on the beliefs of participants of both research groups regarding the attractiveness of a rural physician career;
- None of the participants who contributed beliefs in this regard have family working for the public rural health sector so it is not possible to indicate what influence they have on the beliefs of participants in this regard; and
- The majority of participants in the professionals in training group who believe a rural physician career is attractive do not have friends working in the rural health sector whilst the majority of participants in the professionally qualified group who indicated they do not believe a rural physician career is attractive have friends working in the rural health sector, again suggesting that friends in the profession may have an impact on the beliefs of this group.

The second set of beliefs in this section describe the beliefs of participants with regard to whether a rural physician career is perceived as **enjoyable or unenjoyable**. The professionals in training believe a rural career can be an enjoyable experience for physicians because of the opportunity to connect to the community where they work, however, the absence of support structures and lack of a "social life" outside work are deemed to be unenjoyable outcomes in this regard. Participants from the professionally qualified group shared beliefs that a rural physician career could be enjoyable in the short term because of the opportunity to build good friendships with rural colleagues and living a rural lifestyle, however, the associated negative outcomes, which tend to be more significant in this instance, such as an unsupportive and frustrating working environment, overwhelming patient volumes, lack of personal support structures and loneliness would probably lead to an unenjoyable career in the long term.

The findings pertaining to the positive beliefs in this regard correspond with research outcomes by Couper *et al*. (2007:1082-1086) and experiences shared by Dr Karl le Roux, chairperson of the Rural Doctors' Association of South Africa (Medical Chronicle, 2012) namely that a close relationship with the community and their appreciation contributes significantly towards the enjoyment of a rural career. Dr le Roux, however, confirms the beliefs that are associated with negative outcomes as he believes rural physicians face emotional stress which could lead to burnout, if not carefully managed. In addition, he is

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of the view that the patient load, lack of peripheral resources and poor administration are ever present in the majority of rural and public sector hospitals. He says: “Issues such as ensuring adequate supplies and medication, and the time taken and red tape needed to procure or repair essential equipment, makes our job more difficult. The government procurement system is very inflexible and everything takes a long time.” (Medical Chronicle, 2012).

The researcher observed the following similarities and/ or differences between various demographic groups with regard to whether a rural physician career is enjoyable or not:

- There were no differences between different race and gender groups pertaining to beliefs regarding whether a rural physician career is enjoyable or not, however, the majority of those who believe a rural career is enjoyable are English speaking;
- The majority of participants who believed a rural career is enjoyable grew up in urban areas, but have previous working experience in a rural environment;
- Marital status, dependants, family and friends working for the rural public health sector seem to have no impact on beliefs whether a rural physician career is enjoyable or not.

The third set of beliefs discussed in this section relate to the **wisdom** of a rural career choice. Participants from the professionals in training group believe choosing a career in a rural environment would be a wise choice for physicians as a rural career is deemed to be well aligned with the values of physicians such as compassion, service, altruism, and trustworthiness as detailed in the core ethical values and standards that underlie professional and ethical medical practice (South African Health Professions Council, n.d.). According to *Couper et al*. (2007:1085), personal values, qualities and socio-political beliefs are strong motivators for choosing rural careers. Reid (2011:74) states that the commitment of rural doctors to serve their communities is part of the value systems of those who have chosen careers in rural medicine. In addition, participants from this group believe that a rural career would broaden the perspectives of physicians, also equipping them to work beyond the borders of South Africa. One participant however, regards a rural career choice as unwise because of the limited opportunity to train as a specialist, apart from specialising in family medicine. This finding corresponds

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with research conducted by Green *et al*. (2006) who found that physicians regard a rural career choice as unwise because it limits the opportunity to "function at a higher level", and they have limited exposure to "pathologies".

As far as the beliefs of the professionally qualified participants are concerned only one participant felt that choosing a rural career is potentially wise if it is a specialist in a DCST where such career would offer the opportunity to teach and have an impact on the improvement of rural healthcare. Participants in this group shared more beliefs that suggested a rural career would be an unwise choice. These beliefs included the perception that specialists would not be able to apply their expert knowledge and specialist skills due to a lack of resources, equipment, technology and support in rural health facilities. In addition, this group believe that even if rural physicians have good intentions to contribute to and uplift rural healthcare, the unsupportive and in some cases dysfunctional health system does not allow them to bring their plans to fruition. Research by Reid (2011:74) suggests that if the attribute of "stickability" or tenacity (which reflects the commitment to make the best of a situation under the circumstances) is absent, a physician will deem it unwise to choose a rural career.

The researcher observed the following similarities and/ or differences between various demographic groups with regard to whether a rural physician career choice is wise or foolish:

- The participants who believe a rural physician career choice is wise are all white females. There were no differences between different race, gender or language groups of the participants who believe a rural physician career choice is unwise;
- The majority of participants who believed a rural career choice is wise grew up in urban areas, but have previous working experience in a rural environment;
- Marital and status did not account for differences between the beliefs of participants pertaining to the wisdom of a rural career choice;
- None of the participants who shared beliefs about the wisdom of a rural physician career choice have family who work in a rural health environment so it is not possible to determine the influence of family on their beliefs in this regard;

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- Most of the participants from the professionally qualified group who believe that a rural career choice by physicians is unwise have friends working in a rural health facility, thus suggesting that friends have an impact on the beliefs of this group. None of the professionals in training group who contributed beliefs in this regard have friends that work for the rural and public health sector.

The fourth group of beliefs discussed in this section concern beliefs whether a rural career is deemed **advantageous for physicians in general and specialist practice**. Only the professionally qualified group shared beliefs in this regard and these beliefs all have associated negative outcomes. Participants believe that once they chose to practice medicine in a rural environment they would be distracted from career ideals to specialise and their clinical skills and expertise will deteriorate. They furthermore believe a rural career is not advantageous for specialist physicians as the undesirable working environment and dysfunctional rural health system would frustrate them and undermine skills development. The researcher could not find evidence of previous studies that explored the experiences of specialist physicians in the South African rural health sector, so was not able to confirm these findings. Hugo (2013) however, suggests that these beliefs may stem from the fact that medical students and young physicians are incentivised to specialise and that the private health sector actually thrive on the unequal health system that is currently in place as it is sustained by specialists. As such specialists are not encouraged to choose careers in the public including the rural health sector, unless they wish to pursue an academic career in which case they often combine public service and private sector practice, sometimes to the detriment of their public sector patients.

The following similarities and/ or differences by different demographic groups were observed by the researcher:

- Only African participants from the professionally qualified group contributed beliefs in this regard. All these beliefs are associated with negative outcomes;
- Prior working experience in a rural environment does not have an impact on whether participants believe a rural physician career as a general or specialist physician is advantageous or not;

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- The majority of participants who believe a rural career is not advantageous for generalist and specialist physicians grew up in rural areas and are married;
- None of the participants who shared beliefs about whether a rural career is advantageous for physicians have family who work in a rural health environment so it is not possible to determine the influence of family on their beliefs in this regard;
- Most of the participants from the professionally qualified group who believe that a rural career is not advantageous for physicians have friends working in a rural health facility, thus suggesting that friends have an impact on the beliefs of this group.

The fifth set of beliefs described in this section are related to beliefs with regard to the **earnings potential** associated with a rural career. The professionals in training shared the belief that the rural allowance payable to rural physicians is a good practice to increase the remuneration of rural physicians, however, the overall long term earnings potential of a rural physician career is less than that of an urban career.

Participants from the professionally qualified group shared stronger beliefs that the rural allowance, which is dependent on locality, is a good incentive resulting in well paid rural physicians. One participant stated the belief that a rural physician in general practice could potentially earn more than a specialist physician in an urban setting as a result of the rural allowance and other benefits payable to physicians in rural areas. The opportunity to combine a rural career with private medical practice or another career such as farming also improves the earnings potential of a rural physician in the long term, although there is the risk that the rural physician could spend more time on his/ her private endeavours than contributing to healthcare in the rural setting where he/ she is based, especially in the absence of supervision. Some participants from this group however, believe that a rural physician (both public and private sector), will earn less than a general physician in an affluent urban area such as Cape Town or Pretoria.

Dussault and Franceschini (2006:12) point out that incentive strategies have been used widely by governments, including South Africa, to attract health professionals to otherwise unattractive locations, however, "…financial incentives alone usually have not been sufficient to ensure that remote and underserved areas are and remain adequately staffed." It does, however, appear that economic incentives are not enough to influence

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attraction and retention to rural areas and they should be supplemented by other incentives such as professional development.

As far as the impact of different biographic variables in this regard are concerned, the researcher found the following similarities and/ or differences:

- There were no differences between different race and gender groups pertaining to beliefs about the earnings potential of a rural physician;
- The vast majority of participants who contributed beliefs in this regard grew up in urban areas but have prior working experience in a rural environment. The participants who believe a rural career has good long term earnings potential grew up in a rural environment;
- Marital status, dependants and family working in a rural health environment do not account for differences in beliefs in this regard;
- The vast majority of participants who contributed beliefs, both positive and negative, in this regard have friends who work in a rural health environment.

In summary, the beliefs of both research groups regarding the outcomes associated with the advantages of a rural career choice, in combination with their associated value of the expected outcomes, are presented graphically in Figure 41.

The next axial code details the behavioural beliefs participants hold regarding the career development opportunities of a rural physician career.

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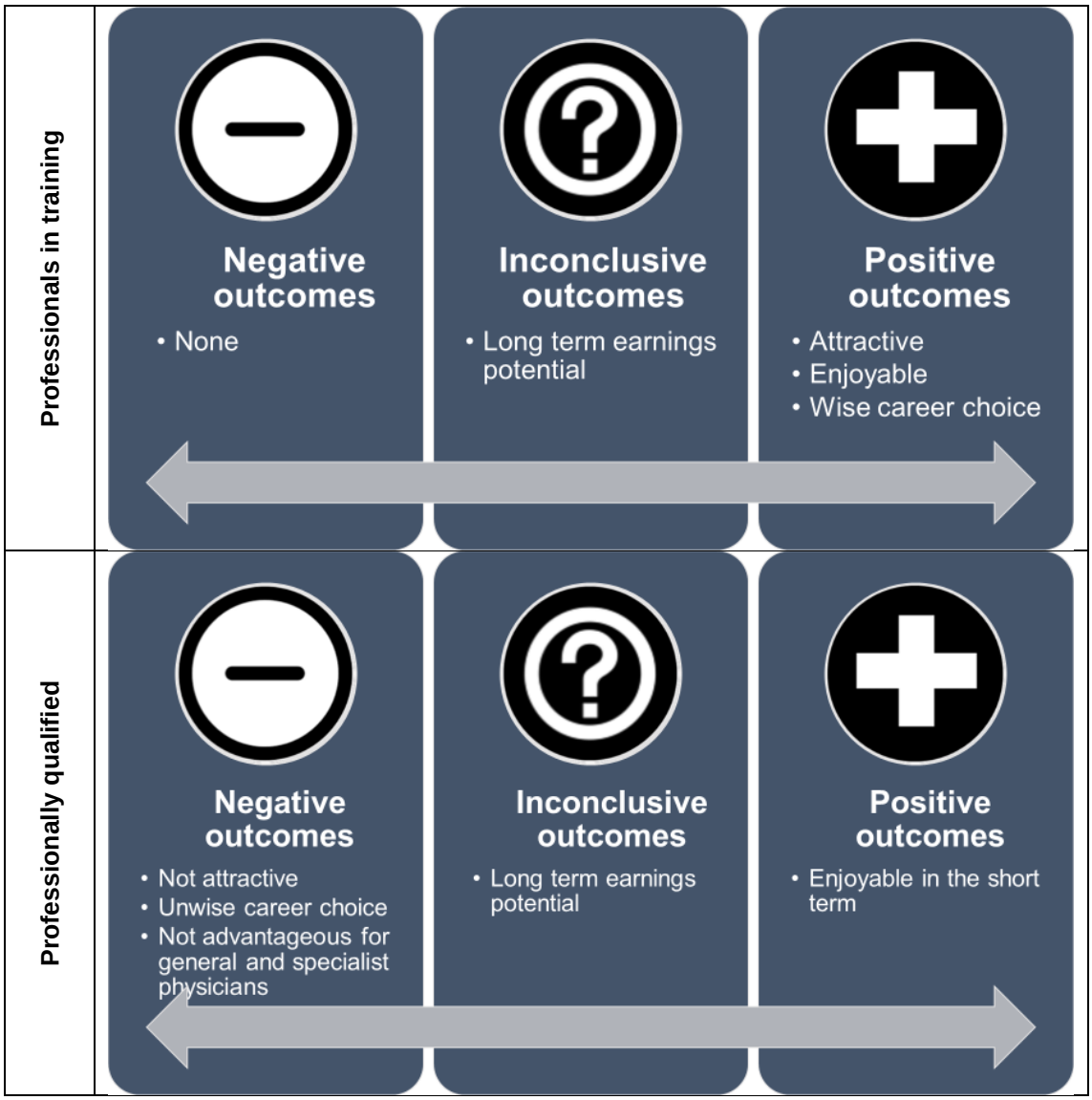
Figure 41: Behavioural beliefs and subjective values of expected outcomes: rural career



5.2.6 Axial code: beliefs about career development of a rural physician

5.2.6.1 Introduction

The open codes generated by the researcher in this section represent the salient beliefs of study participants regarding the expected positive and negative career development opportunities associated with a rural physician career. These beliefs, in combination with their subjective values of the expected outcomes, reflect the attitudes of the study participants towards rural career development (Ajzen, 2014b).

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Similar to the beliefs discussed in Section 5.2.5.2, many of these beliefs originate from previous experiences of participants (own and others) and represent the typical factors that would influence a physician to consider a rural career. Krumboltz's Social Learning Theory and the SCCT as described in Stead and Watson (2006) and in Lent and Brown (2013), propose that previous experience of a career is likely to influence future decisions about such career.

5.2.6.2 Open codes and participant responses

The salient beliefs that emerged from the process of axial coding are presented by the open codes in Table 39. The table includes examples of individual participant responses pertaining to their beliefs regarding the career development of a rural physician and associated positive and negative outcomes. An interpretation of these results is discussed in Section 5.2.6.3.

Table 39: Open codes: beliefs about career development of a rural physician

Axial code: beliefs about career development of a rural physician		
Open code: a rural physician career fulfils career aspirations		
Professionals in training	*But what I've found with in the rural areas, is those are the type of people, especially those that stay on, year after year, those are the ones who do medicine for the right reasons. The passion, compassion and the way they treat patients. They treat patients the way they'd want to be treated, even within that type of structure and infrastructure and whatever is available.*	6FG2_WM1
	I'd rather be working in a small town as a GP, but probably be specialising in a range of things, that many other doctors could be. My personal passion is rural medicine.	6FG3_WF4
Open code: a rural physician career does not fulfil career aspirations		
Professionally qualified	*And for me it was something, I like the academic stimulation; I like learning more and feeling like I am improving my skills. If you are a GP, you feel like you hit your ceiling a lot earlier.*	RS1_WF1
	So I really felt, got the feeling that I never wanted to be in a position where I refused to see someone just because they walked in. And to be a GP and not want to deal with certain, like you don't like surgical patients, so you don't want to see them, or you don't want paediatric patients. So, I never wanted to be in that position where I thought, I don't want to see this patient, or I don't want to see that	RS8_WF1

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Axial code: beliefs about career development of a rural physician		
	patient. It put a lot in my mind that I definitely wanted to specialise in something and concentrate on it.	
Open code: a rural physician career fulfils the need for intellectual stimulation		
Professionals in training	*I do think the opportunities in the rural is more like she said, you treat the patient there or they die. Where here you just refer everyone basically and there you have to do things and think much more independent? I think that is nice, I think. It is a learning opportunity.*	6FG2_WF1
Open code: a rural physician career does not fulfil the need for intellectual stimulation		
Professionally qualified	*There is limited knowledge in a "rural" Mamelodi. I'm saying now "rural", but in a primary level of care hospital. And your consultants even are normally career medical officers, not really specialists whose just worked in the discipline for a very long time, who might have some practical experience, but book knowledge is really lacking. So I got very little academic training in comm. serve. And I'm sure it's basically like this everywhere.*	RS4_WM1
	Whereas my experiences in sort of rural setting in South Africa, it's so difficult, there's nothing. I mean I worked at – when I was in varsity, we worked in a small little rural hospital in the middle of the Wild Coast and they were making do. They were using honey as dressings; because that is the only thing they had available to them you know, and you have got guys who are very inexperienced operating and doing you know. That's not what I see as medicine because we should be running on a – what do you call it – words gone out of my mind – sort of as an intellectual basis for everything that we do and there it's not, it's like whatever works in this setting and it's not how I like to work.	RS7_WM1
Open code: a rural physician career offers better career development opportunities than others in the profession		
Professionals in training	*For me it's got to do with what type of job you're expected to do. Because in the academic setting we just get shoved with all the work nobody else wants to do. Whereas in a more rural setting, you don't mind working hard, because you're actually applying the skills that you're learning and making a difference and then you don't mind working hard because the time passes fast, it's not brain deadening, it's not you running around drawing blood.*	6FG1_WF1
	I do think the opportunities in the rural is more like she said, you treat the patient there or they die. Where here you just refer everyone basically and there you have to do things and think much more independent? I think that is nice, I think. Is it a learning opportunity? Definitely and you learn from the other people who have learned it from someone else, so it's just, ja.	6FG2_WF1
Open code: a rural physician career offers less career development opportunities than others in the profession		
Professionals in training	*Patients die and you feel sorry for the doctor whose there. Maybe it's because of his incompetent level, his confidence level which is*	6FG2_WM1

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Axial code: beliefs about career development of a rural physician		
	nothing, but is it the systems fault or is it personal? Where was he supposed to learn these skills or find a place to properly apply them with supervision before going to apply them by himself?	
	I think in the rural setting; it is maybe just my perception. To a certain extent I think the amount of time you can actually spend on a patient is not very output intensive type of thing, because there are always more of these issues that people can't come then, don't have transport etc. etc. and I think that things that you often get yourself over involved in, because it's easy to get yourself over involved in those situations, whereas in the more urban setting, what I can compare with what we have at Steve Biko for example you see a patient with a clinical problem and then you can refer to social worker or there are a lot of people you can refer to. I think at the end of the day, you get so much more done and you feel a sense of job satisfaction, because a lot of the time I get really frustrated when I've been busy the whole day, but I've seen 3 or 4 patients.	6FG3_WM1
Professionally qualified	*There is limited knowledge in a "rural" Mamelodi. I'm saying now "rural", but in a primary level of care hospital. And your consultants even are normally career medical officers, not really specialists whose just worked in the discipline for a very long time, who might have some practical experience, but book knowledge is really lacking. So I got very little academic training in comm. serve. And I'm sure it's basically like this everywhere.*	RS4_WM1
Open code: a rural physician career does not offer opportunities for further specialisation		
Professionals in training	*Training in a rural hospital is definitely like in terms of having a formal diploma, also it's very limited. Like you can't really do your diplomas and you can't really do comm. serve if you are in a rural setting.*	6FG1_WF3
	Ja, it's a different kind of experience, but from being like you can't train as a Registrar where there is not a university. You can't be a specialist actually in a rural setting.	6FG1_WF3
Professionally qualified	*In family medicine you can do that. Because they're dealing more with the primary healthcare issues. But, in other disciplines it is difficult to specialise in rural places because you need to be shown the right stuff.*	RS1_AM1
	Also, if you want to grow academically it's a big challenge there, because the things that you can do are quite limited.	RS2_AF1
Open code: a rural physician career promotes improvement of clinical skills and confidence		
Professionals in training	*For undergraduate studies, I don't think that the academic or tertiary hospitals is where we should be training. You should be training at the district levels. Because those are the sort of disease profiles that you see and the kind of things that you see every day. It's the general things. You know, if you go to an ENT clinic here when you do an ENT rotation, and you see so many weird tumours in the neck and things, and you never look in the ear you know. (Laugh) And then when you go to your general practitioner, you know when you do your internship or anything, then now when I went to this place, I did so many ENT exams and it's just, that's the kind of thing you need to learn. That's what you doing. You're not*	6FG1_CF1

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Axial code: beliefs about career development of a rural physician		
	doing that huge surgery.	
	Training in an internal, if you're an intern in that kind of sense, maybe a rural setting is not such a bad idea because then you get exposed more on your own you have to do something, you have to do the skills. A Registrar doesn't take over.	6FG1_WF3
	I think it depends on what you obviously want to get out of the experience. Even now when we're having to consider which hospital we're going to go and do our internship at, people will base their decision to go do it at that academic hospital because they feel they get more training, whereas personally I'm choosing to go to a rural hospital, because I would rather have the hands on mass training.	6FG3_WF4
Professionally qualified	*You can learn a lot from that side, because most pathology comes in from the rural places. People that are staying in the city, they go to the doctor for everything, they go to the clinic, but that side you find that someone has got a tumour that they thought that she was pregnant and she has been waiting for 9 months, then you can see a lot of things.*	RS1_AM1
	You are forced to examine your patient and be more alert and you tend to pick up pathology in the rural sector whereas here we are more dependent on blood tests.	RS1_IF1
Open code: A rural physician career inhibits the improvement of clinical skills and confidence		
Professionals in training	*I think it's also training may be limited by the patients. In a rural setting people have this mentality of staying away from the hospitals because they think they have a weird condition or are too embarrassed to come to hospital. Black people particularly - they do have them but they keep them there in the house and you never get to see the complications and stuff, so I think, the patients are limiting one in terms of training.*	6FG1_AF2
Professionally qualified	*But where you are alone in the rural places there is a senior doctor or the specialist and then there is no one who is challenging him in terms of that I've been trained and then I just forget about whatever I've been trained in and just do. Because there is a difference between the practical part of it, and the academic part of it. I can be able to do a Caesar in a practical way they've showed me, but you find that academically, it's incorrect. It's a different story, because whatever they're talking in books, it's quite different in whatever you can do practical.*	RS1_AM1
	I can see now, if I compare now what we do here, after having more knowledge, compared to what I did in community service at (Mamelodi) Hospital, I mismanaged patients, is what it boiled down to.	RS4_WM1
	And this brings me to the second point is that in rural areas, because there is a lack of qualified people like specialists, you are taking much more responsibility earlier on in your training, when you are supposed to being trained yourself.	RS6_AM1
	For me it was almost the same, but it was just a case of, I also worked in a rural hospital for 2 years, and just really feeling like as a generalist you have to be responsible for so many other conditions, and I felt like I really wasn't able to just get a handle on most of the problems and, um, just feeling like you are the jack of all trades, but almost inadequate across the board.	RS8_AF1

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5.2.6.3 Discussion of beliefs about career development of a rural physician

Participants shared beliefs that have both positive and negative outcomes as far as the career development opportunities of a rural physician career is concerned. The strength of these beliefs vary between the research groups and in some cases between participants with different demographic profiles.

The first set of beliefs described in this section relate to whether a rural physician career has the potential to **fulfil the career aspirations** of physicians. Participants from the professionals in training group generally share the belief that a physician's career aspirations can be fulfilled by choosing a career in rural medical practice. They state that a rural career has the potential to expand their personal outlook on life and can serve as a platform to become fulfilled and dedicated physicians. Couper *et al*. (2007:1084) concur that a rural physician career expands the horizons of primary care medical practice and deem it to be a facilitating factor in the attraction and retention of physicians to rural areas. On the other hand, participants from the professionally qualified group believe that a rural career does not fulfil physician career aspirations as it lacks the academic stimulation associated with a career in a large tertiary or central hospital and the scope of clinical practice in a rural health environment is too limited. This finding aligns with the results of a study by Green *et al*. (2006:15-15b) that established physicians who chose to specialise generally do so due to a desire to "function at a higher level" and are not inspired by medical practice at a primary care level which is commonly associated with rural healthcare.

The researcher observed the following pertaining to whether demographic factors account for differences in participant beliefs regarding the potential of a rural career to fulfil the career aspirations of physicians:

- The majority of participants from the professionals in training who believe a rural career can fulfil career aspirations of physicians are white English speaking females whilst those participants from the professionally qualified group who believe such career cannot fulfil career aspirations are white males and females, mostly English speaking.
- Almost all the participants from the professionals in training group who believe a rural career can fulfil the career aspirations of a physician have spent some time during

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undergraduate studies in a rural health environment, whilst the majority of the professionally qualified participants who believe a rural career will not be fulfilling career aspirations have previous work experience in a rural health setting.

- All the professionals in training participants who believe a rural career will fulfil career aspirations grew up in cities, however, all the professionally qualified participants who shared the opposite belief also grew up in urban areas, suggesting that origin have no influence on beliefs regarding whether a rural career will be fulfilling for a physician or not.
- The participants from the professionally qualified group who shared the belief that a rural career will not be fulfilling for a physician are mostly married, however, based on their stated reasons of why they believe career aspirations may not be fulfilled, the researcher is not able to conclude that marital status has an impact on beliefs in this regard;
- Dependants, family and friends working in a rural environment seem to have no impact on beliefs in this regard.

Secondly, a few participants from the professionals in training group saw a rural physician career as **intellectually stimulating** because of the opportunity it presents to practice medicine independently and the associated learning opportunities thereof. These beliefs align with experiences of British physicians who worked in South African rural areas as part of the “Out of Programme Experience” which is run by the London GP Deanery and recorded by Reardon, Oluwatobi and George (2014). The young physicians who participated in this programme found the working environment conducive for independent practice which in turn create more autonomy and decision making authority, compared to similar positions in the British National Health Service.

On the other hand, the professionally qualified group shared the view that a rural physician career is not intellectually stimulating due to the perceived absence of academic knowledge and development in a rural environment; the lack of clinical challenges and the tedious and frustrating working environment where a lot of time is taken up by attending to administrative challenges caused by the poor attitude or incompetence of support personnel, instead of practicing medicine. It is assumed that professionally qualified participants place more value on “mentally stimulating work” as

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explained by (Ashmore, 2013). He proposes that specialists are less motivated by financial incentives because they earn a decent income anyway and more concerned about being challenged in order to experience job satisfaction. The optimistic view held by the professionals in training group may be explained by the findings of Couper *et al.* (2007:1085) who state that personal values have a strong influence on the decision to choose a rural career and the "idealism" of younger people such as final year medical students may deem a rural career more compatible with the values of being a physician. The researcher deducts, that the actual experiences as expressed by the professionally qualified group above, impacts on their belief that a rural career is not intellectually stimulating.

The researcher observed the following similarities and/ or differences between various demographic groups with regard to whether a rural physician career is perceived as intellectually stimulating:

- Only white participants who grew up in urban areas contributed beliefs in this regard. White Afrikaans speaking males in the professionally qualified group strongly believe that a rural career is not intellectually stimulating;
- All the professionals in training who believe a rural career can be intellectually stimulating have spent some time in a rural environment during their undergraduate studies however, previous rural working experience did not have an impact on the beliefs of the professionally qualifies participants who contributed beliefs on this topic; and
- Marital status, dependants, family and friends working in a rural environment seem to have no impact on beliefs with respect to whether a rural career is deemed as intellectually stimulating by physicians.

Thirdly, participants from the professionals in training group believe that a rural career offers better **career development opportunities** than a career in an urban academic setting because of the prospect to apply a broader range of clinical skills in a rural setting. The researcher has however, observed that this belief may be influenced by the exhaustion experienced by the final year medical students due to their busy training and academic programmes and the desire to complete their studies and start their internship in a different setting. Reardon *et al.* (2014) reported that British physicians who worked

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in rural areas of South Africa believe their exposure to the advanced and diverse pathology found in these areas, contributed to their professional growth. By the same token the professionals in training group believe that a rural career offers less development opportunities because of the lack of supervision in a rural environment and the fact that rural physicians are often required to become involved in the socio economic issues of the community which is seen as career limiting by this group. The fact that physicians cannot specialise further in a rural environment (apart from further specialisation in Family Medicine) and the perceived lack of opportunity for continuous professional development are also seen as negative outcomes associated with rural career development. Participants from the professionally qualified group generally believe that the absence of other specialists and senior physicians and the limited opportunities to grow academically and perform complex surgeries would be inhibiting the career development of a physician. Many authors including Kotzee and Couper (2006) and Couper *et al.* (2007) highlight the fact that opportunity for professional training and development is a major factor that influence decisions to choose physician careers in rural and or underserved areas. Miranda, Diez-Canseco, Lema, Lescano, Largarde, Blaauw and Huicho (2012:e50567) furthermore state that the opportunity to specialise further significantly contribute to attracting physicians to practice medicine in rural areas.

The researcher observed the following pertaining to whether demographic factors account for differences in participant beliefs regarding the career development opportunities of a rural career:

- White and coloured females who are mainly English speaking believe that a rural physician career offers better career development opportunities than others in the profession. African participants from the professionally qualified group pointed out that a rural career does not allow physicians to specialise further, except in the specialty of Family Medicine;
- The majority of participants in the professionals in training group who believe that a rural career offers better career development opportunities than others in the profession have spent time in a rural environment as undergraduate students. Prior rural experience does not seem to impact on the beliefs of the professionally qualified group in this regard;

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- The majority of contributors in this section grew up in urban areas. One participant from the professionally qualified group who grew up in a rural environment believe that a rural career does not offer career development opportunities; and
- Marital status, dependants, family and friends working in a rural environment seem to have no impact on beliefs with regard to the career development opportunities offered to physicians by a rural career.

The fourth set of beliefs discussed in this section concern beliefs regarding the potential of a rural career to **improve clinical skills and self-confidence**. Participants from the professionals in training group believe a rural career is conducive for such development because rural physicians are exposed to a wider variety of disease profiles that require them to improve their primary healthcare skills. Participants in a study by Diab *et al.* (2012:2251) confirm this belief by stating that the absence of medical technology in a rural health facility often forces the physician to depend on clinical skills only. In addition; this group holds the belief that intern physicians should work and train in rural environments to develop their primary healthcare skills and confidence to function independently without the supervision of registrars and consultants. Burch and Reid (2011b:25-26) propose that consideration should be given to implement longer term "clinical clerkships" in the light of evidence that such placement increase the likelihood of rural career choices. One participant did however, point out that although rural areas have disease profiles that offer lots of learning opportunity for young physicians, rural patients are also less inclined to visit a physician and often only do so when a disease has progressed quite far which may limit the learning opportunity in a rural environment. A few participants from the professionally qualified agree with the professionals in training group that a rural career offers lots of opportunity for young physicians to learn and build confidence as the opportunity to develop clinical skills, particularly in primary healthcare, is more prevalent in a rural setting than an urban setting. They do, however, share significant and strong beliefs that despite the opportunity to learn in a rural area, the absence of supervision and the isolation from other professionals are limiting the opportunity to develop clinical skills and may actually promote the development of inappropriate and lacking competencies which in turn may lead to malpractice and poor patient care. De Villiers (2004:22) refer to research conducted in Canada which found that specialists in rural practice left their careers within five years due to burnout which

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is often due to professional isolation and lack of opportunity for skills development. She furthermore highlighted the findings of a study by Norris and Acosta (1997:418) that suggested if physicians hold “subordinate” roles whilst specialising they may develop “feelings of inadequacy” due to their limited exposure to competency development. In addition, physicians often believe they have skills “gaps” which create anxiety and stress and often trigger their desire to specialise further (Reid, 2011:72).

The researcher observed the following similarities and/ or differences between various demographic groups with regard to whether a rural physician career is perceived as intellectually stimulating:

- African males and white English speaking females tend to believe that a rural career promotes the improvement of clinical skills and confidence of physicians whilst African females and white males, all speaking a variety of South African languages, generally have a contrary view;
- The collective majority of participants from both research groups who believe that a rural career promotes the development of clinical skills and confidence have previous exposure to rural health environment, however, a significant portion of the professionally qualified group who believe a rural career inhibits the development of clinical skills and confidence also have prior rural experience. This suggests that a positive or negative experience in a rural environment previously could have an impact on beliefs in this regard;
- The majority of participants from the professionals in training group who believe a rural physician career promotes the improvement of clinical skills and confidence grew up in cities, however, the majority of participants from the professionally qualified group who have opposing beliefs also grew up in cities. There were no differences between people from a rural origin regarding the potential of a rural career to develop the clinical skills and confidence of physicians;
- Marital status, dependants and family working in a rural environment seem to have no impact on beliefs in this regard; and
- All participants from the professionally qualified group who shared positive beliefs in this regard have friends who work in a public rural environment, however, there was no difference in the beliefs of the professionally qualified participants who believe that a rural physician career inhibits the improvement of clinical skills and confidence,

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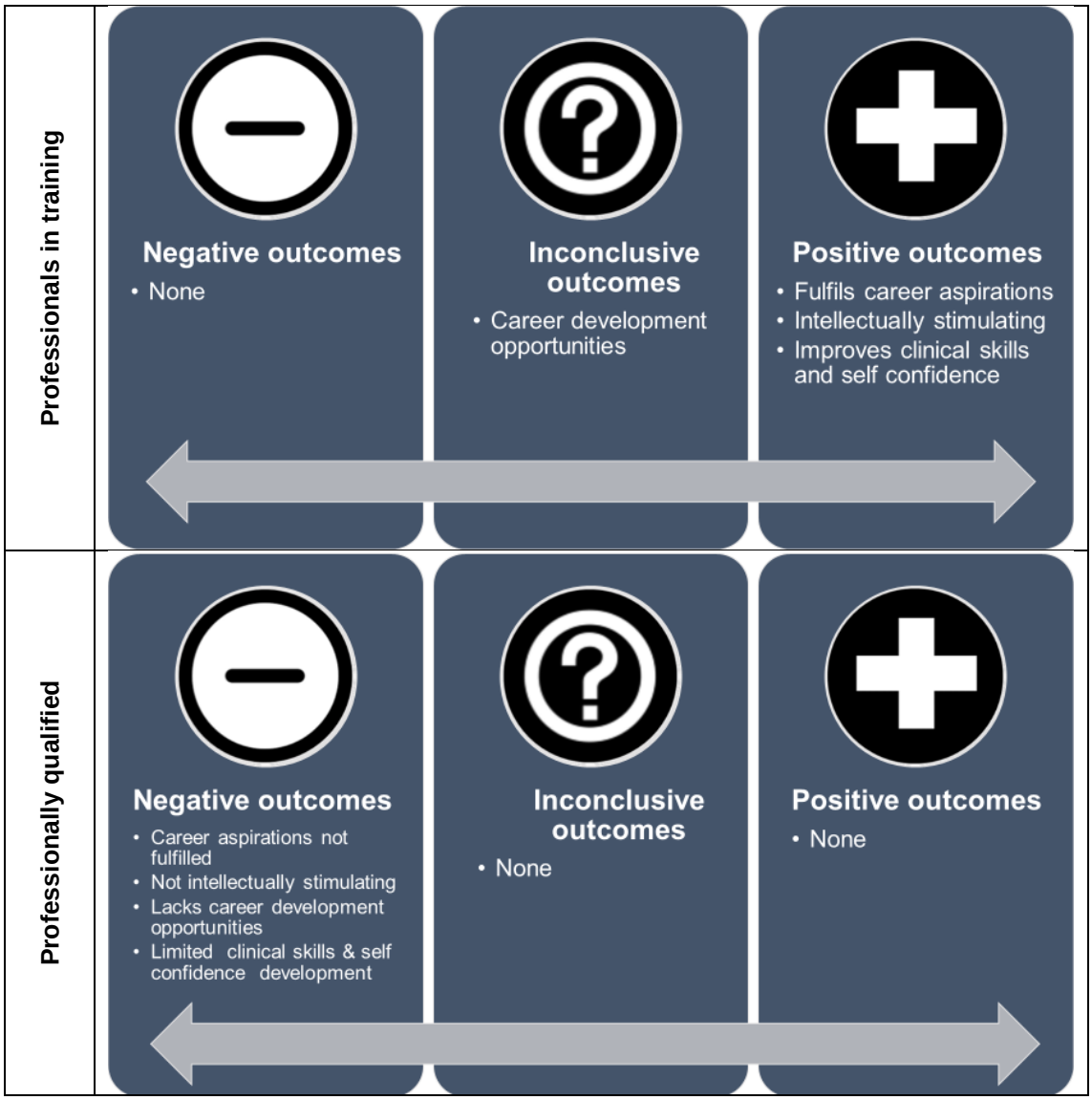
suggesting that friends may have a positive influence on beliefs in this regard, however, own experience also weighs strongly in shaping beliefs in this regard.

In summary, the beliefs of both research groups regarding the outcomes associated with the career development of rural physicians, in combination with their associated value of the expected outcomes, are presented graphically in Figure 42.

Figure 42: Behavioural beliefs and subjective value of expected outcomes: rural career development



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The next axial code details the behavioural beliefs held by participants regarding the actual job and clinical medical practice of a rural physician.

5.2.7 Axial code: beliefs about a rural physician job (clinical practice)

5.2.7.1 Introduction

The open codes generated by the researcher in this section represent the salient beliefs of study participants regarding the expected positive and negative outcomes of a rural physician job as far as practicing medicine is concerned. These beliefs, in combination with their subjective values of the expected outcomes, reflect the attitudes of the study participants towards rural medical practice (Ajzen, 2014b).

"Clinical practice" refer to the scope of practice of medical practitioners and interns as detailed in the relevant scoping regulations (Department of Health, 2009b:38). This includes, among others, the physical medical and/or clinical examination of any person and performing medical procedures, prescribing medicines and managing the health of a patient.

5.2.7.2 Open codes and participant responses

The salient beliefs that emerged from the process of axial coding are presented by the open codes in Table 40. The table includes examples of individual participant responses pertaining to their beliefs regarding rural medical practice and associated positive and negative outcomes. An interpretation of these results is discussed in Section 5.2.7.3.

Table 40: Open codes: behavioural beliefs about a rural physician job and working environment

Axial code: beliefs about a rural physician job (clinical practice) and working environment		
Open code: rural physicians deal with more cases of malpractice, unethical behaviour or corruption than other physicians		
Professionals in training	*Then there was another guy who used to go into the rural areas, into the clinics. Sometimes he would just let us go in the morning and only come at 12h00 when we have seen all the patients.*	6FG2_AM1
Professionally qualified	*It's everywhere. In a rural environment there is no one who is exposing it, but here, because there are people who are exposing it. It's kind of like; you know if I do it, I have to do it in this mad way, so that side, you find that there is no one who is exposing it. You know, in rural places, how we have been taught, or how things have been, if someone senior to you, talk that's final.*	RS1_AM1

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Axial code: beliefs about a rural physician job (clinical practice) and working environment		
	And when the senior doctors are not there, and not around, so the problem is that it's run by the sisters and its run by the most junior doctors. And I find that if you get a referral from the doctor who is referring you, he is not even around the hospital to ask. He just got a call from the sister and then you call and you say I've got this patient and if you interrogate further, they will start to be more defensive, being arrogant if you don't want that patient, just say so because most of the time if they're doing a call, they're doing something, either they're a locum somewhere and its either, I mean, some are doing some holiday so the sister will just send a patient to you.	RS1_AM1
	I think when it comes to protocols; you find that in the rural area, their protocols are different. I'm not sure if it's because of the way they do things. Maybe one can look at them as unethical. I'm not sure whether it's because of lack of knowledge that they are not advanced and they don't know or they just choose to be ignorant, and just do things differently.	RS2_AF1
	Corruption is going to be everywhere. Ummm. I've got a feeling what might be happening more in rural hospitals are doctors who is employed, but spend very little time there. And will have a private practice running in town as well and spend more time there. Which is maybe not so prevalent in an academic hospital. But I mean I'm sure stuff like theft and you know, dishonesty. I know from Tembisa where I work, in terms of working overtime, actually worked, you're going to find here as well. So, it's probably not a lot different.	RS4_WM1
	I also think that from my experience that I've seen, some of the GP's that have stayed in the rural setting for long, it's also about the benefits, or the kickbacks that they can get from being in that setting. If they can work in the government hospital at the same time, run their GP practice, it ends up sort of compromising one of the two.	RS8_AF1
	To be honest in the Eastern Cape there is massive corruption. We must recognise there is lots of corruption, I'm sorry to say, that is the truth. Because you find out, the budget is supposed to be passed at April, but by July it is finished. This is true. You can't see what the money was used for. It happens on a recurring basis.	RS9_AM2
Open code: rural physicians have similar experiences of malpractice, unethical behaviour or corruption than other physicians		
Professionally qualified	*Wel, ek kan nie kommentaar lewer nie. Ek was nog altyd 'n gas gewees by 'n "rural" plek. Ek het nog nie lank genoeg daar gewerk nie. Ek kan sê vir hierso, ja hierso is baie onetiese gedrag, ja hierso is baie korrupsie, ja en ek praat nou van 'n groot tersiëre plek, kan jy dit sien. Maar ek dink jy gaan dit net soveel in "rural" areas kry en dit gaan nie verskil nie…*	RS3_WM1
	But I mean I'm sure stuff like theft and you know, dishonesty. I know from Tembisa where I work, in terms of working overtime,	RS4_WM1

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Axial code: beliefs about a rural physician job (clinical practice) and working environment		
	actually worked, you're going to find here as well. So, it's probably not a lot different.	
Open code: rural physicians treat patients who are poorer, more vulnerable and less informed than urban patients		
Professionals in training	*The public sector is much more rural. The public sector is much poorer than the private sector. They cannot afford even to go to the doctor. So you deal with the sick patients who can't afford the treatment.*	6FG3_WF1
	So try going to the middle of northern KZN and then you will know what rural is like. When they cannot speak a word of English, or a word of Afrikaans or anything. They've literally travelled 3 hours from their hut and they have no electricity, they have no water. I know we deal with those problems (like no electricity) for say diabetic patients that can't keep their insulin. We deal with that in an urban setting, but my personal opinion of rural medicine is different to what we've experienced here. But I've personally been able to spend a month in rural Zululand and that's what I deem rural, where the people literally have nothing and they have nothing to give to you. Just your simple, active care. It could just be listening to them or something is what is going to make them better. That's my personal perception.	6FG3_WF4
	I'm saying it's quite difficult because most of the people are illiterate and so on. Language wise or language barriers? Also their understanding lacks. Sometimes you try to advise patients and stuff like that. So they don't understand the terminology that you use? They are not as well informed as the people in cities.	6FG2_AM1
	Just to add quickly to what she said. Especially in a rural setting, and it's so much more important even than in an urban setting, because you are the only person that these people have. At the end of the day, you still have other doctors to agree and get second opinions and usually more educated I think, the patient in an urban setting. So they can still take their own initiative. You are forced to take on a very paternalistic way of approaching medicine when going to rural. I think that's something you have to be very aware of as it's a big responsibility.	6FG3_WM1
Professionally qualified	*My sister-in-law worked in a GP practice in a rural area east of Bloemfontein for a while. And she said that it was heart wrenching to see that patients don't get healthcare where they went to get it. They take the last bit of money they have and to come and see the doctor and then they pay R80 for a bag of medicine, and they don't have R80. Because, in the rural areas, that's where poverty is the most prevalent. She said that you would have a whole family coming in who had gastro enteritis for a week and they are all out. They have nothing and they're coming to see a doctor. She found it very disheartening.*	RS1_WF1
	I think it just depends, what social problems. But definitely there are social problems in all spheres, the one with rural it's usually 'cos they have poor social circumstances and lack of information.	RS8_AF2

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Axial code: beliefs about a rural physician job (clinical practice) and working environment		
Open code: rural physicians treat patients who are less demanding than urban patients		
Professionally qualified	*Typically, more. Ja. Typically, it's more demanding patients (urban), demanding families and we haven't actually until I started specialising, worked so closely with patients before. We were always on the side-lines more, whereas now you are intricately involved and it's a different ballgame. I prefer my patients actually really sick and not able to talk back to me.*	RS4_WM1
	I think it's actually harder to deal with the urban patients than the rural. Urban patients seem to be a lot more demanding and their interpersonal stresses are far more involved, and they kind of involve you in them a lot more, than what the rural person does.	RS8_WF1
Open code: rural physicians treat patients who are usually sicker than urban patients by the time they consult a physician		
Professionals in training	*In a rural setting people have this mentality of staying away from the hospitals because they think they have a weird condition or are too embarrassed to come to hospital. Black people particularly - they do have them but they keep them there in the house and you never get to see the complications and stuff, so I think, the patients are limiting one in terms of training.*	6FG1_AF2
	The public sector is much more rural. The public sector is much poorer than the private sector. They cannot afford even to go to the doctor. So you deal with the sick patients who can't afford the treatment.	6FG3_WF1
	And often in the rural sector you will be dealing with very sick patients who need transporting here and there, so I think the workload in the rural hospitals in the public sector is much bigger than a GP practice anywhere.	6FG3_WF3
Open code: rural physicians deal with broader community challenges (socio economic issues; family issues)		
Professionals in training	*I think in the rural setting; it is maybe just my perception. To a certain extent I think the amount of time you can actually spend on a patient is not very output intensive type of thing, because there are always more of these issues that people can't come then, don't have transport etc. etc. and I think that things that you often get yourself over involved in, because it's easy to get yourself over involved in those situations, whereas in the more urban setting, what I can compare with what we have at Steve Biko for example you see a patient with a clinical problem and then you can refer to social worker or there are a lot of people you can refer to.*	6FG3_WM1
Professionally qualified	*But in rural areas, patients develop bonds with you and they go to you for other problems, social issues as well.*	RS6_AM1
	I'll say so, look I never worked properly at Madwaleni, but I think doctors in a rural setting actually have to ja, you end up having to instead of just working as a doctor which is what I want to do, I want to practice my profession, whereas rural doctors you end up	RS7_WM1

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	having to help the nurses and get a proper accommodation, and start a little garden and there is a lot more non-medical stuff going on. That's not for me. (Laugh). I would say that you end up being more of a social worker than an actual doctor.	
	I think it just depends, what social problems. But definitely there are social problems in all spheres, the one with rural it's usually 'cos they have poor social circumstances and lack of information.	RS8_AF2
Open code: rural physicians provide lesser quality healthcare than physicians in other settings		
Professionals in training	*I think being at a public hospital that's not academic, I think the quality does suffer a little bit, I think people do get lazy.*	6FG2_WF3:
	And then on the other side of the spectrum you have very rural where you end up there and you could be the only doctor, first year intern, and you can be the only one there. So, with regards to the skill level, yes there is a lot of exposure and experience to gain, but what type of quality of?	6FG2_WM1
Professionally qualified	*Whereas here you go intubation, go to ICU, put up lines. It's much more time spent here per patient. And better quality care versus rural. You would probably spend more or less the same amount of time. But it will be a higher patient load and less quality care*	RS4_WM1
	I think probably they're getting a little more of a sub-standard level of care. Their needs are similar to what the people in the city will need in terms of what you need if you get sick, but for most, it just simply just doesn't happen. It's just not possible for most to be referred to an academic centre and to get the level of care which is needed.	RS4_WM1
	My limited exposure, my parents live in rural Mpumalanga. And I mean the other day, just to give you a bit of insight into what happens there, I had to go and see one of the older farm workers. He actually works for my grandfather, not for my father. My great, grandfather, and I mean the level of care that he'd received in one of the local clinics, and subsequently at one of the local hospitals, was for me, appalling and I felt terribly sorry for this man. I tried to do what I could, and I tried to get in touch with the doctor, unsuccessfully so. They had misdiagnosed his heart failure which was in fact pulmonary tuberculosis. Clearly and evidently you can see on the x-ray and on his history and on his examination and he passed away a week later, so it was too little, too late.	RS5_WM1
Open code: rural physicians have challenges to effectively treat female and child patients		

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Professionally qualified	*Like, you'll find that you'll be able to do, certain procedures you really can't do. I don't know how to explain it, maybe in my field because you know, you won't be able to do hysterectomies, you won't be able to do myomectomies. You have a patient with cancer and needs to be, the uterus needs to be removed. Has to go, whatever indication of a big operation… You'll find that the only thing I can do there is a caesarean section.*	RS2_AF1
	I think for me it had a big influence because I went to a rural hospital in Durban North and when I got there, no one at all wanted to do paediatrics. They were highly scared of children. So they were kind of like, please will somebody volunteer. So then I said I will do that and its fine.	RS8_WF1
Open code: rural physicians are exposed to a diverse range of clinical activities, challenges and patients		
Professionals in training	*You have so many things bombarded at you at the same time – and because the patients are so many. So you actually need to work a lot faster, whereas you know if I could take 10 bloods is sort of systematic, you kind of know OK, this is what I have to do, and you just go about it. But like, there it was very difficult because everyone is a new issue and every patient is different.*	6FG1_CF1
Open code: rural physicians are exposed to a limited range of clinical activities, challenges and patients		
Professionally qualified	*Also, if you want to grow academically it's a big challenge there, because the things that you can do are quite limited. Because of resources. Like, you'll find that you'll be able to do, certain procedures you really can't do.*	RS2_AF1
	I'm saying now "rural", but in a primary level of care hospital. And your consultants even are normally career medical officers, not really specialists whose just worked in the discipline for a very long time, who might have some practical experience, but book knowledge is really lacking. So I got very little academic training in comm. serve. And I'm sure it's basically like this everywhere.	RS4_WM1
Open code: rural physicians have a high workload		
Professionals in training	*I also want to add that it sometimes depends on the hierarchy you have available, like in academic hospitals you have consultants, registrars, interns, students and then you have final year students and there is a lot of people that you can hand down and eventually you don't need to mother them as much. But then if you go into a rural setting, they will have a lot of patients still, and then there isn't that hierarchy and the intern can't offload the work to the students, so you see I would assume they will have a little bit more work because of their lack of doctors.*	6FG1_AF1
	A different kind of tiring, also because you have so many things bombarded at you at the same time – and because the patients are so many. So you actually need to work a lot faster, whereas you know if I could take 10 bloods is sort of systematic, you kind of know OK, this is what I have to do, and you just go about it. But like, there it was very difficult because everyone is a new issue.	6FG1_CF1

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	So, I think I've experienced the workload in each one of those places. You do work wherever you are, but there I think especially when it comes to the, academic part, the workload can be much less, depending on where you are. I think because often it's just ward work or something, like maybe you have outpatients, then haematology patients or as opposed to being an OPD in a rural facility where I was, where you see 150 patients a day every day, or working in a private practice where there is sort of scheduled appointment and you know how many patients you're going to see.	6FG1_CF1
	I just think that the patient load is enormous. Like when we were working in the out patients department, we could easily see more than 100 patients a day and we don't get through all of them. You end up sending half of them home. So, I think that's one of the greatest difficulties. You really don't spend enough time on each patient because you don't have the time to spend on them.	6FG2_WF3
	And often in the rural sector you will be dealing with very sick patients who need transporting here and there, so I think the workload in the rural hospitals in the public sector is much bigger than a GP practice anywhere.	6FG3_WF3
Professionally qualified	*No that side you like, you see a lot of patients. You see a lot of patients alone. You find that maybe, you are 2 in the team and the other one is on call. You are forced to see a person being alone, most of them. So, workload there is more than here. At least here, you find that some, like here in Steve Biko there is a number of patients that you must see in the out patients. Of course they're not going to be more than 20 or more than 30. There is a limited number of patients that you have to see because there are still other things that you have to see. Whereas that side, you will find that I would see almost 60 patients alone. So, in the morning from 08h00 - 16h00, I'm just sitting in that chair seeing patients.*	RS1_AM1
	But I doubt if I'll ever do it, because the numbers are so daunting. You go there and see 80 patients by yourself.	RS1_WF1
	Well, if I have to say rural versus an academic hospital, you get state sector first. Probably your patient load is going to be much more in rural. You might be seeing 50, 60 patients in a day. But your level of care is much different. You can only do so much. If you have a patient who has got a severe pneumonia who is not doing well, you know, oxygen, antibiotics, if it doesn't work, sorry.	RS4_WM1
Open code: rural physicians have a similar workload to physicians in other settings		
Professionals in training	*I also think it's about the time comparing public to private like you said earlier if it's in the rural or if it's in the urban area. If you work in public you're going to work longer hours. Whereas in the private sector seems to be, even in the rural sector it will be what you make of it. If you want to work a few hours a day.*	6FG3_WF2
Professionally qualified	*Ja – jy kan wegkruip. Dit gee nie om waar jy is nie en jy kan werk net so hard as wat jy wil en omgee so hard as wat jy wil, so dis*	RS3_WM1

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	baie persoonsafhanklik, dink ek. Want een ou kan 80 pasiënte op 'n dag sien en nie baie hard werk nie waar die ander ou sien 5 pasiënte en hy werk baie hard. So mens moet ook goeters in perspektief sien. Daar is meer as een manier om 'n ding te doen en as jy iets reg doen, vat dit langer en as jy reg na 'n familie kyk, kan dit jou 'n hele dag vat om net na 'n pa, ma en twee kinders te kyk of jy kan deur 80 pasiënte draf en elkeen vir vyf minute sien, tien minute sien en 'n voorskrif skryf, maar jy kan niemand onthou, se naam, of jy het nie 'n probleem opgelos nie, jy het net 'n voorskrif herhaal.	
	So eers moet mens kyk "rural"… "rural" moet 'n mens beter gaan definieer want as jy gaan "rural" gaan werk ek bedoel jy kan in die Vrystaat gaan werk by… êrens by 'n hospitaal wat 'n narkotiseur het en wat 'n wandelende sjirurg het en wat "ICU"-fasiliteite het en dit sal val onder "rural" of jy kan in Noord-Natal by Kosibaai op die Mosambiekse grens gaan werk wat 'n hut met 'n waaier het en jy gaan malaria behandel die heeltyd, so daar's verskille en ek dink jy gaan werk net so hard as wat jy wil. As jy in die "rural" area is, kan jy die ou wees wat kniediep in die bloed staan heeldag of jy kan die ou wees wat heeltyd op die branderplank is en medisyne praktiseer oor jou telefoon.	RS3_WM1
Open code: rural physicians work in health facilities that experience health human resources challenges		
Professionals in training	*The biggest problem with that place is the lack of staff. Because they are so understaffed, there are 2 full wards which can take another 50 or so patients which aren't even being used, everything is empty in there. The operating theatres, there is one which is not functional at all and there is not enough staff to look after the theatres.*	6FG2_WF3
Professionally qualified	*The only problem about rural medicine is that, there is no help. Mostly people who are working there are junior doctors who have just qualified or community service doctors. And when the senior doctors are not there, and not around, so the problem is that it's run by the sisters and its run by the most junior doctors.*	RS1_AM1
	I think staff as well; it's like skeleton staff sometimes, especially when you're on call. There is, there will be like two people running the entire hospital, so then some areas get compromised while you're busy doing other things that are more important. And then you have to prioritise.	RS8_WF1
	To be honest in the Eastern Cape there is massive corruption. We must recognise there is lots of corruption, I'm sorry to say, that is the truth. Because you find out, the budget is supposed to be passed at April, but by July it is finished. This is true. You can't see what the money was used for. Money was there, but the money was used for something else instead of salaries. So, people now left. So you find 5 doctors left in the district, no doctors.	RS9_AM2
Open code: rural physicians have supportive health professional/ clinical support in the working environment		

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Professionals in training	*They are so passionate about what they do and it was just such a nice environment to work in. For the first time in my studies when we were working in the rural area, I actually felt like I was treated as part of a team. And yes, they're understaffed, but they also don't' leave you on your own. They always very quick to say, if you need help, phone us.*	6FG2_WF5
	Whereas in the rural, like someone else has mentioned before, is the essence of teamwork, which I think is very important and works amazingly. Maybe you do find that in the academic system as well, we just have not had exposure to it. (Laugh) They are out there. I know of them, I'm very excited for them. (Laugh)	6FG2_WM1
Professionally qualified	*And that's what I found in my experience with my two working colleagues in Calvinia, most dominant obviously, a coloured environment. Even though they had a great burden of trauma, because of all the alcohol, or the social habits that these local people have, they still felt empowered, the sisters were supportive, um, they were definitely understaffed for the amount of people they were treating, however, they never felt they were overworked. Even though they probably were.*	RS5_WM1
Open code: rural physicians have limited health professional/ clinical support in the working environment		
Professionals in training	*I don't mind working there; it's just problematic because of the environment within the hospital. You have the skills, but equipment and support may not be there.*	6FG1_AF2
	Government must give us more support in the rural areas. Support that's what I was trying to say, not only monetary, support when it comes to development, professional development and also, pass on the knowledge to the people in the community, not only just putting doctors there or putting more nurses	6FG1_CF1
Professionally qualified	*I think being left to your own devices in a rural environment, predisposes you by definition. Guidance isn't there or the guidance is just plain absent, not on the premises etc. etc. I don't feel that I've, obviously you make mistakes. I can relate in one example when I was involved, and it actually resulted in the death of a child.*	RS5_WM1
	While my limited rural experience was the bit of community obstetrics I did in Witrivier at Temba hospital, which was frustrating at the best of times. We had very little support, um, what was expected of us was way above what we were able to do at that stage….And I felt actually despondent leaving there, feeling that you have to do everything for somebody with nothing and um, the attitude of the local doctors, some of them who were trained in South African, some of them were trained in Cuba residing there and working at this hospital was, let's just make it through this day, irrespective of how many patients we treat poorly, or even if we don't have this, we have come so far, with so little, what else can we do, it's almost as if they had given up fighting. And, that would personally break me. I would not be able to work in an environment where there was so little support and so little drugs or just basic things available. So, how can it be	RS5_WM1

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	expected for me to perform these miracles to patients, for patients that I don't have the support financially or in terms of the necessary resources?	
	Because there is a lack of qualified people like specialists, you are taking much more responsibility earlier on in your training, when you are supposed to being trained yourself. However, the advantage is that it gives you confidence, because I know when I was doing community service, I worked with 2 of my colleagues who were in an academic environment and I was the one who was helping them in caesarean sections. That is a good thing, but the downside is that you are left on your own there.	RS6_AM1
Open code: rural physicians are isolated		
Professionals in training	*Yes, and that's when bad things happen. Like what? Patients die and you feel sorry for the doctor whose there. Maybe it's because of his incompetent level, his confidence level which is nothing, but is it the systems fault or is it personal? Where was he supposed to learn these skills or find a place to properly apply them with supervision before going to apply them by himself? I think that's one thing that can be thought about by the higher powers in this country.*	6FG2_WM1
	And if you see somebody that's got something that you don't know how to manage, there is no one to ask.	RS1_WF1
	Toe was ek baie onseker gewees en jy, die probleem met hier, wel een van die goeie dinge van om in tersiëre hospitaal of 'n stad "setting" te wees vs. 'n "rural setting", is jy is nie geïsoleer nie, waar byvoorbeeld as ek nou byvoorbeeld iemand het wat 'n hartaanval het, en ek weet nie wat om te doen nie, kan ek die telefoon optel, 'n kardioloog bel en binne 15 minute is daar 'n kardioloog langs die ou se bed en hy help jou… en so vir al die spesialiteite. Waar in "rural" is jy baie geïsoleerd. "Fair enough", jy kan baie meer doen, en jy kan baie meer werkssatisfaksie kry as jy iets reg doen, maar ek dink jy neem ook baie keer besluite wat jy nie veronderstel is om te neem nie. Doen operasies wat jy nie veronderstel is om te doen nie of kyk na pasiënte wat jy nie toegerus is.	RS3_WM1
	And, also I feel like the rural setting can never really compare to the city for example, it's a totally different ball game recruiting doctors to work in Cape Town. They've got Table Mountain, they've got the ocean, um, those people that have children, there are the schools that they can send the children to. In the rural setting, there is nothing of that nature. There is no Table Mountain, there is no ocean and you would have, your work would be almost the liveliest component of your life and not many people are willing to, or able to sustain that.	RS8_AF1
	Just the knowledge that you get here (academic centre). This afternoon when we walk in here, knowledge is so easily accessible here, and there you just realise how precious that is, because it's not always accessible and experience, and just being able to, things that you were taught here that you can apply in a	RS8_WF3

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	more, away from the academic setting. It changes your way of handling things and manage patients, how you make diagnosis.	
Open code: rural physicians work in health facilities that lack infrastructure and medical technology		
Professionals in training	*But I still think, it doesn't matter how well its managed, the logistics in the rural setting, that are always going to stand in the way, be it laboratories, x-rays, referral surgeries, stuff like that. So I think it doesn't matter how well it's managed, I do think that things are more difficult in rural setting.*	6FG3_WF3
	In the rural sector you're going to spend a lot of time with the practicalities and little issues that need to be sorted out.	6FG3_WM1
Professionally qualified	*As a specialist the disadvantage that you have is that I mean the resources you are limited to what you can do. You have been trained to do some certain procedures, but even if you want to help the patient, you can't help the patient, because you don't have the resources. You cannot be able to do the hysterectomy. You are not able to do some other things that you wish you can do, and you can help this patient, and only you are forced to refer everyone to provincial hospital or to tertiary.*	RS1_AM1
	As jy sit in die middel van nêrens wil jy net weet daar's iemand aan die anderkant van 'n telefoon. Maar as jou persoon wat op die sentrale is vir die aand gaan slaap het, kom jy nie deur die sentrale nie en dan kom jy nêrens nie. As jy byvoorbeeld 'n telefoonoproep erens heen wil maak en die skakelbord werk nie, dan werk hy nie, dan is… so ek dink dit is klein goedjies om te weet dat jou hospitaal werk goed. Dat, as ek iemand moet inkubeer, het ek die toerusting want dit is 'n groot "issue", is, jy weet, baie keer weet jy hoe om goeters te doen, maar jy kan nie want dit is net nie daar nie…	RS3_WM1
	So for me, I went to this place called Ngwelezane. The only things that functioned were anaesthetics and surgery. The worst functioning part of it was primary health. Primary healthcare was so broken, so I really gave up on all my ideals about working on a primary healthcare level, because it didn't work.	RS9_WM1
Open code: rural physicians refer patients to other settings due to lack of resources in their facilities		
Professionally qualified	*What I would like to say is that we do need more doctors in rural places because that's where a lot of things happen. That's where a lot of pathology happen. If we can get a team of doctors from the specialists right through, we can ease the burden. Because like now, here Steve Biko is being burdened by all the referrals? Ja and then to me it has been meant to be in the very 4th level of treatment where the other hospital cannot manage but like now…So you're getting referrals? Ja, MVA's and all those kind of things and that can be done in the rural setting.*	RS1_AM1
	Just, doctors in rural areas like what I know are very competent, very competent. So there is no need for supervision in many	RS6_AM1

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	instances. Sometimes you end up referring patients because there is no equipment, there is no assistance. You want to take a patient to theatre; you will find there is no assistant person, because there is no staff. You have been in a situation where you refer caesarean sections to a provincial hospital of which they refuse to do in many instances, because there is no nurse to assist or colleague of mine to assist you, there is not enough doctors.	
Open code: rural physicians work in health facilities that lack management and administrative support		
Professionals in training	*But the other problem they encountered is recently instead of the managing doctor taking care of finances and knowing what equipment is needed, they've handed the finances over to somebody who is an outsider to the hospital, who doesn't visit often, who doesn't know all the problems, and then they tell him what the problems are. A quarter of them get addressed and the rest of them are pushed under the rug for a while.*	6FG2_WF3
Professionally qualified	*And I feel like the people that are in charge of the money have no feel of what's happening on the ground. They have no insight into the real need and what it's like to work in a ward that doesn't have syringes, that doesn't have drugs and doesn't have a sonar machine.*	RS1_WF1
	Jy kan doen wat jy geswot het om te doen. Jy hoef nie administrasie te doen nie. Jy hoef nie papierwerk in te vul nie. Jy hoef nie gevegte te veg wat eintlik administrasie is. Jy kan letterlik jou werk doen en daar's iemand anders wat administrasie doen…	RS3_WM1
	There is a reason why rural hospitals don't function, and there is a way to change them for the better. How we need to go about that? We know what we need to change, I think in many instances, involving nursing staff, routing out corruption, all these things. The bureaucracy I find is in many instances, the burden towards having an effective, functioning hospital, because there are so many red tape policies and nonsense you must get out the way, I need Panado, I need ibuprofen, I need this and this and this, I need these antibiotics. I don't care where you get it from, get it. You are not treating the patient, sign the order form, make sure there is always stock, I'm not interested in your excuses. Because at the end of the day, you are in your bed, 12 o'clock, 1 o'clock, 4 o'clock at night when the doctor stands at the bed and he treats somebody, and if the medicine is not there, you're not sitting with the bait.	RS5_WM1
	And I think, ja, I think the issues that come up, where, when we did some work at Madwaleni, the big problem was their HR were never there. The guys would go and knock on the doors, try and find, so that they could actually get the equipment that they needed and try. They tried to create a working framework with management and management were always off in Bisho. Management drove all the big cars around the hospital, whereas we don't have stock, but you guys have everything. Ja. So, I think the frustrations come in with just the supply and the type of management that the guys have to deal with.	RS7_WM1

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Open code: rural physicians experience more fatigue and stress than other physicians		
Professionally qualified	*You go home after a 30-hour shift and you didn't have fun, you didn't like it and you feel like you didn't help the patients. You actually made peoples' lives worse, because by waiting and delaying, you might have lost a baby, or it sounds awful to say, but actually worse and saved the baby but now has severe brain damage.*	RS1_WF1
	Ek het dit, ek … dit was vir my baie… dit het my baie laat stres. Om te besef dat jy weet vanaand stop die bus by my en dan stop hy by jou vir narkoses, vir geboortes, vir sjirurgie, vir antibiotioka, vir inkubasie, vir ventilasie, vir alles, en ek bedoel ek was nie toegerus nie en ek het dit geweet.	RS3_WM1
Open code: rural physicians have a higher risk of occupational injuries than physicians working in other settings		
Professionals in training	*Maybe it's just because you are aware in a rural place, then you seem more scared because you can only get HIV if you prick yourself. So, if you prick yourself here or there, it doesn't matter. But suddenly you're more nervous, so now you think you're going to prick yourself more because you're in a rural place.*	6FG1_WF2
Professionally qualified	*TB, you're maybe a little bit more exposed rurally, because most TB patients will land up in the primary level of care. And most people who I know who picked up TB, picked it up in a rural hospital, not in an academic sector.*	RS4_WM1
Open code: rural physicians have similar risks of occupational injuries as other physicians		
Professionals in training	*And then also something 6FG1_WF2 said about being nervous in a rural area, not really. The HIV prevalence here (tertiary and urban setting) is very high. If you prick yourself here, you've got a problem.*	6FG1_WF3
	And also about pricking yourself, I think it's just skills, so if you weren't pricking yourself here, why aren't you pricking yourself there?	6FG1_AF1
Open code: rural physicians often have to work alongside mostly foreign national or foreign trained physicians		
Professionals in training	*Most of the doctors working in rural areas are foreign doctors anyway. I didn't see any South African whilst I was in a rural hospital, well two…*	6FG1_CF1
	They have a very romantic idea about it. It's completely different	6FG1_WF3
	Something I realised at Temba hospital is that most of the people, the permanent doctors there are foreigners, I think there is one South African doctor. So it just feels like the South African people have lost hope, but the foreigners somehow still want to make it better.	6FG2_WF1

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	I don't know if they do, but they should go through some form of assessment or just bridging process, where they attain the same type of treatment approaches and management protocols like we do, because working in casualty in a place like Kalafong, there is a guy from North Africa, they just do things differently there. We have more things available here which they don't make use of. And then also a few things which even I as a student know, which is definitely contra indicating and they just go with that, but you can't say as a student to them, no, but I think you're wrong. Or, 'nee' you can't do this sort of thing. (Laugh) So it's been interesting at times, at other times you really get a lot of them I think the majority of them that I've worked with, really, like 6FG2_AM1 said, they have that passion and they definitely enjoy the environment, it's much better in what they're used to possibly, but they do it for the people.	6FG2_WM1
Professionally qualified	*They're placing a burden on the service at the end of the day. I just heard recently that we are sending students that passed Matric to Cuba in masses to go and study medicine, and then to come and practice in the rural sector here. I don't know if it's going to alleviate, I can't foresee, but (sigh)…*	RS1_IF1
	I worked in the Eastern Cape for a while and I used to see lots of patients coming in in the rural sector, and it's shocking. And not only that, you get a lot of doctors coming from other countries coming in and looking to find missionary rural settings and they mal practice and do damage to the patients. That's what's happening.	RS1_IF1
Open code: rural physicians have more exposure to severe health problems caused by traditional healers than other physicians		
Professionals in training	*Now, my one friend, when we went to Barberton, she did it in the Free State and something she saw was a very high rate of people who were going to Sangomas, getting the tea and doing all kinds of stuff, and she saw so many psychotic patients due to this. So, we should draw a very fine line between where it helps patients and where it doesn't. Because, there is some very weird stuff going on. Because the level of psychosis that - they're a rural district hospital and they have this massive psychiatric ward.*	6FG1_WF3
	Because a lot of people initially go to them because they are in their area. If they can be taught to pick up things which their field of expertise does not cover, it would be great if they could be referred. Not first try and treat them and if a patient is so sick, that they can't even reach the traditional healer, they get brought to a proper primary or urban institution.	6FG2_WM1
Professionally qualified	*It's a belief system more. Believing in ancestors who cause illness as such and, which one can understand, it's like religion almost. If you believe it, it's difficult to get people out of it. So it's going to be with us for a very long time, especially in rural areas more. I think metropolitan areas; even you know the African patients tend to move more to western medicine now.*	RS4_WM1
	I worked in rural area for some time. I can tell you they know how to mess patients up and they never take responsibility for	RS6_AM1

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Axial code: beliefs about a rural physician job (clinical practice) and working environment		
	anything. Both from the patient's side and from the hospital management side. In a sense that they are able to refer patients to us, they write formal letters, they charge the same as the GP's, and they refer I don't know, very ambiguous, the patients are not informed, and they are allowed to do that. If something goes wrong with the patient, the patient's family never blames the traditional healer. The management know, because they know the hospital, they know that it's not your fault, but if they complain, they always want make sure they didn't do anything wrong. But the traditional doctors are never held accountable for anything. So, they're literally making a lot of money now that they are allowed to practice formally. And they're not accountable for anything. And the perception from the patients, they never blame them for anything. You will find a baby dies because the baby has kidney failure, it went to the traditional healer for the whole week, you know, and the healer never even referred the baby there. The mother ended up in the hospital. He should've recognised? If the baby dies, she wants to blame you, you know. I'm very anti-traditional healers, and when they go and get their certificates, there is a couple of times where they come to ask so that we certify that certificate. We don't know what their training entails. They go to India for 3 months also and they come back for verification. So they're able to do as they please. The government has allowed them, literally and they're accountable for nothing.	
Open code: rural physicians have to educate patients to make informed choices about traditional and western medical treatment		
Professionals in training	*I think people have to be told when does a traditional healer stop, when should you see a doctor before it's too late.*	6FG1_AF1
	It's choice, like if you get a child like that, for anyone's lifestyle for anything, it's just not traditional healers. Every single patient we see has a choice in their life. It's not that you accept the traditional healer or whatever; it's that you learn how to work with the patient's choice of doing what they do. And that's where it comes in.	6FG3_WF5
	But I think a lot of the time people go to traditional healers because of the failures of the public health system. So they know if they go there, they will be seen immediately, there is no 4-hour queue, they won't take their chances, it's a nice person who speaks their own language. There's no sister shouting at them that they're doing something wrong or they didn't take their pills as well because they're also providing a business at the end of the day. So I think in a big sense there is something there that we can sort that out.	6FG3_WM1
	I also worked with traditional healers at that hospital that we were at, and I think different people experience illness differently. And so, you know the traditional healers speaks a lot to some people's concerns that you know, other doctors can't do, or that we, the western doctors can't and I don't feel like we're at conflict at all. I just think that there is a need for people to understand what it is that we can provide and what it is that they can provide. And that's where I find the community education, ja that's what happened.	6FG1_CF1

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Axial code: beliefs about a rural physician job (clinical practice) and working environment		
Professionally qualified	*So, there is definitely a huge gap in terms of understanding, and I think being more qualified or better qualified or having more insight, the onus rests on traditional western practitioners to inform the general public. Or we must at least try and reach out and say we are not saying traditional medicine is wrong, we're not shunning traditional healers. However, there is a certain place for them and there are certain conditions where you should not go via them first.*	RS5_WM1
	If you are working with someone who has the same title as you, sees patients as you do, writes referral letters as you do, it means you share the patients, so they compete with GP's - traditional healers. They practice like a formal general practitioner, they have their title as Doctor so and so as a traditional healer, that means you are sharing the path so that is a direct competition with us.	RS6_AM1
Open code: rural physicians and traditional healers share responsibility for healthcare in rural community		
Professionals in training	*I think it will be better if we work with them because at this moment, it feels like we're working against them. (Laugh) Half the patients come with complications from them to us, and then most of the time, you can't even fix it anymore. So if we can work alongside them, maybe it will even be better.*	6FG2_WF1
	I think it can work. A few years ago I was at the rural RuDASA conference and they were talking about one of the real successes, is that with a circumcision issue in the Eastern Cape. They have certain clinics that are associated with the traditional healer and then when the boys need to be circumcised, the traditional healer brings them to the clinic and does the whole process that instead of doing it in the bush, he does it while he is present, whilst the doctor does the circumcision, so I think you can find a combination.	6FG2_WF2

5.2.7.3 Discussion of beliefs about a rural physician job

Study participants shared beliefs that have both positive and negative outcomes as far as the job and clinical practice of a rural physician career is concerned. The strength of these beliefs vary between the research groups and in some cases between participants with different demographic profiles.

The first group of beliefs discussed in this section relate to beliefs regarding the prevalence of **medical malpractice, unethical behaviour and corruption** in the rural health working environment. The researcher found that almost two thirds of participants from the professionally qualified group shared strong beliefs that rural physicians deal with more cases of malpractice, unethical behaviour or corruption than physicians in

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other settings. This group also believe that rural physicians either deal with or are personally guilty of the following acts of malpractice or unethical behaviour: physicians who refer patients whilst they have not personally diagnosed those patients; physicians who are scared to expose or report corruption for fear of victimisation and health professionals who apply medical protocols that may be deemed unethical. Quite a few participants of the professionally qualified group believe theft is rife in rural health facilities and the healthcare system in some provinces with large rural areas are perceived to be very corrupt and dysfunctional as healthcare funding is not used for intended purposes and administrative management is poor and not accountable. They pointed out that corruption creates professional tension and impacts negatively on clinical practice. A few participants believe that health settings in urban areas are also characterised by unethical behaviour and corruption so it is probably endemic to the South African public health system, however, the perception might be that corruption is more prevalent in rural areas as it is not so easy to expose corruption in those areas. Moosa *et al*. (2014:125) state that the poor performance of the health system is a constant challenge in South Africa and whilst a large part of the dysfunctionality can be ascribed to the legacy of Apartheid, participants in their study felt that corruption and poor management are current realties that contribute to the dire situation. Whilst the researcher could not find evidence of published research that confirm all the beliefs of study participants in this regard, Bateman (2011:14) suggests that the provinces most affected by corruption in healthcare administration and management in the country include some of South Africa's poorest and most vulnerable rural areas. He states that in the Eastern Cape an audit revealed "…various health department officials and hospital employees also joined in a freelance feeding frenzy, many stealing and selling free medicines and nutritional supplements for the poorest and the sickest...". Bateman (2011:15) also quotes the departmental head of health in KwaZulu-Natal, Sibongile Zulu, who stated: "Corruption has a devastating effect on poor people – especially corruption in the health service. Where resources are scarce and many people need those resources, corruption can often set in."

Furthermore, a few participants from the professionals in training group believe that absenteeism by rural physicians who tend to their private practices or other business outside of health instead of performing their jobs, is problematic. The professionally

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qualified group shared the beliefs of the professionals in training and added that absenteeism of physicians who attend to private business whilst on duty is an abuse of government and health policies such as commuted overtime and dual practice (policy on remunerated work outside the public service or commonly referred to as RWOPS"). As discussed in Section 4.3.2.3 of this study, many physicians practice medicine in the private sector in their spare time in order to supplement their income and enhance their competencies, provided they have obtained approval from relevant authorities. Breier and Wildschut, (2007:87) point out that this practice is particularly common in rural areas around larger metropolitan areas such as Mthatha where public health sector physicians often set up private practices in the smaller towns outside the city or peri-urban areas and treat patients in their private capacity outside of official hours. Rural people often visit these private practices in order to avoid long queues at public facilities and to seek better care and treatment, although they have to pay for these services. Breier and Wildschut (2007:87) furthermore suggest that many physicians in rural areas prefer to work in private practices outside normal working hours rather than working commuted overtime as the income potential of private practice is more attractive. Crisp (2012) suggests that physicians may choose a career as rural physician and eventually set up in private practice in the same rural area to escape the bureaucracy of the public health sector and improve their quality of life. The challenge remains to monitor that such arrangement is not abused. Bateman (2012a:899-901) states that there are many examples of blatant abuse and inconsistent application of the policy. In cases where a rural health facility has only one or two physicians, their absence to attend to their private practice in off duty hours are detrimental to the service.

The researcher observed the following pertaining to whether demographic factors account for differences in participant beliefs regarding the prevalence of medical malpractice, unethical behaviour and corruption in the rural health working environment:

- There are no differences between the beliefs of different race and gender groups in the professionally qualified group regarding the presence of corruption and malpractice in rural health environments;
- There are no differences between the beliefs of participants who have prior rural experience and those who have not previously worked or trained in rural areas regarding the presence of corruption and malpractice in rural health environments;

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- There are no differences between the beliefs of participants who grew up in cities versus those who grew up in rural areas regarding the presence of corruption and malpractice in rural health environments;
- Language, marital status, dependants and family working in a rural environment seem to have no impact on beliefs in this regard; and
- The vast majority of participants who believe rural physicians deal with more cases of malpractice, unethical behaviour or corruption than other physicians have friends who work in the public rural health sector, thus suggesting friends in the profession may have an impact on the beliefs of physicians in the regard.

The second set of beliefs discussed in this section relate to beliefs regarding the **nature and characteristics of patients** treated by rural physicians. Participants from the professionals in training group contributed more significant beliefs in this instance than the professionally qualified group. The professionals in training participants shared the following beliefs with regard to rural patients: rural patients are poorer than urban patients due to poor socio economic circumstances; they are usually sicker than urban patients by the time they consult a physician; they cannot afford treatment; they have difficulty to communicate with health professionals, including physicians due to language barriers; they have transport challenges and travel long distances to have access to healthcare; they have no or limited access to basic services such as water, sanitation, electricity, housing; they are not well educated and less informed of medical and health conditions than urban people tend to be and as such are less “demanding” than the typical urban or peri urban patient; they are completely dependent on the public health system and rural physicians for appropriate diagnosis and treatment as they don’t have alternative choices like urban people have who can consult different physicians or healthcare professional. According to Versteeg (2013) rural communities in South Africa face many hardships on a daily basis. These include high rates of unemployment, lack of access to clean water and sanitation, inadequate education and poor nutrition. Versteeg (2013) further states that a failing healthcare system intensify the social challenges experienced by rural communities. The healthcare system in rural areas seem to share two characteristics namely difficulties for rural people to access public health care in the first place and secondly dealing with poor health services and lack of alternative services in cases where service delivery is poor or absent.

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Participants from the professionally qualified group agreed with the professionals in training that rural patients generally live in poverty and have worse socio economic circumstances than people living in urban or peri urban areas. They also believe that rural patients tend to wait longer before they consult a physician as they are afraid due to ignorance or they are unaware they are sick. Professionally qualified participants believe that rural patients are less demanding than urban patients because they are probably not as well informed and have less access to information about their illness and treatment options. This creates an opportunity for rural physicians to establish closer bonds with their patients, but at the same time also requires rural physicians to deal with broader socio economic issues of their patients and the communities they serve. Nash, Rapatsa, Reid and Gaunt (2012:433-435) confirm the beliefs of participants that rural patients are more dependent on the public health system and are seen to be more appreciative of the services of rural physicians than those living in urban areas. Their collective experiences as rural physicians also reflect close relationships and interactions with patients and an awareness of their responsibility to provide treatment and care to marginalised and vulnerable communities.

The researcher observed the following similarities and/ or differences between various demographic groups with regard to beliefs about rural patients:

- There are generally no differences between the beliefs of race and gender groups about the characteristics of rural patients. White female participants in the professionals in training group presented strong beliefs regarding the vulnerability and poor health prospects of rural patients;
- The vast majority of participants from both groups who contributed beliefs in this regard have prior training or working experience in a rural area;
- There are no differences in the beliefs of participants who grew up in cities and those who originate from rural areas regarding the characteristics and profile of rural patients;
- Language, marital status, dependants and family working in a rural environment seem to have no impact on beliefs in this regard; and
- The vast majority of participants from both groups who contributed beliefs in this regard have friends who work in the public rural health sector.

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The third set of beliefs discussed in this section relate to beliefs regarding the **quality of care** provided by rural physicians as well as their **workload and range of clinical activities.** Participants from the professionals in training group believe the quality of health services in rural areas is inferior to quality provided by urban health settings, mainly because rural hospitals tend to only employ junior and inexperienced physicians whilst urban hospitals have access to experienced general and specialist physicians. Participants from the professionally qualified group agree that inexperienced physicians in rural areas contribute to lesser quality healthcare and add the belief that large patient volumes and the lack of equipment and medical technology contribute to the inferior quality of care in rural health services. The professionally qualified group further shared strong beliefs that rural physicians are not able to effectively treat women and children as required by the country's focus on primary healthcare, mainly due to a lack of available equipment and medical technology as well as uncertainty to perform surgeries or treat children. Dr Norman Mabaso, MEC for Health and Social Development in Limpopo comments that: "People are overwhelmed, the patients are too many and we don't have enough professionals. He also states: "Our priority is to improve the quality of care, which we do not have. We are weak because the few that there are cannot stand the pressure of looking after the many". (Metropolitan Health, 2013). RuDASA *et al*. (2011:4-5) argue there are several barriers to quality treatment and healthcare in rural areas which among others include critical understaffing and weak management. The researcher could not access recent research that investigated the impact of inexperienced physicians on healthcare in rural communities, but deducts that the deployment of inexperienced physicians may possibly add to beliefs about poor quality health services in rural areas.

With regard to workload and range of clinical activities, one participant from the professionals in training group believes that rural clinical practice is varied because of the large volumes of patients seen and their different healthcare needs. In contrast, participants from the professionally qualified group believe that rural medical practice is not diverse as it is limited to primary healthcare with limited academic and specialist focus. Price and Weiner (2005:417) and Ashmore (2013) found that specialist physicians, especially public sector specialists, derive more work satisfaction when

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involved in teaching and research over and above medical practice due to the variety that is added to their work in this regard.

Both groups shared strong beliefs that rural physicians have a higher workload than physicians in other settings. Participants of the professionals in training group believe the high workload of a rural physician is due to the fact that they are often the only physician at a rural health facility and there is no hierarchy of specialist and generalist physicians available to share the workload and decision-making. The sheer volumes of rural patients that are treated at one facility is daunting and often overwhelming, especially for this group who had fairly limited exposure to working in a rural environment. Participants indicated that it is not unusual to see sixty to a hundred, sometimes even a hundred and fifty patients a day in a rural health facility. A further reason for perceived high workload is the observation that rural patients tend to be sicker by the time they consult a physician, which requires enhanced effort by the physician to provide appropriate healthcare. Participants from the professionally qualified group agreed with the belief that the patient load in rural areas are higher and this place pressure on physicians who often work alone or with limited health professional support. RuDASA *et al.* (2011:13) support the belief that physicians working in rural health facilities deal with large workloads which often results in patients being turned away as the physicians are not able to cope with the work volumes. RuDASA *et al.* (2011:13) furthermore argue that although rural health facilities generally have fewer beds and limited range of clinical services, the workload is increased taking into consideration the "…demands of the catchment population requiring continuity of care over time...". The workload associated with this scenario is enhanced due to the need to ensure "…correct admissions, referrals and follow-up according to standard clinical guidelines…". In addition, Reardon *et al*. (2014) highlight the concern that South African health professionals often suffer from burnout due to having to cope with excessive workloads.

One participant from the professionals in training believes that the workload in rural and urban areas are similar. This belief is shared by another participant from the professionally qualified group who suggested that workload depends on how individual physicians manage their time and input, i.e. they may choose to spend a whole day on

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intensive assessment and treatment of a family of four or they can see eighty patients in the outpatients' department, mostly handling primary healthcare issues.

The researcher observed the following impact of demographic variables to account for similarities/ differences in beliefs of different groups in this regard:

- There are no differences between race and gender groups regarding beliefs about quality of care, workload and range of clinical activities provided by physicians in a rural area;
- Participants in the professionally qualified group who have prior rural working experience have strong beliefs regarding the inability of rural physicians to effectively treat women and children;
- The vast majority of participants from the professionals in training group who believe rural physicians have a high workload grew up in cities, but spent time in a rural health facility during their undergraduate studies;
- Language, marital status, dependants and family working in a rural environment seem to have no impact on beliefs in this regard; and
- The majority of participants in the professionals in training group who believe rural physicians have a higher workload than urban physicians do not have friends working for the public rural health sector. In contrast, the majority of participants in the professionally qualified group, who believe rural physicians have a higher workload have friends in the profession.

The fourth cluster of beliefs discussed in this section relate to beliefs regarding the **resources and support** that is available to rural physicians. Participants from the professionals in training group believe rural physicians generally work in resource constrained facilities characterised by high vacancy rates, non-functional equipment and outdated medical technology. This belief is strongly echoed by participants in the professionally qualified group who shared beliefs that rural facilities have more health human resources challenges than urban health facilities because there are insufficient health professional staff to deal with healthcare demands and they mostly employ inexperienced physicians. Both research groups shared strong beliefs that due to the fact that rural physicians work in poorly resourced health facilities, they often have to improvise due to the absence of equipment, technology, drugs or health support services

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such as pathology laboratories and radiology. Participants from the professionally qualified group furthermore highlighted the fact that specialist rural physicians would experience much frustration as a result of the absence of equipment and technology and hence limiting the potential contribution that they can make to rural healthcare, particularly in the fields of obstetrics and gynaecology, and paediatrics. The professionally qualified group also shared the belief that as a result of resource constraints, rural physicians often have to refer patients to other facilities even if they are competent and able to diagnose and treat the patient. Many authors agree that rural health in South Africa and other developing countries is generally resource constrained as far as human resources and material resources are concerned. (Dussault & Franceschini, 2006; Versteeg *et al*., 2013b; Department of Health, 2011:21). The lack of resources is often a direct result of inequitable health budget allocations as reported by RuDASA *et al*. (2011:18) who states: “Yet, the provinces with the greatest health burdens, the least economic resources and the largest populations receive the smallest share of national public health care funds.”

A few participants from both groups believe that health professional and clinical staff at rural facilities display team spirit and are passionate about improving healthcare in rural areas, however, both groups expressed much stronger beliefs that rural physicians do not have sufficient health professional and clinical support in the working environment due to the lack of skilled people, a lack of supervision, the absence of mentorship and guidance and isolation and distance from other generalist and specialist physicians. Participants from the professionally qualified group indicated that rural physicians are isolated and do not have readily access to specialist expertise and guidance in the same way that a physician working in a tertiary or central hospital would have. De Villiers (2004:21) confirm these beliefs and stated at the time of her research regarding the development of a competency model for physicians working in district hospitals (including rural districts) that academic isolation and too little time or opportunities for continuing professional development caused dissatisfaction among physicians working in those areas. Hatcher *et al*. (2014:14), on the other hand, reported that physicians who completed community service in public hospitals were generally satisfied with mentorship, supervision and professional development they received during community service. Their sample included among others physicians who were placed in rural areas.

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They also found that the participants who reported professional development during community service were higher than in previous studies conducted in South Africa. This may imply that provincial departments possibly have more structured approaches towards managing community service physicians and by implication providing more support to such physicians, including those who are completing their service in rural areas. The professionally qualified participants in this study may have completed community service a longer time ago and as such if they were placed in a rural area may have formed beliefs based on a scenario that existed before. As suggested by Hatcher *et al.* (2014:14), these areas deserves more investigation in future.

Both groups believe rural physicians work in an environment that lacks management and administrative support. One participant from the professionals in training group indicated that managerial roles are often assigned to inappropriate people which results in ineffective and inefficient management. The professionally qualified group believe that managerial and administrative staff in rural areas often lack insight into health facility operations and the bureaucracy is actually a hindrance to providing proper healthcare to rural patients. Funds are often not spent on the services or items that it was intended for, often resulting in situations where basic medical consumables such as syringes or medical equipment are either not available or not functional. Participants from the professionally qualified group believe rural physicians often have to take control of administrative processes to ensure that the rural health facility is operational and this is a cause for much frustration, time wastage and strained relationships with administrative staff. Various authors commented on the failures of management and leadership in the public health sector which is often to blame for poor implementation of health policies intended to transform and improve the health system (Coovadia *et al.,* 2009 and Lloyd *et al*., 2010). RuDASA *et al*. (2011:9) highlights the fact that rural areas are often characterised by even weaker management capacity and relative scarcity of health professionals compared to urban areas. Taylor (2013) states that health professionals in rural areas claim management and administrative support is “bad”, inefficient and characterised by poor planning. One of the physicians interviewed by Taylor (2013) is quoted as saying: “Procurement and budgeting and human resources – all of those support services – are sometimes a shambles. It’s disastrous. You have people in

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hospital management who just don't know the first thing about their job." These comments resonate with contributions of participants of this study.

The researcher observed the following impact of demographic variables to account for similarities/ differences in beliefs of different groups in this regard:

- Participants from all race and gender groups in the study shared the belief that rural health facilities have more resource challenges and lack of administrative and clinical support than other health settings;
- The vast majority of participants who believe rural physicians experience resource and support constraints grew up in urban areas, have prior training or working experience in rural areas and have friends who are working in a rural environment;
- Language, marital status, dependants and family working in a rural environment seem to have no impact on beliefs in this regard.

The fifth cluster of beliefs presented in this section relate to beliefs regarding the **professional colleagues** of rural physicians, specifically foreign physicians and traditional healers. Participants from the professionals in training group have strong beliefs that rural health facilities are mostly staffed by foreign physicians from Europe and Cuba or South Africans who trained in Cuba. They believe that the physicians from Europe are generally in the country for a fixed term and mainly wish to gain work and life experience whilst providing a social service to less privileged communities, whilst Cuban physicians and those from other African countries are generally based in South Africa in terms of government to government agreements or for the purposes of specialisation. The professionals in training shared various experiences working alongside foreign physicians which ranged from admiring their passion and willingness to contribute to the upliftment of rural communities to being frustrated by their deficient competence and inappropriate or inadequate training to appropriately diagnose and treat patients. One participant from the professionally qualified group shared the belief that foreign physicians (including South Africans trained in foreign countries) place a burden on the health system as they apply different healthcare approaches and protocols. As indicated in Section 2.2.2.4 of this document, Cuban physicians have been working in South African health facilities since the mid 1990's and whilst there were over 400 Cuban doctors working in South Africa at some stage, this number has dropped again and by

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June 2005 there were just under 200 physicians on the programme (Breier, 2008:45). The deployment of Cuban physicians formed part of the South African government's strategy to increase the number of physicians in the country, particularly in rural areas (Pick, Shisana & Lee, 1996:1488; Kotzee & Couper, 2006). Subsequently the South African government entered into a training agreement with the Cuban government to train South African students in Cuba and it is anticipated that the programme will nearly a 1 000 Cuban trained final year medical students by 2018 who then join their local counterparts at South African medical schools to align their skills with South African medical practice requirements prior to competing their studies and internship in order to register with the HPCSA as medical practitioners. The main criticism against importing and/ or training physicians in Cuba is that the Cuban healthcare system focus on preventative and primary healthcare services which are deemed inappropriate for South Africa's quadruple burden of disease. As such, Cuban trained physicians are not familiar with treating and caring for TB or HIV patients (Hirsch, 2013; Bateman, 2013a:603).

As far as working alongside traditional healers is concerned, participants from the professionals in training group believe that rural physicians have a higher exposure to having to treat adverse conditions caused by traditional healing practices than urban physicians. They believe that rural patients often consult traditional healers because they are accessible and in many cases because they do not trust the effectiveness of modern scientific (or "Western") medicine and healthcare. In addition, patients often consult traditional healers as an alternative choice of care because of the failures of the public health system, for example there are no waiting times and long queues at traditional healers, the treatment is immediate even if it is not effective, the traditional healer probably speaks the language of the patient and is likely to make a better connection with the patient. These beliefs are supported by Moshabela *et al*. (2011:842-852) who states that there are far more traditional healers than physicians in rural areas and they are likely to be more accessible than physicians and state health facilities. This means that rural physicians are more likely to work with patients who are also treated by traditional healers than what may the case in an urban setting and it would require collaboration between such physicians and healers.

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Participants from the professionally qualified group believe that rural people tend to be more religious than urban people and as such they consult traditional healers more regularly for religious and health purposes. This group expressed strong beliefs that traditional healers work again western medicine and is not scientifically anchored. They furthermore believe that traditional healers do not take responsibility for malpractice. They also believe that patients tend to blame western physicians if something goes wrong, e.g. a child dies as a result of an inappropriate treatment by a traditional healer, even if blame can be apportioned on the traditional healing practices. The professionally qualified group also strongly believe that traditional healers hold lesser qualifications and are not adequately skilled to provide effective healthcare to patients. One participant from the professionally qualified group believes that western physicians and traditional healers compete for patients due to the fact that both have the title of “Doctor“ and both charge for their services, however, participants from the professionals in training group shared the belief that rural physicians and traditional healers share responsibility for healthcare in rural communities. Both groups believe that rural physicians have a responsibility to educate patients about the respective roles and contribution that transitional healers and western physicians have in the health sector to enable them to make better informed healthcare decisions. They further believe that the onus is on rural physicians to establish an environment of mutual respect and understanding of traditional versus western practices and where these practices complement each other. A study by Barker, Millard, Malatsi, Mkoana, Ngoatwana, Agarawal and de Valliere (2006:670-675) found that rural HIV patients may be harmed if they delay their treatment because they first consulted a traditional healer prior to visiting an orthodox physician. The study hypothesised that rural patients may possibly visit traditional healers who are more accessible rather than travelling long distances to hospitals where they could be treated by physicians. These findings resonate with the beliefs of study participants from the professionally qualified group that traditional healing practices are harmful and not in the best interest of patients. As discussed in Section 2.2.3.6, some studies in the medical pluralism field showed that traditional healers and orthodox physicians can collaborate in the interest and to the benefit of their patients, particularly in the areas of HIV/ AIDS (Moshabela *et al*., 2011).

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The researcher observed the following impact of demographic variables to account for similarities/ differences in beliefs of different groups in this regard:

- Participants from all race, gender and a variety of language groups in the professionals in training group shared the belief that rural physicians often have to work alongside mostly foreign national or foreign trained physicians. The majority of these participants grew up in cities and completed electives in rural areas;
- The participants from the professionally qualified group who contributed beliefs regarding the presence of foreign physicians in rural areas all have friends who are working in the rural health sector;
- All race and gender groups in the study contributed beliefs that rural physicians have more exposure to severe health problems caused by traditional healers than other physicians, however, white participants in both research groups shared stronger beliefs, both positive and negative, in this regard. Two African males, of which one grew up in a deep rural area, from the professionally qualified group also shared the belief that rural physicians have more exposure to severe health problems caused by traditional healers than other physicians;
- The majority of participants from both groups who believe that rural physicians have more exposure to severe health problems caused by traditional healers than other physicians have not worked in rural areas before and grew up in urban areas. Participants from the professionals in training group who believe rural physicians and traditional healers have a joint role to play in healthcare have mostly spent time in rural areas during their undergraduate studies;
- Other variables including marital status, dependants and friends or family work in the public rural health sector did not seem to account for differences in the beliefs of participants regarding working alongside traditional healers in a rural environment.

The last cluster of beliefs in this section related to beliefs regarding **injuries, fatigue and stress** associated with rural medical practice. Participants from the professionally qualified group believe that rural physicians experience more fatigue and stress than physicians in other settings due to the isolation, high patient load, own feelings of incompetence and lack of self-confidence. Kotzee and Couper (2006) found that poor working conditions in rural health facilities contribute to stress experienced by health professionals working in rural hospitals. Two participants, one each of the professionals

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in training and professionally qualified groups, believe that rural physicians are at a higher risk of occupational injury particularly contracting tuberculosis, however, the majority of participants in the professionals in training group who contributed beliefs in this regard held the view that the risk of occupational injury and disease contraction is similar in a rural environment than in an urban environment. De Villiers, Nel and Prinsloo (2007:14-14c) confirm that physicians in general are exposed to occupational injuries, in particular needle stick injuries and blood borne viruses. Franche, Murray, Ostry, Ratner and Wagner (2010:1502) state that: “Healthcare workers in particular are vulnerable to poor work disability outcomes, including high injury rates, prolonged work absences, and high associated costs.” The said study proposes three possible reasons why rural physicians may be at higher risk of occupational injuries, namely rural patients are usually sicker by the time they consult a physician and thus the chances of infecting health workers with viruses may be higher, secondly, rural health is usually less resourced thus access to drugs and medical technology may be problematic for rural physicians who have suffered occupational injuries or have been infected with viruses and thirdly, the rural physicians and other health professionals may be less experienced than urban counterparts (which is relevant in South Africa where a large number of physicians are interns or newly qualified physicians who are completing their community service) and thus more prone to occupational injury due to inexperience. The researcher could not find evidence of research findings that concluded whether the risk of occupational injuries is higher in South African rural areas than others.

The researcher observed the following impact of demographic variables to account for similarities/ differences in beliefs of different groups in this regard:

- White female participants from the professionals in training group believe a rural physician career is associated with similar risks of occupational injuries as other physician careers, whilst white participants (both genders) from the professionally qualified group shared stronger beliefs to suggest that a rural physician career is associated with more fatigue and stress than other physician careers;
- All participants who contributed beliefs regarding the stress and fatigue as well as similarity of occupational risks grew up in cities, but have previous rural training and/ or working experience;

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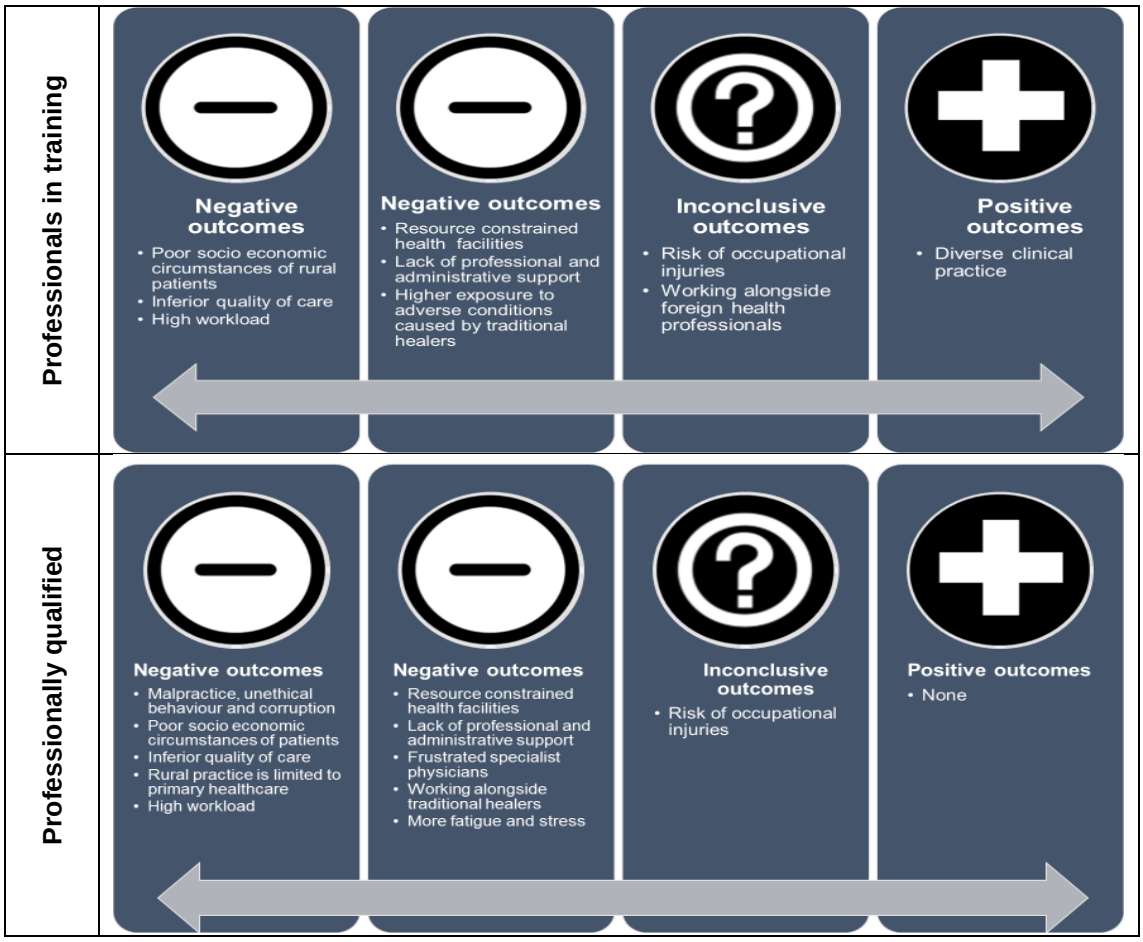
- Language, marital status, dependants and family working in rural areas seemingly have no impact on beliefs in this regard;
- None of the participants from the professionals in training group who believe a rural physician career is associated with similar risks of occupational injuries as other physician careers have friends working in rural areas. All participants from the professionally qualified group who believe a rural physician career is associated with more fatigue and stress than other physician careers have friends who work in rural health facilities.

In summary, the beliefs of both research groups regarding the outcomes associated with the job and clinical medical practice of rural physicians, in combination with their associated value of the expected outcomes, are presented graphically in Figure 43.

Figure 43: Behavioural beliefs and subjective value of expected outcomes: rural job



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The next section summarises all findings with regard to the behavioural beliefs held by the two research groups, namely professionals in training and professionally qualified, towards choosing a career as a rural physician. These findings generally reflect the significant beliefs held by final year medical students and registrars pertaining to choosing a career as a rural physician and collectively represent their attitude towards such choice.

5.2.8 Summary: attitude towards choosing a career as rural physician

In this section, the researcher tabularised the results of the data analysis process, which involved axial and open coding, pertaining to attitude towards choosing a career as a rural physician. The results were discussed critically in terms of whether such choice is valued positively or negatively by study participants and reference was made to relevant literature to support or oppose research findings.

In summary, the behavioural beliefs of both research groups namely “professionals in training” (final year medical students) and “professionally qualified” (registrars) regarding the outcomes associated with a rural physician career in combination with their associated value of the expected outcomes are presented Table 41.

Beliefs that are associated with outright opposing (i.e. negative or positive) outcomes are listed in the table in descending order of “groundedness” to reflect the strength of the subjective value of these beliefs (Alvira-Hammond, 2012; Archer, 2012; Friese, 2014). The beliefs that are associated with positive outcomes for a rural career choice are listed in order of “groundedness” for the professionals in training based on the assumption that it is more likely for this group to choose a career as rural physician at this stage of their career path than it is for the professionally qualified group. Conversely, the beliefs that are associated with negative outcomes or an unlikelihood that a rural career will be chosen are listed in order of “groundedness” for the professionally qualified group. Those beliefs that reflected positive as well as negative outcomes, expectations or feelings are referred to as “inconclusive” or “mixed” and are excluded from the summary table as they do not seem to have relevance to account for differences in predicting intentions between the two research groups.

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Study participants in the professionals in training group shared “mixed” behavioural beliefs pertaining to rural quality of life, safety and security associated with rural lifestyle, the ability of rural physicians to practice medicine independently, the contribution of rural physicians to rural healthcare; the long term earnings potential of a rural career, career development opportunities associated with a rural career, the relationships of rural physicians with other health professionals such as foreign health professionals and the risk of occupational injuries and diseases associated with rural medical practice. The professionally qualified group shared the “inconclusive” behavioural beliefs regarding rural quality of life, the ability of rural physicians to practice medicine independently, the contribution of rural physicians to rural healthcare; the long term earnings potential of a rural career and the risk of occupational injuries and diseases associated with rural medical practice

Table 41: Salient behavioural beliefs: summary

Salient behavioural beliefs	Groundedness order	
Beliefs associated with positive outcomes, expectations, feelings	**Professionals in training**	**Professionally qualified**
Rural physicians improve healthcare in rural communities	1	2
Rural physicians possess the ideal personal traits and qualities (passion, resilience, risk taking, chose career for lifestyle preference, have community connection, accountable and responsible)	2	1
A rural career is attractive	3	
A rural career fulfils career aspirations	4	
A rural career choice is wise	5	
A rural career supports the improvement of clinical skills and self confidence	6	
A rural career is intellectually stimulating	7	
A rural career is enjoyable	8	3 (enjoyable in short term)
Rural clinical practice is diverse	9	

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Salient behavioural beliefs	Groundedness order	
A rural environment is pleasing		4
A rural career provides an opportunity to connect with community and patients		5
Beliefs associated with negative outcomes, expectations, feelings	**Professionals in training**	**Professionally qualified**
Rural health facilities are resource constrained	3	1
Rural medical practice is associated with more malpractice, unethical behaviour and corruption		2
A rural career inhibits improvement of clinical skills and self- development		3
A rural lifestyle is not suitable to raise and educate children	9	4
A rural environment is characterised by economic stagnation	4	5
A rural career does not fulfil career aspirations		6
A rural career is not intellectually stimulating		7
Rural medical practice is associated with lack of professional and administrative support	12	8
Rural medical practice is associated with more exposure to adverse conditions caused by traditional healers	7	9
Rural physicians have limited clinical support in the working environment	2	10
A rural lifestyle is remote and isolated	8	11
Rural environments experience infrastructure challenges	5	12
Rural patients have poor socio economic circumstances	11	13
Rural medical practice is associated with high workload	1	14
Rural medical practice is associated with more work related fatigue and stress	13	15
A rural career choice is foolish		16
A rural career for specialist physicians is frustrating		17

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Salient behavioural beliefs	Groundedness order	
A rural environment is associated with slow development	6	18
Rural medical practice is associate with inferior quality of care	10	19
Rural medical practice is limited to primary healthcare		20

As far as the use of demographic variables such as race, gender, origin (rural/ urban), home language, marital status, dependant family, previous work experience or training exposure to rural medical practice and family or friends working in the profession to account for differences in the prediction of a career choice as a rural physician, is concerned, the researcher summarised her findings in Table 42.

Table 42: Demographic variables and salient behavioural beliefs

Salient behavioural beliefs	Demographic variables					
Beliefs with positive outcomes, expectations, feelings	**Race and gender**	**Prior rural**	**Origin**	**Language**	**Marital status**	**Friends**
Rural physicians improve healthcare in rural communities	African and White females	Yes	Urban	Afrikaans, English, Sepedi, isiZulu, Xitsonga		Yes
Rural physicians possess the ideal personal traits and qualities (passion, resilience, risk taking, chose career for lifestyle preference, have community connection, accountable and responsible)	Whites	Yes	Urban	Afrikaans and English		Yes
A rural career is attractive	White females	Yes	Urban			
A rural career fulfils career aspirations	White females	Yes	Urban	English		
A rural career choice is wise	White females	Yes	Urban			

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Salient behavioural beliefs	Demographic variables					
A rural career supports the improvement of clinical skills and self confidence	White and Coloured females	Yes	Urban	English		
A rural career is intellectually stimulating	White females	Yes	Urban			No
A rural career is enjoyable	White females	Yes	Urban	English		
A rural environment is pleasing	Whites		Urban	Afrikaans		
A rural career provides an opportunity to connect with community and patients	Africans and Whites			Afrikaans, Sesotho		
Beliefs with negative outcomes, expectations, feelings	**Race and gender**	**Prior rural experience**	**Origin**	**Language**	**Marital status**	**Friends**
Rural health facilities are resource constrained		Yes	Urban			
Rural medical practice is associated with more malpractice, unethical behaviour and corruption	Africans, white males			Afrikaans, English, isiZulu, Xitsonga		Yes
A rural career inhibits improvement of clinical skills and self- development	Africans, White males	Yes	Urban			
A rural lifestyle is not suitable to raise and educate children	African		More rural than urban	isiXhosa, isiZulu, English	Married	
A rural environment is characterised by economic stagnation	White females; Africans	Yes	Urban	Afrikaans, English, French		
A rural career does not fulfil career aspirations	White	Undergraduate	Urban	English		
A rural career is not intellectually stimulating	White male		Urban	Afrikaans		
Rural medical practice is associated with lack	Whites	Yes				

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Salient behavioural beliefs	Demographic variables					
of professional and administrative support						
Rural medical practice is associated with more exposure to adverse conditions caused by traditional healers	White and African males	No	Urban			
Rural physicians have limited clinical support in the working environment		Yes				Yes
A rural lifestyle is remote and isolated		Yes	Mostly urban			
Rural environments experience infrastructure challenges	Whites					
Rural patients have poor socio economic circumstances	White female	Yes				Yes
Rural medical practice is associated with high workload		Yes	Urban		Single	No
Rural medical practice is associated with more work related fatigue and stress	White	Yes	Urban			Yes
A rural career choice is foolish	Africans, Whites			Afrikaans, isiXhosa, Xitsonga		Yes
A rural career for specialist physicians is frustrating	African females, white males					
A rural environment is associated with slow development	African	Yes	Mostly urban			
Rural medical practice is associate with inferior quality of care	White males	No				
Rural medical practice is limited to primary healthcare	White males					
Beliefs with mixed outcomes, expectations, feelings	**Race and gender**	**Prior rural**	**Origin**	**Language**	**Marital status**	**Friends**

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Salient behavioural beliefs	Demographic variables					
A rural lifestyle supports the attainment of a better quality of life	Whites	Yes	Urban	Afrikaans, English		
A rural lifestyle does not support the attainment of a better quality of life	Africans	Yes	Urban	isiZulu, English		
Rural physicians are able to work independently	Whites	Yes	Rural			Yes
Rural physicians are not able to work independently	Whites	Yes	Urban			Yes
Rural physicians improve rural health care	Africans	Yes	Urban	Sepedi, isiZulu		Yes
Rural physicians are not able to make meaningful contributions to rural healthcare	Africans, Whites	Yes	Urban			
A rural career has good long term earnings potential	Africans	Yes	Rural	Xitsonga		Yes
A rural career is not associated with good long term earnings potential	White females	Yes	Urban			Yes
A rural lifestyle is safe	African and White females	Yes	Urban believe not safe	Afrikaans and English		No
A rural lifestyle is not safe	Coloured and White females	Yes	Urban			No
A rural physician career offers better career development opportunities than others in the profession	Indian and White females	Yes	Urban			No
A rural physician career offers worse career development opportunities than others in the profession	White males	No	Urban			No

The observations presented in Table 42 collectively reflect the researcher's impression as to whether demographic factors account for differences in the behavioural beliefs of study participants. The open blocks in the table propose that those demographic variables do not account for differences in the beliefs of participants who contributed to

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that specific belief, whilst the completed blocks reflect more detail about the demographic profile of participants who contributed to the listed belief.

Overall it was found that dependants and family working in a rural environment in a healthcare role did not influence the behavioural beliefs of participants, whilst previous work/ study experience in a rural area and friends working in rural health facilities seem to have a strong influence in shaping the behavioural beliefs of study participants regarding the outcomes associated with a rural physician career. The strength of influence by friends in the profession will be explored further in the next section of this study which discussed subjective norm (a core variable of the TPB model) to establish what are the perceptions of the expectations of study participants regarding their family, friends and society in general to choose a career as rural physician.

Collectively these salient behavioural beliefs, be they positive, negative or inconclusive, present an impression of the attitude of the two research groups towards choosing a career as rural physician. Attitude is one of the core variables of the TPB model that is tested in this study to ascertain whether it is able to account for differences in the career choice to become a rural physician among the two research groups. Based on the observation that the intentions of the two research groups are varied as presented above, the researcher is of the view that attitude has potential predictive value to account for the differences in career intentions and choices between the two research groups.

The next broad section deals with the second core variable of the TPB, namely subjective norm.

5.3 SELECTIVE CODE: SUBJECTIVE NORM

5.3.1 Introduction

According to Ajzen (2014) subjective norm refers to the “perceived social pressure” experienced by an individual to perform a certain behaviour. It is usually guided by the most significant normative beliefs regarding the perceived behavioural expectations, influences or judgements of important “referents” which according to Francis *et al.* (2004:

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32) represent people who may "in some way be important to the person" and could include individuals, groups, and even decision makers such as government.

Ajzen (2014) further states that normative beliefs, in conjunction with a person's "motivation to comply with referents", usually determines the strength of subjective norm. The concept of "motivation to comply" is defined by Francis *et al.* (2004: 32) as the degree of persuasion experienced by an individual to "match his or her behaviour to various sources of social pressure".

As in the case of other beliefs that form part of the informational foundation of the TPB, Ajzen (2014) stresses that although a person may have many beliefs with respect to the impact or expectations of social referents, only a relatively small number are "readily accessible" or "salient" at any given time. The researcher identified four axial codes to reflect the normative beliefs of the two research groups towards choosing a career as a rural physician. These themes generally reflect the significant or "readily accessible" beliefs held by final year medical students and registrars pertaining to choosing a career as a rural physician and include beliefs about the following:

- Beliefs about the expectations and influences of career guidance counsellors, educators and academia;
- Beliefs about the expectations and influences of family;
- Beliefs about the expectations and influences of friends; and
- Beliefs about the expectations and influences of role models.

Each of these axial codes are analysed and discussed in the next few sections.

5.3.2 Axial code: beliefs about the expectations and influences of career guidance counsellors, educators and academia

5.3.2.1 Introduction

The open codes listed in this section represent the salient beliefs of study participants regarding the expectations, influences or judgements of career guidance counsellors, school educators and academia at health sciences faculties pertaining to their further career choices in medicine, including choosing a career as a rural physician. These

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beliefs, in combination with their motivation to comply with such expectations or influences, reflect the subjective norm of study participants towards choosing a rural physician career.

In this study, career guidance counsellors refer to professionals who assist and provide career advice to young people, including school children, to be informed of and consider career options (Cambridge Dictionaries Online, 2015). Educators generally include school teachers, whilst the researcher categorised health sciences faculties and university lecturers under academia for the purposes of this study.

5.3.2.2 Open codes and participant responses

The salient normative beliefs that emerged from the process of axial coding are presented by the open codes in Table 43. The table includes examples of participant responses regarding their normative beliefs in this regard and reflects the unique participant code of the contributor in each instance. An interpretation of these results is discussed in Section 5.3.2.3.

Table 43: Open codes: beliefs about the expectations of counsellors, educators and academia

Axial code: beliefs about the expectations of career guidance counsellors, educators and academia		
<u>Open code:</u> career guidance counsellors and/ or educators expect academic achievers to choose a physician career, but not specifically to choose a career as rural physician		
Professionals in training	*In grade 11, my mum took me for a, like an "aanleg toets" (aptitude test) and the lady said I'd be bored not working with people, so she said law or medicine, and then I don't like lying (Laughter).*	6FG1_WF2
	I only had one teacher at school, my biology teacher. Because I didn't really know what to do, I was just good at academics. And then my one teacher was the only one who mentioned something about I should maybe consider like, going into medicine.	6FG1_WM1
Professionally qualified	*I think starting from high school; I went to Queenstown Girls High School in the Eastern Cape. They did well in terms of providing me with information for the different careers that you can choose, as well as giving information of the different institutions, which you can be able to apply for.*	RS6_AF1
	Um, I think for me it was mainly the influence of um, teachers together with the career guidance that we got at school. As you are going through your formative years so to speak, your teachers will give you input with regards to you know, what career they think that you should pursue based on what they see, um,	RS8_AF1

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Axial code: beliefs about the expectations of career guidance counsellors, educators and academia		
	you excelling in at school or being more comfortable with at school and um. Initially my teachers were suggesting that I, it was just a general idea, to say it should be something medical, maybe speech therapy and so on… Yes, it was a random decision basically, medicine was for some time at the top of my list for applications, sometimes it was engineering and as it turned out, medicine won overall over all the other options.	
Open code: career guidance counsellors and/ or educators influence academic achievers to choose careers other than becoming a physician		
Professionals in training	*I just jumped into it (medicine), very stupid, really stupid. I remember my accounting teacher, because I was going to do actuarial sciences, she came to me and she told me that one day when I die, I will have to stand before God and explain to him why I threw my talents away. (Laugh). It haunts me. It really haunts me. It was quite hectic.*	6FG1_WF3
	A lot of people tried to discourage me from doing medicine, particularly at school. They said the risks and the hours and everything are so bad that they wouldn't recommend going into it .	6FG2_WF2
Open code: health sciences faculties provide information, but expect medical graduates to make their own decisions pertaining to further career choices in medicine		
Professionals in training	*So, career guidance was, I don't think medicine itself had any career guidance whatsoever. We get exposed to different specialities all the time and you kind of see whether you like something or not, but as far as that is concerned, I don't think we would decide if we want to specialise or we want to be a GP or what we want to specialise in, when we go into internship, we might get more exposure. But, career guidance, we haven't received any career guidance in medicine itself. No.*	6FG1_WF3
	The university trying to expose us, to see what it's like to work there (rural). That in itself is a way to get people to start going or thinking about going. Because it's a change of mind. It's like an idea of a profession not just about the money, it's a lifestyle.	6FG1_CF1
	At high school, we never had much career counselling, especially not with regards to medicine. I think it's just so broad, they can't really go into that topic and everything else that everybody wants to do. But, here we have been spoken to about whether we're going to specialise, and that's when we did family medicine in our 5th year, in our rotation in that group, we were broken up into smaller groups and we discussed, do we want to work in rural medicine, do we want to maybe do family medicine. Do we want to go into public health, or are we going to specialise and stay in the urban areas? And were you given enough information to, at that stage, to make an informed choice? Not really. It was just what they asked us. What do we feel like doing? They didn't give us information based on why we should go to a rural area.	6FG2_WF3
Professionally qualified	*Ja, I think it's more individual because you see, because each and everyone wants to promote his own department. My department is better than surgery. Surgery is better than OBG's. OBG's they don't know much and all those kinds of things. But… (laugh). I*	RS1_AM1

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Axial code: beliefs about the expectations of career guidance counsellors, educators and academia		
	just want to get a feel in general, because I also have a perception. So everyone is pulling in a different direction.	
	Daar is alle opsies is vir ons gewys. … Maar uit die mediese oogpunt uit, is mediese skool – dink ek het hulle die opsies vir jou genoem om te sê wat is die voordele en die nadele en by Tukkies het hulle mooi vir jou verduidelik, byvoorbeeld primêre gesondheidsorg behels dit, sekondêr behels dit, tersiër behels dit en afhangend van waar jy wil wees, gaan jy verskillende goeters kan doen, maar "obviously omdat jy baie tyd in sub-spesialiteite spandeer, is meeste van die studente geneig om te wil gaan spesialiseer as hulle klaar is.	RS3_WM1
	Yes. I think I remember, as a medical student, specifically working with the Department at Stellenbosch that community health department, and then I can actually remember a few things that a medical student that really made sense to me. …. So, that just somehow as a student, somehow that, I can't even remember who taught it, but there was something of a concept there that really stuck with me, and then there was also a declaration of Alma Ata on primary health, and it just hit me in the right spot.	RS9_WM1
<u>Open code</u>: health sciences faculties expect medical graduates to specialise further		
Professionals in training	*It's quite difficult when you say suddenly we're in our final year and then honestly, every question that everyone asks you is oh, what are you going to specialise in. And you almost feel like a bit stupid if you say, I don't want to specialise. And people kind of look at you strangely, but why?*	6FG3_WF4
Professionally qualified	*I think I can see the 6th years in terms of them saying that they need to specialise. I think it's because of the way that medicine is being pushed in places like the United States and in Europe, where the focus is very much on specialist medicine. And that's the feedback, and that's the sort of input they get from their lecturers.*	RS7_WM1
<u>Open code</u>: current registrars influence the career choices of medical graduates		
Professionals in training	*I just also want to say, like the influence is positive in a certain way, but also negative in other ways. Like she was saying, also about the public sector. And everyone will always ask you, are you going into private because the Registrars and them also make a negative about certain things, and I think some of their personalities they can encourage you, but also discourage you from doing certain things, like I don't want to be a surgeon like that guy. Or something like that. The correlation between that is what a surgeon is like, so I don't want to become that.*	6FG2_WF1
	I think, in the last 2 years, especially this year, doing a lot of practical work in being involved and sort of forming small relationships with some of the Registrars, who have come from different provinces and so on. A lot of advice from them - sometimes they say, don't go there or they'd say it was wonderful	6FG2_WM1

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Axial code: beliefs about the expectations of career guidance counsellors, educators and academia		
	or very nice. That helps me, especially with deciding on where to possibly go next year.	
	I find a lot of influence from registrars that this is their passion and this is what they want to do and they love learning, studying and finding new things out. Every day is a challenge to them and every patient is a challenge to them.	6FG3_WF3
	I just want to say, a lot of those same Registrars will all ask you, can you get out now? When I was at school, the main people I knew, said, well why on earth are you going to study medicine or why do you even want to be a health professional. I only met one doctor who encouraged me	6FG2_WF4
	Personally, they don't share any of their influences, if I look at their faces – all the time run down….. They talk about their families, how much time do they really get to see their families.	6FG3_WF1
	And also seeing what the Registrars go through in the departments, I don't know about the rest of them, but when one consultant asks a registrar what does this and this study say about that and that, it just makes my blood go ice cold. I don't just don't want to do it.	6FG3_WF2
Professionally qualified	*I was motivated by people who were in the field, were Registrars then, and are now qualified consultants running their private practices and working in the State as well. So, they I think grabbed me from this business perspective that I was taking, back into medicine.*	RS2_AF1
	And then I have had a lot of exposure with other registrars who are now finishing and they came over and said, why didn't you do urology, there will be a post going open. And I actually was the last candidate to apply…	RS5_WM1

5.3.2.3 Discussion of beliefs about the expectations and influences of career guidance counsellors, educators and academia

This section reflects on the normative beliefs of study participants regarding the influence of career counsellors, educators and academia to choose a career as physician and more specifically a career as rural physician.

The first group of normative beliefs discussed in this section relate to the beliefs participants had about the **expectations and influences of career guidance counsellors and educators** pertaining to their career choices in medicine. A few participants from both research groups indicated that career guidance counsellors and/ or educators proposed they pursue a career as physician, however, did not specifically influence them to choose a career as rural physician. Generally, these participants

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believe that because they demonstrated academic excellence whilst at school, they were advised and guided by counsellors and/ or educators to study medicine. Three participants from the professionals in training group indicated that career guidance counsellors and/ or educators proposed they pursue careers other than that of a physician because of the perceived risks and work demands associated with a physician career.

The researcher could not locate evidence of South African studies that investigated the impact of career guidance on choosing a career in medicine and more specifically rural medicine. Wilson, Couper, De Vries, Reid, Fish and Marais (2009) summarise a study conducted in the United States of America, stating that "…students whose intent at study entry [assumed first year medical school] is to practice rural medicine are more likely to do so." They rated this as a "strong" likelihood which suggests that rural physicians may have made their career decision at school level, based on guidance in this regard. The findings by Dambisya (2003:293) that suggest almost 50% of first year medical students at UNITRA intended to pursue careers in rural health may indicate some form of prior guidance or information that influenced students in this regard, however, the further finding that rural intentions dropped to below 10% by the time students reach their final year of study suggest that the initial intentions may rather have been a case of giving "the right answer" because entry into the programme at UNITRA was very rural orientated.

The researcher observed the following similarities and/ or differences between various demographic groups with regard to beliefs about the expectations and influences of career counsellors and educators:

- African females and whites shared strong beliefs about the influence and expectations of career counsellors and educators with regard to their further career choices, particularly encouraging academic achievers to study medicine;
- All the participants from the professionals in training group who indicated career guidance counsellors and/ or educators tried to influence them to choose a profession other than medicine, plan to specialise further;

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- Other demographic factors do not seem to account for differences between the various groups in this regard.

The second group of beliefs discussed in this section relate to the **expectations and influences of academia,** i.e. health sciences faculties, lecturers and registrars. Participants from both groups indicated that they believe health sciences faculties provide information to students to assist them with making decisions about further careers, however, regard the actual decision-making process as a personal matter. The universities do not provide career guidance as such, but through the rotation programmes and practical training students are exposed to a wide variety of specialties, localities and working environments.

As discussed in Section 4.4.3, Dambisya (2003) reported that almost 50% of medical students at the former Unitra (now Walter Sisulu University) received no career guidance about further careers in medicine during their undergraduate studies whilst only 7% felt they received “substantial guidance”. Almost 60% of the students, however, expressed a need for such counselling and advisory service. In a recent study, Limb (2014) reports that the initial results from a survey conducted by the National Institute for Career Education and Counselling in the United Kingdom showed that more than 60% of surveyed physicians felt that they “know too little” about career opportunities in medicine and almost 50% of the physicians in this study were of the opinion that they had to choose a specialty area too soon in their careers. Medical students in the UK thus feel they have to make important career decisions in the absence of sufficient information about available career opportunities and options. Reid and Cakwe (2011a:34-38) found that students representing various health sciences faculties in South Africa spend between 3% and 25% of their undergraduate training time in rural clinical settings and it is questionable whether their exposure is sufficient to influence career decisions that favour rural health or adequately prepare them to practice medicine in such settings.

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One participant from the professionals in training group felt that the university expects students to specialise further although it is deemed as somewhat of an unspoken matter. This belief was clarified by one of the professionally qualified participants who indicated that he believes the specialisation focus of the United States and Europe influences local medical training and many health sciences lecturers are strong proponents of specialisation. Almost 20 years ago Kale (1995a) reported on his interviews with academics at the Universities of Cape Town, Witwatersrand and Durban (now University of KwaZulu Natal) to explore why physicians may be averse to practice medicine in rural areas. The contributions of key academics in the field at the time may hold true 20 years later, judging from the beliefs expressed by participants in this study. Kale (1995:1307-1311) quoted an academic to say: “It [voluntary career decision to choose a career as rural physician] is not going to happen. But we can improve the coverage by trying to get them to go to rural areas. We never really tried to send doctors to rural areas in the past. You must use a little bit of compulsion with young doctors. Money is only a part of it. Our students are urban people, and our teachers are urban people. Their role models are here."

A large number of professionals in training shared beliefs that current registrars, whom they have daily contact with and under whose supervision they are trained, have a strong influence on the career choices of undergraduate medical students and interns. The group indicated that the personalities, behaviour, interests and experiences of registrars influence the students and interns either positively or negatively with regard to future career plans and specialty choices. Two participants from the professionally qualified group confirmed the beliefs of the professionals in training, stating that registrars had an influence on their decisions to specialise as well as their eventual speciality choices. Whilst the researcher was not able to locate research that describe the relationship between registrars, interns and senior medical students in a South African public hospital setting, she is of the opinion that the findings of a study by Jordan, Brown and Russell (2003:1135) to explore influencing factors for medical students to pursue careers in family medicine resonate with the beliefs of study participants in this regard. Jordan *et al*. (2003:1135) state that career choices of medical students could be influenced due to “admiration” which “might develop into a wish to emulate such a person by choosing to pursue a similar career”. Some authors highlighted the fact that registrars and intern

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physicians play a key role in the day to day clinical practice within a hospital setting. In addition, they seem to work longer hours and carry a large clinical responsibility within teaching hospitals (Ashmore, 2013; Gibson, 2004:2015; Mclean, 2004:133-141). The researcher thus deducts that the relationship between registrars and interns and/ or medical students supervised and taught by them is interdependent and as such registrars could potentially have a strong influence on the further career choices of students, interns and newly qualified physicians.

The researcher observed the following pertaining to whether demographic factors account for differences in participant beliefs regarding the expectation and influences of career counsellors, educators and academia to choose a career as rural physicians:

- White females shared strong beliefs about the influence and expectations of academia with regard to their further career choices;
- The majority of participants who shared beliefs in this regard had prior rural exposure and/ or working experience and quite a few of them grew up in rural areas;
- The vast majority of professionals in training who contributed beliefs in this regard intend to specialise further. It should, however, be noted that the participants who indicated that registrars have an influence on their further career decision making are equally spread between those who wish to specialise and those who do not want to specialise further.

Based on the findings above, the researcher summarised the normative beliefs of both research groups regarding the behavioural expectations of career counsellors, educators and academia in conjunction with the impact of these referents on behaviour, i.e. career decisions, including the decision to choose a rural physician career. The summary is presented graphically in Figure 44 below.

The next axial code details the normative beliefs held by study participants regarding the expectations and influences of their family in terms of initial and further career decisions in medicine, including choosing a career as rural physician.

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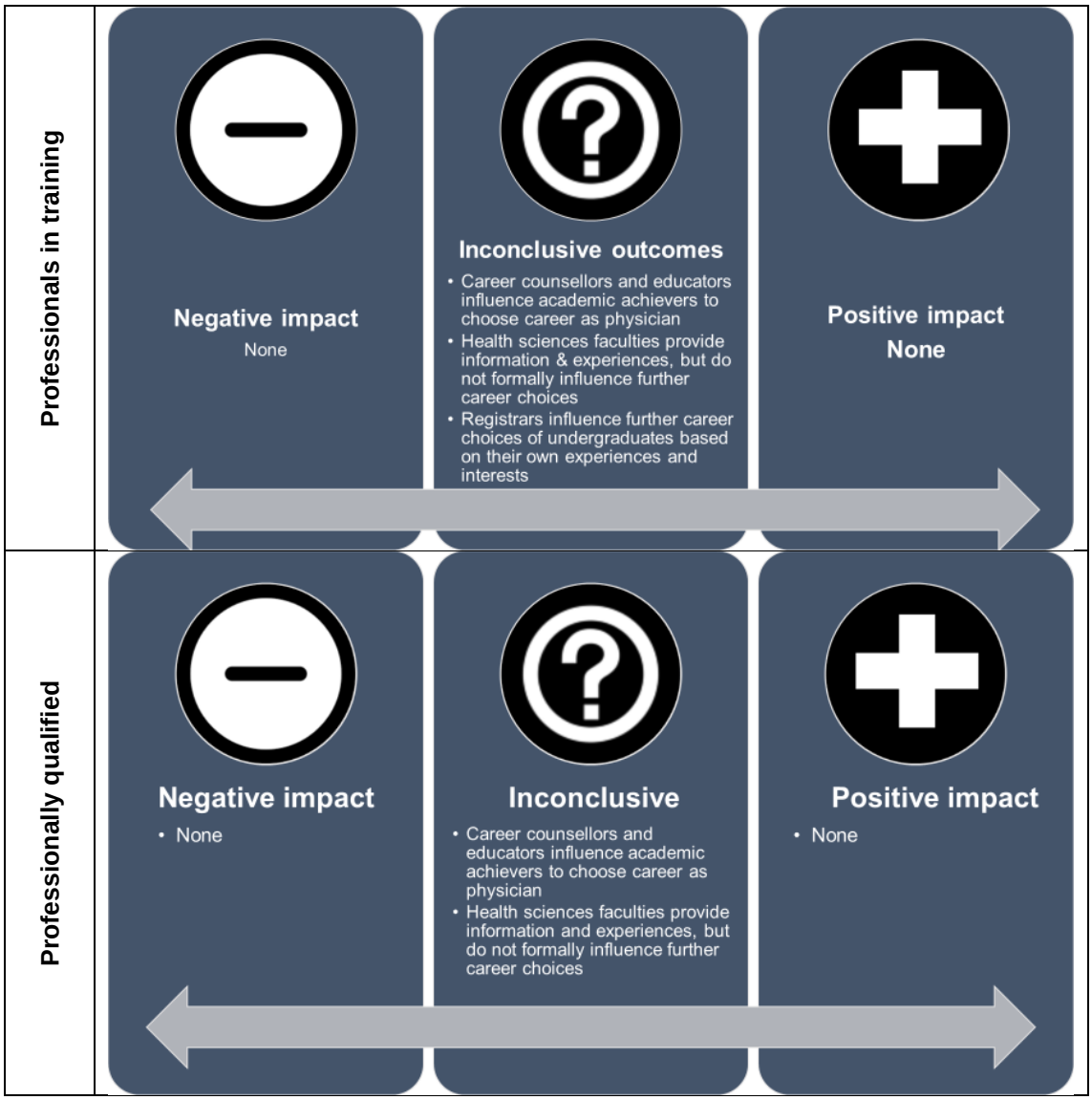
Figure 44: Normative beliefs and influence of career counsellors, educators and academics



5.3.3 Axial code: beliefs about the expectations and influences of family

5.3.3.1 Introduction

The open codes listed in this section represent the salient normative beliefs of study participants regarding expectations, influences or judgements of family pertaining to career choices, including choosing a career as a rural physician. These beliefs, in combination with their motivation to comply with such expectations or influences, reflect the subjective norm of study participants towards choosing a rural physician career.

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The researcher discussed the social pressure, influences and expectations of parents, spouses (including life partners), children, physician family and the ethnicity of participants to choose a career as rural physician in this section.

5.3.3.2 Open codes and participant responses

The salient normative beliefs that emerged from the process of axial coding are presented by the open codes in Table 44. The table includes examples of participant responses regarding their normative beliefs in this regard and reflects the unique participant code of the contributor in each instance. An interpretation of these results is discussed in Section 5.3.3.3.

Table 44: Open codes: beliefs about family expectations

Axial code: beliefs about family expectations		
Open code: the ethnic background of the family influences career choice to become a physician		
Professionals in training	*How I was brought up, you live by example. So whatever you choose to do is to help others and with medicine you can do that. That kind of encouraged me to push through it.*	6FG1_AF1
	I'm coming from an ethnic background where the family spoke. Being a doctor is kind of looked up to.	6FG1_AF2
Professionally qualified	*Mine is almost cultural or a way of life, sort of. Growing up, I went to the old Indian school. Everyone around me was Indian and its sort of expected, even in the family, that if you're excelling at school, you would follow the path of being a doctor or a lawyer. That was the general, no one knew what an accountant was or actually did, (laugh) that sort of thing, so yes, and then by the time I finished school, it was sort of the only choice I had. I didn't know anything else or any better.*	RS8_IF1
	I've got cousins who are - most of my cousins are teachers, but they've got, the other one has got a Masters, the other one has got a PHD. So, they are the ones who influenced me even though they are in the education side. They made sure that they learned as far as they can go. So, then after - when I went to medical school I told myself I want to like, learn more. At the end of the day I wanted to see myself get a PHD. So there is the influence from the family almost in terms of setting the standard that you don't just do a first degree, you carry on and secondly, there is this inherent locus of control…	RS1_AM1
Open code: a spouse/ life partner influences further career choices after completion of studies/ specialisation		
Professionals in training	*I think on the one hand; you try to make decisions for yourself. You kind of want to think about what you want in the end and*	6FG1_CF1

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Axial code: beliefs about family expectations		
	what your goals are. But you also need to think about that person. My own experience is that the person I'm in a relationship with, he's not in the same level of med school as me so it's a discomfort. I have to think I must make the decision and sort of try to listen to his views as well so that later on it can be the case. Maybe we will get together …. Its uncertainty that you have to deal with in the relationship, but I think that is something I'll have to work through anyway.	
	My fiancé, I only see once a week, if that. He knew coming into this, because we've been together for a long time, that… I'm assuming he's not studying medicine? He is a teacher. So he knows that in most likelihood he will be the person looking after the children one day, more than I would. It takes a strong person to be able to, as the husband, so he's taking more of a family role. So, it's just as much of a sacrifice for them as it is for us.	6FG2_WF2
	I think it will make a big difference in the future especially if you have dependants, or like already now people are beginning to plan for internship, where is their husband going to be or; and people often ask me if I'm going to specialise and then I'll say, well it depends. If in 4 years I'm in a position where I want to have children, I'm going to do that, but if I'm not, then why not specialise.	6FG2_WF4
	I also recently got married and now, choosing where to go, you can't just choose where you want to go.	6FG2_WF5
	The biggest thing that they do is they form a support structure and in short term a happy and supported doctor, I guess is more efficient and can provide optimal service. And it's important to have that balance in your life no matter how the balance could be tipped into more the works direction because as long as the other component is there. Some of us are fortunate enough to have been in a long term relationship and that person grows into the profession with you and they understand exactly what it's about. And they will not pull out immediately once things get hectic.	6FG2_WM1
Professionally qualified	*He's also doing the same thing I am. But, he's to finish probably end of this year. And he feels, because, I don't know why because men are not under the pressure of a biological clock, but he would like us to extend the family. Maybe pressures from the in-laws. My in-laws or whatever. I don't know. But, it's been putting a lot of strain on our marriage and I'm like this disobedient career pushing wife.*	RS2_AF1
	So dis 'n "toss of a coin", so ek dink dit gaan afhang van…. ek's nie getroud nie, van die tipe vrou wat ek kry en wat sy wil hê. Want ek is "happy" met wat ek doen, of ek geld maak of nie, dis hoekom ek nou nog in die staat is.	RS3_WM1
	Ja, it did. I think so; if I had been single I'd probably find myself in Canada right now. A lot of my friends have moved over there. Um, and I think it's a lot is, financially sort of determined as well, just in terms, you pretty much go and work in a rural environment in Canada. (sigh) But it's not, you might be in a smaller town, or	RS7_WM1

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Axial code: beliefs about family expectations		
	working in what they would consider a rural clinic but your remuneration would be much better, your time off and then and your holidays…	
Open code: a spouse/ life partner negatively influences decision to choose a career as rural physician		
Professionally qualified	*Being female -it's different. I think my husband will always be the bread winner and the one to decide where we stay. So, I'll follow him. Is he also a doctor? No he's in rehabilitation of mines. Also, completely different. Ja, and I think in the foreseeable future we'll probably live in the city…*	RS1_WF1
	I mean where would the kids go to school, such things? And where would my wife work? So, if I had to sacrifice and go to a rural hospital, then accessibility in terms of the transport and the roads, has to be very good. If I need to go and see my family, then I'll be willing.	RS6_AM2
	When I started I always had at the back of my mind that I always want to help in the rural, however, it happens. Obviously at this stage in my life it would be impossible for me to go into rural. Why is that? Simply because I'm married, my husband works in Johannesburg and I've got 2 kids. So, it won't be practical, but growing up, and before I could become a doctor, I always had it in my mind to help where I can. So I'm hoping I have that opportunity one day.	RS8_IF1
	It will just be a career choice; it will be like life decisions. What factors would influence you to make that life choice? Well obviously my husband is, we can't go. Is he also a doctor? No, he's not. But he has a job where he cannot just go and work in a rural place, so that is a huge factor.	RS8_WF2
	She's an anaesthetist, she's specialised already. So, ja, she's working there now…. I think it (decision to pursue rural career) impacts a lot on where you live and what you as a family want to achieve and obviously, financially it's important. Um, I'm pretty sure we'd manage in smaller towns, but we kind of like the urban. The more urban, ja.	RS7_WM1
Open code: parents influence career choice to become a physician		
Professionals in training	*When I decided I wanted to become a doctor, my father always told me that you can be anything you want to and then also with your family you need to do something kind of on a higher level, like my mum was a teacher and my dad works at Sasol. So I had to be "above" them. And also that support I received from family, they encouraged me. My parents support me. I don't know whether they supported me because they like having a child that was a doctor or they supported me to pursue my dream.*	6FG1_AF2
	And then as far as my parents are concerned they said they will pay, they will support ,	6FG1_WF3

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Axial code: beliefs about family expectations		
	A lot of people tried to discourage me from doing medicine, particularly at school. They said the risks and the hours and everything are so bad that they wouldn't recommend going into it. And actually the only people who really supported my decision were my family and my GP. They were the only ones who said, 'go for it.'	6FG2_WF2
Professionally qualified	*Both my parents were very supportive. They actually very glad, they never ever imposed it on me, or to say, choose this. They left the decision to me. But once, I did tell them this is what I'm interested in, they were over the moon, they were very supportive. I remember when I was preparing for my interview with the University of Pretoria for the undergraduate, she got me together with an intern that was working at her hospital, sort of like guide me, these are the type of things they ask and so they've been supportive, but there is no doctor in the family.*	RS6_AF1
Open code: parents influence career choice other than being a physician		
Professionals in training	*My mum is actually a doctor. She is a specialist physician. When I was in high school she used to work very long hours. I didn't want to become a doctor, because I thought you didn't have a family life. I neglected the thought that when I was small, she worked 2 x a week and was still at home. And then I studied physiology and then only in my 3rd year of physiology degree, I decided I wanted to become a doctor.*	6FG3_WF2
	But my dad is in dentistry and he is now a hospital developer. So he didn't continue in the medical field. So in a sense, that's why I also don't want to stay in the medical field but my aunt is a medical doctor in Canada and she brings in the balance of, you know it can be nice. (Laugh) Because so far I've never had an experience of medicine ever being nice. I used to hate doctors when I was small. I don't trust doctors at all. So I may need help in that regard.	6FG3_WF5
Professionally qualified	*No, my mum, not that she didn't want it. It was when I just went to medical school it was when HIV was starting to get a lot of hype, and there was a dentist in our town that got seroconverted from a needle prick. So, my mum was a bit disillusioned by it, so they kind of let us decide by ourselves.*	RS1_WF1
	Wel dit was of dit of finansiële wiskunde gewees en dit was nie regtig my "cup of tea" nie, so … hmm…. En nee my ouers is baie teen die feit dat ek medies gaan swot het, so hulle was glad nie 'n ondersteunende invloed nie. (Lag) My Ma is… hulle altwee is in wiskunde, so hulle is baie teleurgesteld in my dat ek gaan medies swot het. Selfs nou nog? Selfs nou nog. Hulle sal nou nog sê as ek nou opskop sal hulle vir my betaal om finansiële wiskunde te gaan swot.	RS3_WM1
Open code: parents influence career choice to become a specialist physician		

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Axial code: beliefs about family expectations		
Professionally qualified	*For me, both my folks are doctors and my dad specialised and my mum didn't. And they very strongly feel that if you have the opportunity you should specialise.*	RS1_WF1
Open code: parents positively influence decision to choose a career as rural physician		
Professionals in training	*I come from a small place in KZN and my grandfather was the only GP in town and my father is the only GP in town and it's pretty rural. We see about 98% of his patients are black. I grew up with them in the house and I've always looked up to them. I honestly must say I never thought I would do anything else.*	6FG3_WM2
	My mum is very involved in rural health and public health. She works in HIV medicine and I've just seen the difference that she's made doing minor things, well, seemingly minor things, the difference that the nurses and everything have made to rural clinics that have made me decide that I really wanted to do this. So there is a likelihood that you might land up in rural environment, although it's still in the back of your mind? Yes.	6FG3_WF3
Open code: children negatively influence decision to choose a career as rural physician		
Professionals in training	*Being a female for me is a big thing, I want to have children and I want to look after them. I don't know, in terms of a career choice further on, that is a big thing, how much time I will have with my children. And you must be in a place where they can grow up and have opportunities and things, so children do play a big role in the future.*	6FG2_WF1
Professionally qualified	*It definitely will, it definitely will because it means uprooting, like you mean moving away from Pretoria, going wherever? Ja. It means the child must come out of school. Is there a good enough school wherever you are going to go, because that's important, as well as for your partner, they will need to find a job, depending on where, which field they are involved in. So, it does, become difficult.*	RS6_AF1
	I think for me, if I can have immediate access to my family. Because obviously if I can go to a rural hospital, I wouldn't take my family there. Why not? I mean where would the kids go to school, such things? And where would my wife work? So, if I had to sacrifice and go to a rural hospital, then accessibility in terms of the transport and the roads, has to be very good. If I need to go and see my family, then I'll be willing.	RS6_AM2
	When I started I always had at the back of my mind that I always want to help in the rural, however, it happens. Obviously at this stage in my life it would be impossible for me to go into rural. Why is that? Simply because I'm married, my husband works in Johannesburg and I've got 2 kids. So, it won't be practical, but growing up, and before I could become a doctor, I always had it in my mind to help where I can. So I'm hoping I have that opportunity one day.	RS8_IF1
	I think children for us who've got it. Younger children and wives. I think with kids, if you want your kids to go to a good school, and	RS9_WM1

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Axial code: beliefs about family expectations		
	have them doing gymnastics and hockey, then you can't go and sit in a rural area.	
Open code: physician family influence further career choice after completion of studies/ specialisation		
Professionals in training	*But my dad is in dentistry and he is now a hospital developer. So he didn't continue in the medical field. So in a sense, that's why I also don't want to stay in the medical field but my aunt is a medical doctor in Canada and she brings in the balance of, you know it can be nice.*	6FG3_WF5
Professionally qualified	*When I was younger I wanted to become a neurosurgeon. You've got different ideas, the brands, the diversity of neurosurgery, etc. My sister also did internal medicine incidentally. So we talked about internal medicine a lot, it's an interesting field, its dynamic, so that's why I ended up in internal medicine as well probably. I don't like surgical disciplines. I don't like children, so it sort of limits you away from surgical fields. I don't like radiology, laboratory work, so it sort of pushes you into a certain bracket of medicine which is more internal, physician work.*	RS4_WM1
	I have an aunt who works in Cape Town who is a general surgeon and in some way, ja, this probably ties in with your earlier question in role model and I've forgot to mention this, I think if there is one person close by that I see is a role model it would be she. She is a general surgeon, but doing transplant and trauma surgery, a fairly older lady, she turned 55 recently. And she, ja, the way she conducts herself, the way she interacts with patients, and ja, the general way she does things, is something that I aspire to do. Extremely professional, very good in what she does, um, well known in South Africa, but also internationally. So, I think in a great way, perhaps lesser in the past but more in the current situation. Because if you are a general medical student and you have just finished your exposure to general surgery is there, but you're not going to be involved in trauma and transplant surgery, but there is a link between urology and transplant surgery, obviously. I think that, ja, she is a role model to me.	RS5_WM1
Open code: family members practicing as rural physicians positively influence decision to choose a career as rural physician		
Professionals in training	*I don't want to come back and study again, but I'm thinking rural. So you've made a decision? Sort of, I've thought about specialising. I'm 26 now, taking my own time in finishing this bloody degree. (Laugh) The thing is I'm planning on taking over my dad's practice and that will only be in about 4 years' time and by that time, he's really considering retirement. And the thing is there is still a lot of people in the community and white people and friends and family and if my dad were to go and retire in Hermanus, I can't think of any – this might sound wrong – but I can't think of any other white person that would move to Melmoth, out of their own choice. Because there is no school for the kids, the Spar closed down. (Laugh) So, I think if my brother or my cousin's child gets ill in the middle of the night and he has to go*	6FG3_WM2

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Axial code: beliefs about family expectations		
	out 70 kms to the closest hospital. So my dad's practice is my life; that is where the farm is.	
Professionally qualified	*My parents have always given to the community a lot. So did your mother practice as well? Yes. She's a GP and she used to run a practice in a small town outside of Klerksdorp called Hartbeesfontein. And then also in Dikgane which is the township outside. So, she has always been very much involved in South Africa and she feels that it's such a privilege to be able to practice medicine and you should learn the language of the people you speak to. So, she speaks 6 languages and my dad as well. I think growing up in Klerksdorp for me; one thing that was very big was that it was a very apartheid, very racist town. My folks are not racist at all. So, they had a practice pre-94 they would see black and white people on the same day and they got a lot of resistance from that, especially in Klerksdorp. And they never let that get them down. They always saw people as - one person is never better than the other one. They're equals - they're patients in need. They've inspired me a lot.*	RS1_WM1
	But, if there were to be an opportunity to go and work in Nelspruit – for me, my uncle is a rural doctor working in Komatiepoort. He has a private practice there, but he works technically in a rural environment. He and his brother are two well-known doctors in Komatiepoort. They've come from another rural practice where they used to be, so they see a wide spectrum of patients. They have a wonderful, wonderful lifestyle. They live in an area, where it's different than living in a city. They have wonderful; they live on the border of the Kruger National Park, a view over the Crocodile River, which is almost idyllic. They have almost the best of both worlds. Living close to nature, close to what they enjoy and still offering a good service. And no, there is nothing that prevents me, and I'm actually keen, I would gladly enjoy or do something like that, living in a semi-urban setting like Nelspruit, but being involved in let's say, a larger hospital, a secondary or tertiary hospital in a larger setting that is still technically in a rural or far off place, like Mpumalanga.	RS5_WM1
Open code: family members practicing as rural physicians negatively influence decision to choose a career as rural physician		
Professionally qualified	*My sister-in-law worked in a GP practice in a rural area east of Bloemfontein for a while. And she said that it was heart wrenching to see that patients don't get healthcare where they went to get it. They take the last bit of money they have and to come and see the doctor and then they pay R80 for a bag of medicine, and they don't have R80. Because, in the rural areas, that's where poverty is the most prevalent. She said that you would have a whole family coming in who had gastro enteritis for a week and they are all out. They have nothing and they're coming to see a doctor. She found it very disheartening.*	RS1_WF1

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5.3.3.3 Discussion of beliefs about the expectations and influences of family

This section reflects on the normative beliefs of study participants regarding the influence and/ or expectations of various groups of family including parents, spouses, children and physician family. In addition, the impact of the ethnicity of participants to choose a career as rural physician is also discussed in this section.

The first set of beliefs discussed in this section relate to beliefs regarding the **expectations and influences of the ethnic background of a physician's family** on career choice. Two participants from the professionals in training and two from the professionally qualified groups believe that the ethnicity of their families put pressure on them to choose medicine as a career. Two participants stated that a physician career is seen as superior to other professions and academic achievers are encouraged by their families to choose medicine, whilst another participant indicated her culture promotes the notion that one must choose a career that help others and make a difference in their lives. One participant stated that his family places high value on academic achievement and this influenced him to specialise further. Mclean (2004:133-141) concurs with these beliefs. Reid *et al*. (2011b:30) found that the sense of community and extended family accountability is pertinent among African medical students and their families often sacrifice suffer financially to support their studies towards becoming a physician. They may, however, lose this connection and influence by their family and ethnic background over time as they develop more individualised career aspirations which may not necessarily align with the career plans their family had in mind (Dambisya, 2003).

The researcher observed the following similarities and/ or differences between various demographic groups with regard to beliefs about the expectations and influences of the ethnic background of family:

- African and Indian participants believe their ethnicity contribute to the belief that they should choose an occupation as physician;
- The participants who contributed beliefs with regard to the influence of ethnicity on choosing a career as physician grew up in cities and rural areas;
- None of the participants who contributed beliefs in this regard have family who practices medicine in rural areas.

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The second set of beliefs in this regard involve the **expectations and influence of spouses** on further career choices and specifically on choosing a career as rural physician. Participants from both research groups indicated that spouses have expectations and the power to influence the career choices of physicians. Participants from the professionals in training group indicated that partners and spouses must be considered when plans for the future are made and cognisance should be taken of the sacrifices that spouses have to make to support the physician's career, whether the spouse is a physician or pursues another profession. Participants from the professionally qualified group shared the beliefs of the professionals in training and added that the ideals of the spouse pertaining to family size and location of the spouses' work must be considered in future career plans. Burch *et al*. (2011a) found that "attachment to" spouses has a significant impact on reasons for physicians to stay in Africa vs migrating to a developed country.

About a third of the participants from the professionally qualified group shared beliefs that a spouse/ life partner has a negative influence on the decision to choose a career as rural physician. Most participants feel that married female physicians are less likely to choose such career if their spouses work in the city, be it as a physician or pursuing another career. One male physician who got married recently indicated his physician spouse would like to pursue an academic career and as such practicing medicine in a rural environment is not an option for him. Another male participant was concerned about the perceived lack of working opportunities for his wife in a rural area. Dussault and Franceschini (2006:12) confirm that employment opportunities for spouses is a major influencing factor on the decision of physicians to take up a rural career. Eagar (2014) lists the fact that employment opportunities for the spouses of rural physicians remain challenging, represents a significant reason why physicians do not choose rural careers.

The researcher observed the following pertaining to whether demographic factors account for differences in participant beliefs regarding the expectation and influences of family to choose a career as rural physicians:

- Mostly females from all race groups contributed beliefs with regard to the influence of spouses on further career choices and the belief that spouses have a negative impact on choosing a rural career;

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- All participants from the professionally qualified group who believe spouses have an impact on further career choices and specifically have a negative impact on rural career choice, are married;
- Only one of the participants in the professionals in training group who contributed beliefs in this regard is married;
- A few of the professionally qualified participants who indicated spouses have a negative influence on choosing a career as rural physician grew up in rural areas, but most of the contributors to this belief grew up in large cities;
- Only one of the participants who contributed beliefs in this regard have family who practices medicine in a rural area.

The third set of beliefs pertaining to the expectations and influence of family on career decisions relate to the **impact of parents** of physicians. A few participants from the professionals in training group shared beliefs that their parents had expectations and a strong influence on them to pursue physician careers. Participants indicated that their parents were supportive and encouraged them in this regard. These beliefs were echoed by two participants from the professionally qualified group. In addition, one participant from the professional qualified group indicated her parents had a strong influence on her choice to become a specialist physician, whilst two participants from the professional in training group believe their parents had a positive influence on their decision to choose a career as rural physician. In both cases, the parents of the professionals in training are currently practicing as physicians in rural areas. Many authors confirmed these beliefs that parents have an influence on the vocational choices of children. ” Schulenberg, Vondracek and Crouter (1984:130) state that parental encouragement “…serve to enhance or limit an individual’s potential occupational status…”. Hairston (2000) refers to five possible influencers on the career decisions of African Americans who chose teaching as an occupation, namely a “desire to imitate parents’ altruistic” intentions and/ or behaviour to contribute to the community; parents expectations of academic performance; parental support to achieve academic goals; parents creating opportunities for exposure to various career opportunities and occupations in the chosen field (in this case education) and parents facilitating the discovery of talents and career interests. Fouad (2007:547) states that expectations of parents, among others, are a strong

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influencer of initial occupational intentions which is often associated with choices for tertiary studies.

Conversely participants from both groups indicated that their parents had a negative impact on their career decisions to become physicians. Participants from the professionals in training indicated the challenges and work pressure encountered by their physician parents served as a deterrent for them to become physicians, whilst the professionally qualified participants who shared beliefs about the impact of their parents indicated that they were not happy with the decisions of their children to study medicine. One participant, whose parents are physicians, indicated her mother was unhappy about her choice because she had feared her child might contract a non-communicable disease such as HIV/ AIDS. The mother had an unpleasant experience with a colleague who seroconverted from a needle stick injury. Another participant indicated his parents wanted him to follow their footsteps in a different professional area and are still hoping he would change his mind, even though he has chosen to specialise in medicine. Paolilo and Estes (1982:787) found that parental influence (whether positive or negative) play a more important role in the career decisions of physicians than other professional occupations such as accounts, attorneys and engineers. In a South African context, the experiences and beliefs shared by participants in this study who have physician parents resonate with findings by Jawitz, Case and Tshabalala (2000) who reported that students in their sample who had a physician parent, often chose different occupations due to discouragement by their parents who experienced long working hours and less than ideal working conditions, including exposure to infectious diseases and occupational injuries. It is, however, important to note that although Jawitz *et al*. (2000) found that all students who participated in their study, referred to the role that their parents played with regard to study choices and occupational choices, in the majority of cases the students eventually made their own decisions with regard to occupational choice and in most cases these decisions did not necessarily align with initial career proposals by parents.

With regard to establishing whether demographic factors account for differences in participant beliefs in the regard, the researcher observed the following:

- White and African participants who speak Afrikaans, English, isiXhosa and Sepedi believe their parents had an influence on their decision to study medicine, whilst white

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participants shared positive beliefs with regard to the influence of their parents on their decision to choose a career as rural physician;

- The majority of participants who indicated their parents had a positive influence on their decision to become a physician grew up in rural areas;
- None of the participants who contributed beliefs in this regard have dependant parents or other adults living with them.

The fourth belief discussed in this section relate to the **impact of children** on further career choices and specifically on choosing a career as rural physician. Participants from both research groups believe children have a negative impact on the decision to choose a career in rural medicine. Participants expressed the view that they wish to raise children in areas where there are good educational opportunities and they would like to spend time with their children whilst they grow up and as such boarding school is not a preferred educational method especially when children are very young. Warde, Allen, Gelberg (1996:729), Breier and Wildschut (2007:61) and Bailey, Mandeville, Rhodes, Mipando and Muula (2012:87) found that the most common and universal reason why physicians, particularly female physicians, make career changes which may include migration to urban and more developed areas or countries, is marriage or children. Couper *et al.* (2007:1082) found that the ability to provide good educational opportunities and quality time with children is an important “staying” factor for health professionals in the decision to choose a rural career.

As far as differences between participants are concerned, the researcher observed that demographic factors account for differences and similarities in participant beliefs as follows:

- Participants from all race and gender groups shared beliefs in this regard;
- All the professionally qualified participants who contributed beliefs in this regard are married and the majority of them have dependent children;
- There is an equal distribution of contributing participants who grew up in rural and urban areas.

The last set of beliefs discussed in this section relate to the **expectations and influences of physician family members (excluding physician parents)** on the

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further career choices of physicians, including choosing a career as rural physician. A few participants from the professionally qualified group believe that members of their family who are practicing as physicians influenced their career choices after completion of their internship and community service. Their passion and interests had an impact on the chosen specialty areas of these participants. One participant from the professionally qualified group indicated he has been positively influenced by a family member to consider a career as rural physician because of the positive experiences and lifestyle of his uncle who practices medicine in a rural environment, whilst another participant from the same group was negatively influenced due to the experiences of her sister in law whilst she worked as a general practitioner in a rural area.

The researcher could not locate evidence of any research conducted in terms of the expectations and/ or influences of physician family members other than physician parents in the decision to take up a rural career, but is of the view that the beliefs of participants in this regard are probably influenced in a similar way their parents have an impact on them, but perhaps to a lesser extent. The reasons why participants in the study by Jawitz *et al.* (2000) were influenced to study medicine or not would also apply here, namely their evaluation of the working conditions of family members who are physicians, be they parents, siblings or extended family. If their experience and evaluation of the physician careers of their family is deemed positive, it is more likely that they would show an interest in such career.

Regarding whether demographic factors account for differences in participant beliefs in the regard, the researcher observed the following:

- Only white participants who grew up in cities contributed beliefs in this regard;
- Other demographic factors did not account for differences in this regard.

Based on the findings above, the researcher summarised the normative beliefs of both research groups regarding the behavioural expectations of family in conjunction with the impact of these referents on the decision to choose a rural physician career in particular. The summary is presented graphically in Figure 45 below.

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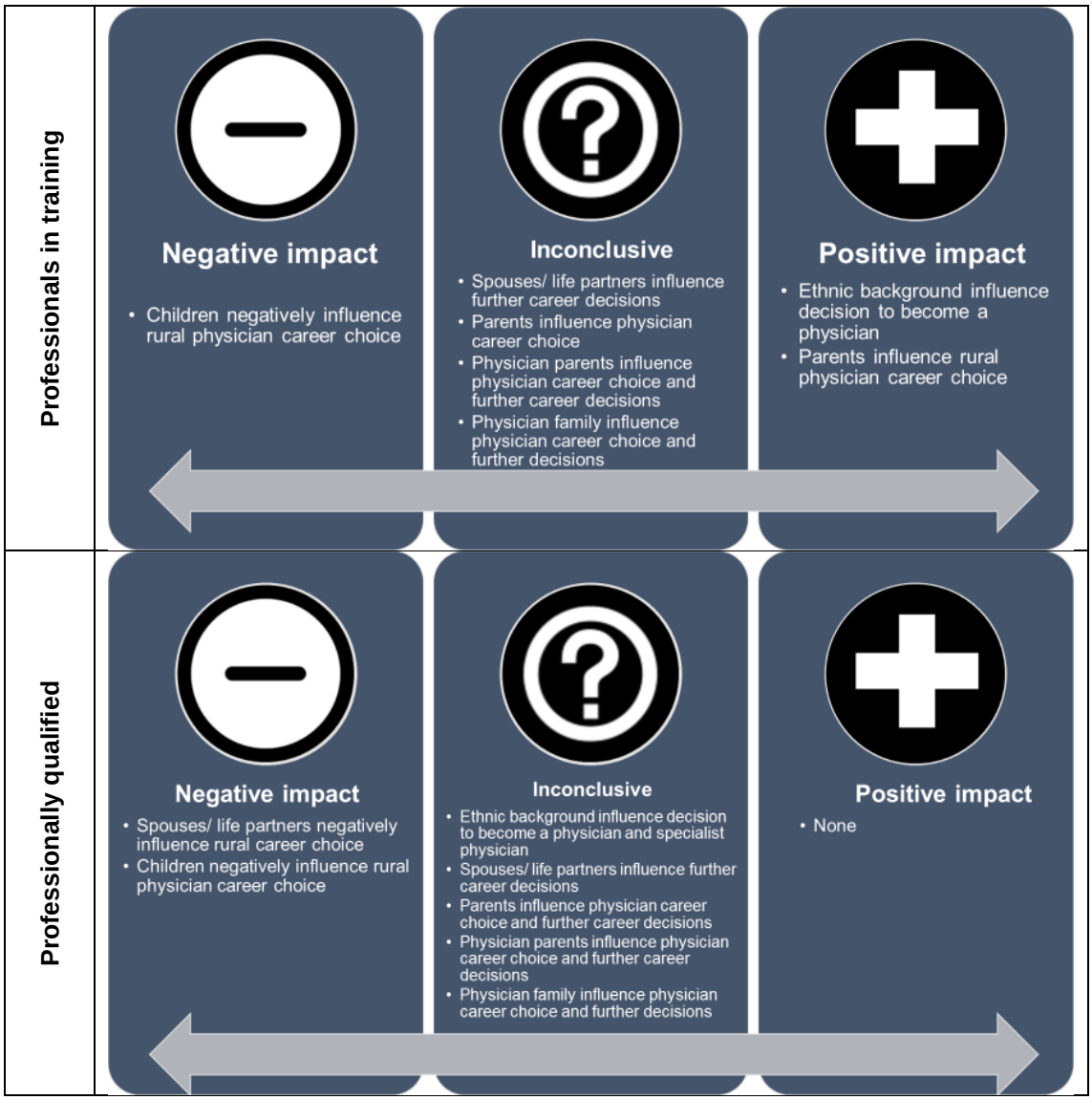
Figure 45: Normative beliefs and influence of family



The next axial code details the normative beliefs participants hold regarding the expectations and influences of their social and physician friends.

5.3.4 Axial code: beliefs about the expectations and influences of friends

5.3.4.1 Introduction

The open codes listed in this section represent the salient normative beliefs of study participants regarding expectations, influences or judgements of their friends pertaining to career choices, including choosing a career as a rural physician. These beliefs, in

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combination with their motivation to comply with such expectations or influences, reflect the subjective norm of study participants towards choosing a rural physician career.

In this section, the researcher discussed the social pressure, influences and expectations of both social friends and friends in the same profession as study participants.

5.3.4.2 Open codes and participant responses

The salient normative beliefs that emerged from the process of axial coding are presented by the open codes in Table 45. The table includes examples of participant responses regarding their normative beliefs in this regard and reflects the unique participant code of the contributor in each instance. An interpretation of these results is discussed in Section 5.3.4.3.

Table 45: Open codes: beliefs about expectations of friends

Axial code: beliefs about the expectations of friends		
Open code: social friends influence further career choice after completion of studies/ specialisation		
Professionals in training	*I think in matric and at school it wasn't a huge consideration. I didn't think I'd choose medicine to be financially secure but I definitely think now, it's a huge factor for me, because if I look at my friends who've studied 4 years now, and are starting at work and they're struggling to find jobs and we've got the financial security.*	6FG3_WF3
Professionally qualified	*You know what. Looking at what a specialist earns in the State, it's not attractive at all. You can imagine, you do 6 years of medical school. Then you have to specialise another 4 years. That's 10 years of your life studying. And if you look at other fields, other career fields, whatever in their 10 years, they're like CEO's or whatever. You get what I'm saying?*	RS2_AF1
Open code: physician friends influence further career choice after completion of studies/ specialisation		
Professionals in training	*And then I have a doctor friend who told me, well if you want to work in the medical field, because bio-mathematics is also agricultural and things, but to me it had to do with a human. So that degree was that. But then my friend told me, who at that stage was doing comm. serve, she said, well she was working with mathematicians in TB and HIV and also things like that. She told me that medicine is very snobbish world. You don't have an influence if you don't actually know the medical side as in a career in it too. Because firstly if you do maths first, you won't want to do medicine, because it's tough after 4 years. Some*	6FG3_WF5

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Axial code: beliefs about the expectations of friends		
	people do. I know some people start when they are 28 or older even, so then I just decided to do medicine.	
Professionally qualified	*So my vriende wat baie, hulle spesialiseer baie van hulle; party het klaar gespesialiseer, maak nou families groot, baie van hulle werk oorsee as GP's, en baie werk glad nie… So daai vooroordeel is glad nie nou meer daar nie. Dit was nie… ons sesde jaar was nie… ek dink dit gaan maar verskil van groep tot groep.*	RS3_WM1
	Obviously I've got friends who are already working in private who as physicians are making a fortune, and you would of course one day like to know be in the same sort of income bracket.	RS4_WM1
	I think a lot of my friends, I have more older friends than I have peers of the same age as me specialising, but I think many of them would consider staying in the academic setting, definitely.	RS5_WM1
	While I was doing my medical training, I started doubting whether this was the right path for me, because of what I was being exposed, and I know a few of my friends who quit.	RS6_AM1
Open code: friends practicing as rural physicians positively influence decision to choose a career as rural physician		
Professionally qualified	*I think it's a good idea, you know, because the district team is a paediatrician, an obstetrician, family physician and anaesthetist and you find out in most hospitals like clinics, those the small main services that people need from primary healthcare. So, I think that it's a very good system and so I have a few friends who are family physicians, who are working as district family physicians. Do you also want to do that? For me, I'm still thinking about it. You know, I'm still thinking about it. For a while I was at an out station whilst at university, yes, yes, there are stations in rural areas, the guys go there.*	RS9_AM2
Open code: friends practicing as rural physicians negatively influence decision to choose a career as rural physician		
Professionals in training	*Now, my one friend, when we went to Barberton (undergraduate elective), she did it in the Free State and something she saw was a very high rate of people who were going to Sangomas, getting the tea and doing all kinds of stuff, and she saw so many psychotic patients due to this. So, we should draw a very fine line between where it helps patients and where it doesn't. Because, there is some very weird stuff going on. Because the level of psychosis that - they're a rural district hospital and they have this massive psychiatric ward. Female psychiatric ward, male psychiatric ward, paediatric psychiatric ward. And they're rural so…*	6FG1_WF3
Professionally qualified	*The reason why I went there is because I wanted to specialise thereafter. So, like I have just pushed myself away from the rural places, because I realise that after internship or com service, I go to rural places, then that thought of just opening my own practice*	RS1_AM1

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Axial code: beliefs about the expectations of friends		
	and just doing making money will come along and I'll forget about specialising. So, I made sure that I don't go there so that I can specialise. To remain focused? Ja, remained focused. So, it's not everyone, but most of my friends are there, most of them are making a lot of money in… Polokwane? No, the rural areas - Ja, they're making a lot of money down there.	
	Disillusioned. I have friends who started medicine wanting to just save the world. And at the first year of their internship, they were still wanting to save the world and at the end of that year, done! I have a friend that adopted 2 children whilst studying and all she wanted to do was save the children who were exposed to HIV. And she's got 2 HIV positive kids that she adopted as a single person and she is currently living in Australia with those 2 kids. She said there is not enough support from the whole system to be able to make a difference. You alone can't make a difference.	RS1_WF1
	I don't think so, not anybody that I know. Most of my friends, you do that for a while and then it's just, you know, it's overwhelming. It's overwhelming and so everybody either goes and works and consults in a practice and goes and works as a GP or specialises in medicine.	RS7_WM1

5.3.4.3 Discussion of beliefs about the expectations and influences of friends

In this section, the researcher discusses the normative beliefs of study participants regarding the influence and/ or expectations of their social and physician friends pertaining to further career choices, including choosing a career as rural physician.

The first set of beliefs discussed in this section concern the **expectations and impact of social friends** on the career decisions of physicians. One participant from each research group indicated that their social friends have an impact on their further career decisions. The participant from the professionals in training (a white Afrikaans female) indicated that seeing her friends, who did not study medicine, struggle to find jobs serves as a motivator for her to complete her studies and become a physician as it is deemed to be a job that provides good job security and it is associated with high future income potential. The participant from the professionally qualified group (an African female) who indicated social friends have an impact on her future career plans was less positive and stated that the achievements and career progression of her friends who are not in medicine, but pursuing careers in business, is demotivating as she is still busy with her studies and they have already reached the top levels of their career paths and earning significantly more than her. The beliefs about influences from social friends that were

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contributed by these two participants vary significantly, and it is suspected that the beliefs are indicative of transformation in employment opportunities in the country. The comment by Frans Cronje from the South African Institute of Race Relations (SAIRR) in Skade (2015) that "…data [that] suggests that while a black university graduate is more likely than a white graduate to find a job within 12 months of graduation, white graduates are four times more likely to start and operate a business…" suggests that white graduates take longer to find employment, particularly in the formal sector and are perhaps more entrepreneurial at the onset of their careers. This supports the belief contributed by the white female participants from the professionals in training group that her graduated friends (in non- medical fields) are struggling to find employment in the formal sector. On the other hand, Rabelani Dagada, a development economist at the University of the Witwatersrand in Skade (2015) states that black professionals earn a lot more than their white counterparts, mainly because they represent a small pool of talent and due to employment legislation and policies in the country, companies are competing aggressively for this small pool. This resonates with the belief of the African female in the professionally qualified group who indicated that her social friends who chose a professional career in business, for example, earn very high salaries compared to what she earns and this influenced her to consider switching to business career at some stage. This area is, however, a topic for much deeper interrogation and research in future studies as it is mired in emotional and political views.

The researcher observed the following similarities and/ or differences between various demographic groups with regard to beliefs about the expectations and influences of social friends:

- The participant from the professionals in training group who indicated a positive impact by her friends is a White female, whilst the participant from the professionally qualified group who believe the impact of her friends are demotivating is an African female;
- Neither of the two participants have friends working in public and/ or rural health facilities;
- Other demographic differences such as marital status, dependent children or prior experience do not seem to have relevance in this regard.

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The second group of beliefs that are discussed in this section relate to **the expectations and impact of physician friends of participants**. These are deemed to be friends that participants made whilst studying medicine and/ or working as physician but are not colleagues or supervisors such as registrars or lecturers whose impact were discussed in Section 5.3.2 above. One participant from the professionals in training group indicated she was influenced by a physician friend to first pursue a degree in medicine before becoming a bio mathematician because she would not have been respected by the medical community without a medical qualification. Participants from the professionally qualified group indicated that their physician friends influenced them to specialise, including choosing their speciality field and possibly remaining in the academic field. Others indicated that the success and wealth of their physician friends are motivating them to pursue their specialist medical practice careers in the private sector. One participant indicated that his physician friends who decided not to specialise further but remain in general practice motivate him because even though they are earning a good income at this stage, they have delayed the decision to specialise for too long and it would be harder for them to get back into an academic environment than it is for him who decided to persevere and complete his specialist training. The researcher could not find evidence of peer reviewed research conducted to investigate the influence of physician friends on the career choices of physicians, however, an article by Gordon (2014) published on the website of “The Atlantic” resonate strongly with the beliefs expressed by participants in this study. The article suggests that physician friends in the United States who have chosen specialties such as neurosurgery or other competitive specialties tend to frown upon those students who are interested in more primary and public healthcare specialities. From this article it is clear that medical students have conversations about their career ideals in informal contexts and those who express interests in less “competitive” specialities are often dissuaded from doing so, making them feel “ashamed” and questioning their aspirations and potential.

With regard to the influences of friends on a physician’s career choice to practice medicine in rural areas, one participant from the professionally qualified group indicated that his physician friends who are working as members of the District Clinical Specialty teams in smaller and rural health districts are motivating him to consider a career in primary care, possibly in a rural area. On the other hand, about a third of the participants

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from the professionally qualified group and one participant from the professionals in training group indicated that friends who are currently practicing medicine in a rural area have a negative influence on the decision to pursue a career as physician in a rural area. The negative experiences of their friends pertaining to the unsupportive health system, the overwhelming workload and lack of development opportunities experienced by physician friends were listed as factors that would have a negative impact on the decision to take up a rural career. The researcher deducts from these beliefs that students and young physicians, particularly those who are completing internship training and community service, interact with each other socially and share their stories which are often negative and further enhances negative beliefs about rural careers. It aligns with the concept of "negative campaigning" described by David (2009:4) who states that "…negative campaigning means telling a damaging story about the opponent [e.g. rural or primary health careers] over and over again…" to such an extent that people believe those stories to represent the truth and hence their salient beliefs are formed around those stories. The finding by Hayes and Shakya (2013:5) enhance the finding that physician friends have a significant influence on the further careers of physicians and influencing them away from rural or primary care careers. They state: "For a fresh graduate whose friends are applying to go abroad with greater ambitions, practicing in rural areas of Nepal is not an attractive choice".

The researcher observed the following similarities and/ or differences between various demographic groups with regard to beliefs about the expectations and influences of physician friends:

- The vast majority of participants who indicated their physician friends influenced their further career plans, including to whether to choose a career as rural physician, are males who speak Afrikaans, English, isiZulu and Xitsonga:
- All participants who contributed beliefs in this regard grew up in cities;
- The majority of participants from the professionally qualified who contributed beliefs – positive and negative – in this regard have friends who work in primary care and rural facilities as physicians in general or specialist capacities.

Based on the findings above, the researcher summarised the normative beliefs of both research groups regarding the behavioural expectations in conjunction with the impact

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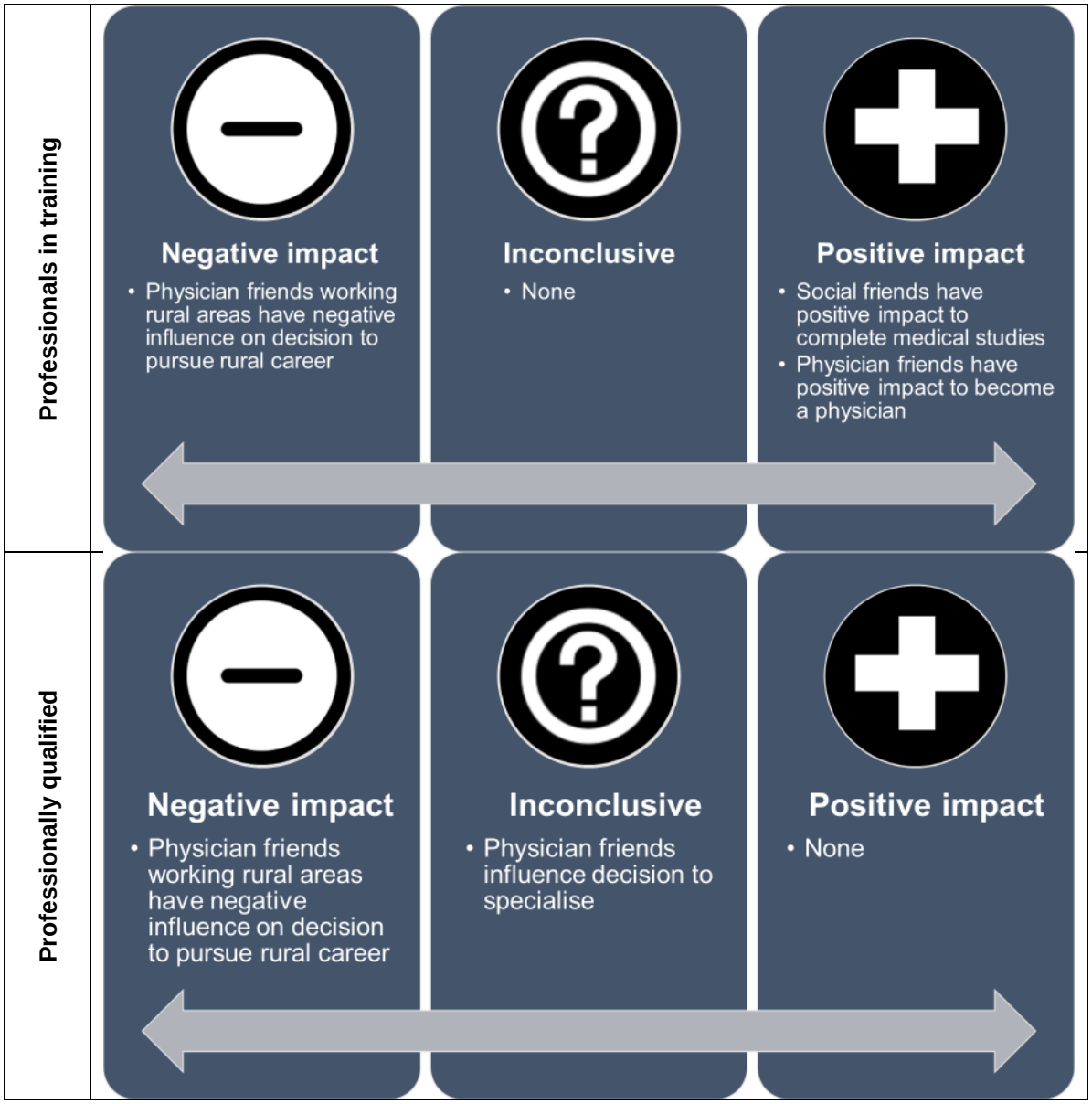
of these referents on the decision to choose a rural physician career in particular. The summary is presented graphically in Figure 46 below.

Figure 46: Normative beliefs and influence of friends



The next axial code details the normative beliefs participants hold regarding the expectations and influences of their role models.

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5.3.5 Axial code: beliefs about the expectations and influences of role models

5.3.5.1 Introduction

The open codes listed in this section represent the salient beliefs of study participants regarding the expectations, influences or judgements of their chosen role models pertaining to their further career choices in medicine, including choosing a career as a rural physician. These beliefs, in combination with their motivation to comply with such expectations or influences, reflect the subjective norm of study participants towards choosing a rural physician career.

In this study, the researcher adopted the definition of Paice, Heard and Moss (2002:707) who refer to role models as "people we can identify with, who have qualities we would like to have, and are in positions we would like to reach". Role models typically include childhood idols, celebrities and professionals in an individual's chosen career. In this section, the researcher discussed the social pressure, influences and expectations of childhood role models, physician and specifically rural physician role models.

5.3.5.2 Open codes and participant responses

The salient normative beliefs that emerged from the process of axial coding are presented by the open codes in Table 46. The table includes examples of participant responses regarding their normative beliefs in this regard and reflects the unique participant code of the contributor in each instance. An interpretation of these results is discussed in Section 5.3.5.3.

Table 46: Open codes: beliefs about expectations of role models

Axial code: beliefs about expectations of role models		
Open code: role models positively influence decision to choose a career as physician		
Professionals in training	*My role models were happy because it was a sensible decision to make. You go to university, you study to become a doctor or a lawyer or an accountant, and it's still a sensible decision. So, nobody was going to disagree because it was something I'd be able to do, it's a job, and it's a profession.*	6FG1_WF1
Open code: physician role models influence further career choice after completion of studies/ specialisation		
Professionals in training	*I think for me, my influence mostly came from my church reverend and my role model was Ben Carson, the one doctor who came from the*	6FG2_AM1

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Axial code: beliefs about expectations of role models		
	United States of America. He actually wanted to change people's lives and he ended up being the first person to separate Siamese twins. He had an influence on me in high school.	
	But personally my grandfather was my influence. He died 6 weeks before I was born, so I never actually met him, but I just heard stories about him. He was actually a qualified surgeon and he chose to go back to GP practice because he said he just missed the one on one. And delivering the babies and then watching them grow up, and then delivering their children. And that's the type of medicine I've always wanted to practice.	6FG3_WF4
Professionally qualified	*My folks are not racist at all. So, they had a practice pre-94 they would see black and white people on the same day and they got a lot of resistance from that, especially in Klerksdorp. And they never let that get them down. They always saw people as - one person is never better than the other one. They're equals - they're patients in need? Yes. They've inspired me a lot. But, I've had a lot of role models as well in the past and here that really cared.*	RS1_WF1
	I do have role models; however, I'm more guided by principals and examples, not by a single role model. Obviously every single person in themselves have good attributes and less good attributes. The surgeon might be patient and be very impatient with the scrub sister and throw instruments around, so there are cons and pros of less good and more better and worse attributes in each person.	RS5_WM1
	I have an aunt who works in Cape Town who is a general surgeon and in some way, ja, this probably ties in with your earlier question in role model and I've forgot to mention this, I think if there is one person close by that I see is a role model it would be she. She is a general surgeon, but doing transplant and trauma surgery, a fairly older lady, she turned 55 recently. And she, ja, the way she conducts herself, the way she interacts with patients, and ja, the general way she does things is something that I aspire to do.	RS5_WM1
	But, as for being a doctor, I think the GP's I was exposed to then encourage me to take this path. But I never really, I always thought everything to myself, where is it going to lead because the GP's were my examples and I took positives out of their lives and this is not for me, this is for me.	RS6_AM1
Open code: physician role models positively influence decision to choose a career as rural physician		
Professionals in training	*You have the problems of obviously working in a rural environment, but I just felt that the doctors who do work there are amazing. They are so passionate about what they do and it was just such a nice environment to work in.*	6FG2_WF5
	But what I've found with in the rural areas, is those are the type of people, especially those that stay on, year after year, those are the ones who do medicine for the right reasons. The passion, compassion and the way they treat patients. They treat patients the way they'd want to be treated, even within that type of structure and infrastructure and whatever is available	6FG2_WM1
Professionally qualified	*I think for me, very much, the people that stay in rural medicine are the cowboys of medicine. They are very, very brave people that will sit in a clinic and remove a massive tumour from a patient's neck without anaesthetic and then accidently cut a hole in the jugular vein. And then very calmly take a piece of suture and suture up the jugular vein in the clinic.*	RS1_WF1

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Axial code: beliefs about expectations of role models		
	So ek dink die ouens wat langtermyn "invested" is in die "rural communities" is gewoonlik die ouens wat "invested" is, soos wat jy sê, in hart en siel daarin is.	RS3_WM1
	I agree, I think it should be a passion and love that is able to oversee and overlook all the other problems.	RS6_AF1

5.3.5.3 Discussion of beliefs about the expectations and influences of role models

In this section the researcher discusses the normative beliefs of study participants regarding the influence and/ or expectations of their role models pertaining to further career choices, including choosing a career as rural physician.

The first belief discussed in this section relate to the **expectations and influences of childhood role models** on career decisions of physicians. Two participants from the professionals in training group contributed beliefs in this regard. One participant stated that her role models expected her to pursue a professional career and endorsed her career choice to become a physician whilst another participant indicated that she pursued medicine to follow in the footsteps of a person whom she trusted as a child. Jordan *et al.* (2003:1133) postulate that significant childhood exposure to a physician career is an important influencer in developing trust and respect for physicians who may eventually become role models for those children should they decide to study medicine.

Both contributors to this belief are white females who grew up in large cities and don't have family or friends who work in the public health sector and/ or rural health system.

The second set of beliefs that are addressed in this section concern the **expectations and influences of physician role models** on career decisions of physicians. A few participants from the professionals in training group indicated that physician role models influenced their further career decision making, whilst almost a third of the participants in the professionally qualified group indicated such. One participant from the professionals in training group believe that Dr Ben Carson, a world renowned American neurosurgeon who visited South Africa in the 1990's to separate conjoined twins (Johns

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Hopkins Medicine, 2015), and whom he regarded as a role model in his life, influenced him to choose medicine as a career.

Participants from the professionally qualified group indicated that their role models, which include physician family as well, have an influence on the type of physician they wish to be and the values they would like to exert in this regard. Some participants in this group mentioned that had more than one role model, depending on the context and that they are guided by "principles and examples" of many, rather than a single person. Paice *et al*. (2002:707) confirm that medical students and your physicians often identify with the attributes of their physician role models because of their "…enthusiasm, compassion, openness, integrity, and good relationships with patients." Mclean (2004:137) found that medical students and young physicians often follow role models in their family whose traits they wish to imitate.

The researcher observed the following similarities and/ or differences between various demographic groups with regard to beliefs about the expectations and influences of physician role models:

- Participants from all race and gender groups contributed beliefs in this regard;
- All participants from the professionally qualified group who indicated that physician role models influenced their further career choices, have friends who are working in rural health facilities. Half of these friends are busy with internship or compulsory community service, whilst the rest are working as medical officers in a public health facility.

The third group of beliefs addressed in this section relate to the influences of **rural physician role models** (other than physician family) on participants to choose a career as rural physician.

A few participants from the professionals in training group indicated that they are inspired by rural physicians who chose medicine as a career because they "are the ones who do medicine for the right reasons". These participants believe that the passion, compassion and bedside manner of rural physicians are exemplary and they have admiration for their

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willingness and dedication to practice medicine in facilities that are challenged in terms of available resources and infrastructure. One participant from this group indicated that her role model was her grandfather who passed away before she was born. He was dedicated to practice medicine in underserved areas and this inspired her interest in a career in primary health and possibly rural health upon completion of her studies and community service.

A number of participants from the professionally qualified group agreed with the beliefs of professionals in training in this regard and added that they admire the courage, insightfulness and “heart and soul” approach towards medical practice that are generally displayed by rural physician.

These beliefs are supported by Jordan *et al.* (2003:1134) who researched the potential contribution and impact of role models in facilitating career choices that favours family medicine in the Unites States. They found that experiences which included meaningful interaction with family physician role models and exposure to the diversity of family physician medical practice increased the likelihood of students choosing a career in family medicine which is mainly primary care. Couper *et al*. (2007:1085) state that the decision to choose a career in rural medicine is facilitated by among others, exposure to “positive role models” during undergraduate studies, internship or community service. Their research supports the notion of rural role models who “inspire” physicians to consider a rural career.

Based on the interpretation of the findings above, the researcher summarised the normative beliefs of both research groups regarding the behavioural expectations of role models in their capacity as important social referents in conjunction with the impact of these referents on the decision to choose a rural physician career in particular. The summary, presented graphically in Figure 47 below, thus reflects the researcher’s impression of the normative beliefs that are relevant and possibly have predictive value for a rural physician career choice.

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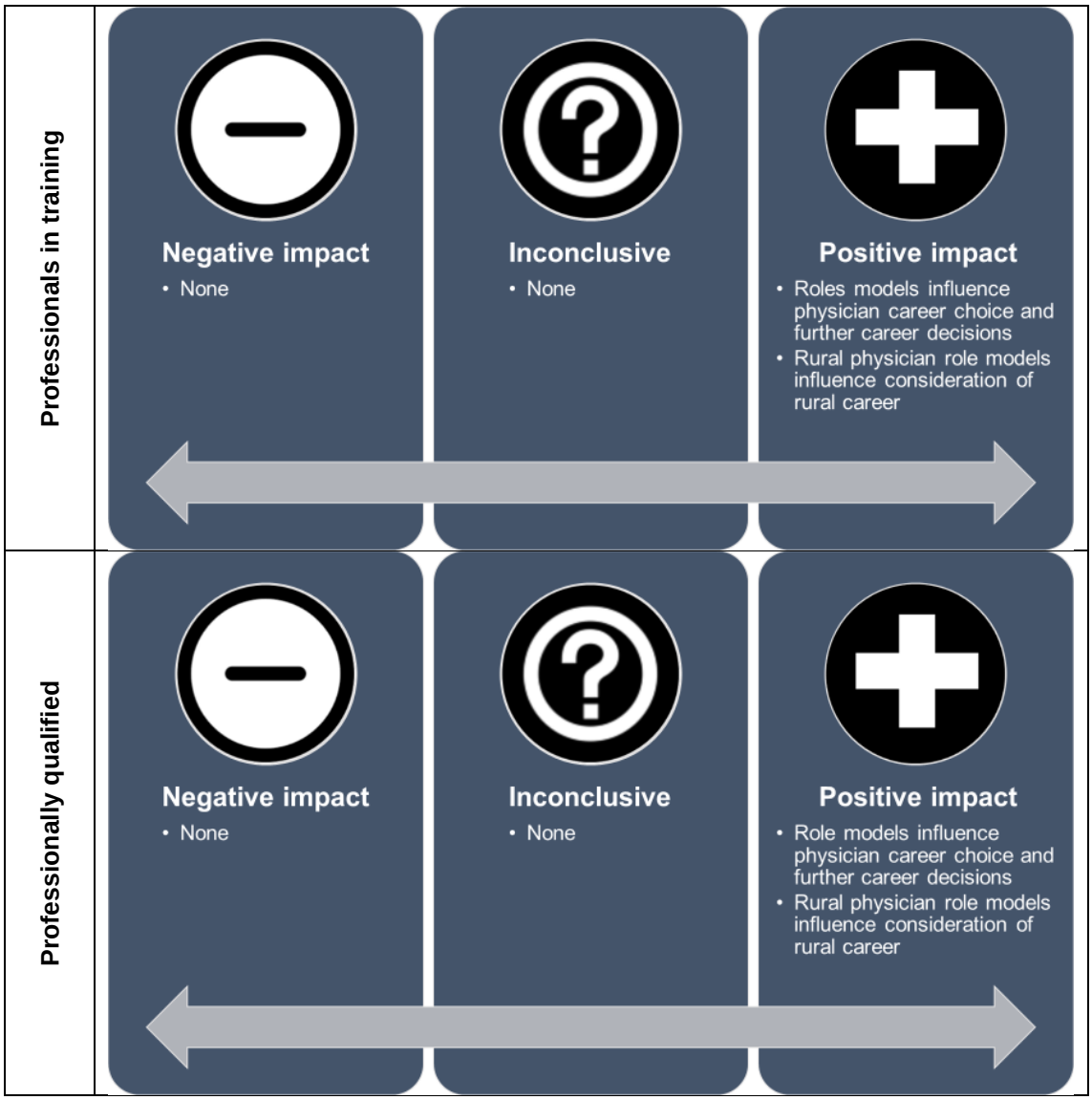
Figure 47: Normative beliefs and influence of role models



5.3.6 Summary: subjective norm

The researcher tabularised the results of the data analysis process, which involved axial and open coding, pertaining to perceived social pressure to engage or not engage in a behaviour, which in the case of this study means choosing a rural physician career. The results were analysed and are discussed in terms of the normative beliefs held by participants regarding choosing a career and practicing medicine in a rural environment. In all instances, the researcher made reference to relevant literature to support or oppose research findings.

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A summary of the normative beliefs of the two research groups namely “professionals in training” and “professionally qualified” regarding the behavioural expectations and influences of important referents is presented in Table 47.

Beliefs that are associated with outright opposing outcomes, expectations or feelings are listed in the table in descending order of “groundedness” to reflect the strength of the subjective value of these beliefs as far as choosing a career as rural physician is concerned (Alvira-Hammond, 2012; Archer, 2012; Friese, 2014).

The beliefs that are associated with positive outcomes for a rural career choice are listed in order of “groundedness” for the professionals in training based on the assumption that it is more likely for this group to choose a career as rural physician at this stage of their career path than it is for the professionally qualified group.

Conversely, the beliefs that are associated with negative outcomes or an unlikelihood that a rural career will be chosen are listed in order of “groundedness” for the professionally qualified group. Those beliefs that reflected positive as well as negative outcomes, expectations or feelings are referred to as “inconclusive” or “mixed” and are excluded from the summary table as they do not seem to have relevance to account for differences in predicting intentions between the two research groups.

Study participants in the professionals in training group shared “mixed” beliefs pertaining to the influence of career counsellors, educators, registrars, health sciences faculties, spouses and life partners on their career choices and further career decisions, including choosing a career as rural physician. The professionally qualified group presented “inconclusive” normative beliefs regarding the impact of career counsellors, educators, health sciences faculties, ethnic background of family and physician family on their further career decisions, including choosing a career as rural physician. In addition, they have mixed views regarding the influence of physician friends in terms of career decisions to specialise further.

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Table 47: Salient normative beliefs: summary

Salient normative beliefs	Groundedness order	
Beliefs associated with positive outcomes, expectations, feelings pertaining to a rural career	**Professionals in training**	**Professionally qualified**
Rural physician role models influence consideration of rural career	1	1
Ethnic background influences decision to become a physician	2	
Role models influence physician career choice and further career decisions	3	2
Parents influence rural physician career choice	4	
Social friends have positive impact to complete medical studies	5	
Beliefs associated with negative outcomes, expectations, feelings pertaining to a rural career	**Professionals in training**	**Professionally qualified**
Spouses/ life partners negatively influence rural career choice		1
Physician friends working rural areas have negative influence on decision to pursue rural career	1	2
Children negatively influence rural physician career choice	2	3
Parents positively influence career decision to specialise		4

With regard to ascertaining whether demographic variables account for differences in the normative beliefs of the two research groups, the researcher summarised the findings in Table 48.

The observations in Table 48 represent the researcher's impression regarding the impact of demographic variables to account for differences in normative beliefs of groups with different demographic profiles. The open blocks in the table suggest those demographic variables are either not relevant or do not account for differences in the beliefs of participants who contributed to that specific item, whilst the completed blocks reflect more detail about the demographic profile of participants who contributed to the particular belief.

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Table 48: Demographic variables and normative beliefs

Normative beliefs	Demographic variables						
Beliefs associated with positive outcomes, expectations, feelings	**Race and gender**	**Prior rural experience**	**Origin**	**Language**	**Marital status**	**Dependent children**	**Friends**
Rural physician role models influence consideration of rural career	Whites		Urban	Afrikaans		No	Yes
Ethnic background influences decision to become a physician	Africans, Indian females			English, Sepedi, Xitsonga			
Role models influence physician career choice and further career decisions	Whites, African males		Urban	Afrikaans, Sesotho, Setswana		No	Yes
Parents influence rural physician career choice	Whites			Afrikaans, English			
Social friends have positive impact to complete medical studies			Urban				
Beliefs associated with negative outcomes, expectations, feelings	**Race and gender**	**Prior rural experience**	**Origin**	**Language**	**Marital status**	**Dependent children**	**Friends**
Spouses/ life partners negatively influence rural career choice			Urban	Afrikaans, English, isiXhosa			
Physician friends working rural areas have negative influence on decision to pursue rural career	Whites	Yes	Urban	English, Afrikaans	Married	No	Yes
Children negatively influence rural physician career choice				English, Afrikaans, isiXhosa			
Parents positively influence career decision to specialise	White females						
Beliefs associated with mixed outcomes, expectations, feelings	**Race and gender**	**Prior rural experience**	**Origin**	**Language**	**Marital status**	**Dependent children**	**Friends**
Career counsellors and educators influence academic achievers to choose career as physician		Yes					
Health sciences faculties provide information & experiences, but do not formally influence further career choices	Whites	Yes	Urban	Afrikaans, English			
Registrars influence further career choices of undergraduates based on their own experiences and interests	Whites	Yes	Urban	Afrikaans	Single		
Spouses/ life partners influence further career decisions		Yes	Urban				

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Normative beliefs	Demographic variables						
Parents influence physician career choice and further career decisions	African and White females	Yes		Afrikaans, IsiXhosa, Sepedi			
Physician family influence physician career choice and further decisions	Whites		Urban	Afrikaans			
Physician friends influence decision to specialise	Whites		Urban	Afrikaans			

Overall it was found that previous work/ study experience in a rural area, origin (i.e. rural or urban) and to a lesser extent race and gender have an influence on normative beliefs of both research groups. Physician friends seem to have a strong negative influence on the decision to pursue a rural physician career.

Collectively these salient normative beliefs, be they positive, negative or inconclusive, present an impression of the subjective norm of the two research groups towards choosing a career as rural physician. Based on the findings discussed above and the emerging themes presented in the two summary tables, the researcher is of the view that subjective norm, as a core variable of the TPB, has some predictive value to account for the differences in career intentions and choices between the two research groups as well as between groups with different demographic profiles, however, such predictive value may not be as strong as other TPB variables such as attitude.

The researcher discusses the third core variable of the TPB, namely perceived behavioural control, in the next broad section.

5.4 SELECTIVE CODE: PERCEIVED BEHAVIOURAL CONTROL

5.4.1 Introduction

According to Ajzen (2014) perceived behavioural control refers to an individual's "perceptions of their ability to perform a given behaviour" which is usually guided by significant "control beliefs". Ajzen (2014) furthermore states that control beliefs represent an individual's perception of the "…presence of factors that may facilitate or impede performance of the behaviour…". Moreover, the strength of each control belief is weighted by the "self-efficacy" to implement and "controllability" over the behaviour.

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Bandura (1991) describes self-efficacy as a personal judgement a person has of his capabilities to successfully perform a particular task. He proposes that in order to perform a function proficiently, an individual requires knowledge, skills and personal beliefs regarding his/ her ability to meet the demands of the situation. In the context of the TPB, self-efficacy refers to the "perceived power" a person feels he/ she possesses to perform a certain behaviour (Ajzen, 1991). According to Rhodes and Courneya (2003:129), self-efficacy items seem to have stronger value than controllability items to predict intentions and behaviour. Francis *et al*., 2004:7) propose that self-efficacy beliefs be determined by asking study participants to reflect on "how difficult it is to perform the behaviour" and secondly "how confident they are that they could do it".

Controllability beliefs represent the second set of beliefs generated by the researcher to explore the perceived behavioural control of study participants in terms of choosing a career as a rural physician. In the context of the TPB, controllability refers to "…personal control over behaviour, appraisal or whether the behaviour is completely up to the actor…" (Ajzen, 2002a:672). Francis *et al*. (2004:21) propose that controllability beliefs be determined by asking study participants to reflect on "whether performing the behaviour is up to them" and secondly "whether factors beyond their control determine their behaviour".

As in the case of other beliefs that form part of the informational foundation of the TPB, Ajzen (2014) indicates that although a person may have many beliefs with regard to self-confidence and controllability over a certain behaviour, only a relatively small number are "readily accessible" or "salient" at any given time. The researcher identified two axial codes to reflect the control beliefs of the two research groups towards choosing a career as a rural physician. These themes generally reflect the significant or "readily accessible" beliefs held by final year medical students and registrars pertaining to choosing a career as a rural physician and include beliefs about self-efficacy and controllability of career decisions, including a rural career.

Each of these axial codes are analysed and discussed in the next few sections.

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5.4.2 Axial code: self-efficacy beliefs

5.4.2.1 Introduction

The open codes generated by the researcher in this section represent the salient beliefs of study participants regarding how difficult it would be for them to complete their studies and choose to live and work in a rural environment. The open codes furthermore reflect their level of confidence to overcome barriers towards completion of studies and making a decision to live and/ or practice medicine in a rural area.

5.4.2.2 Open codes and participant responses

The main control beliefs that emerged from the process of axial coding are presented by the open codes in Table 49. The table includes examples of individual participant responses pertaining to their perceived power, i.e. confidence to choose a career and perform as a rural physician. An interpretation of these results is discussed in Section 5.2.4.3.

Table 49: Open codes: self-efficacy beliefs

Axial code: self-efficacy beliefs		
Open code: confident in ability to complete studies towards becoming a physician		
Professionals in training	*But the fact that we're in 6th year, there is no turning back now. We're just going to know that in 8 months we're getting a salary.*	6FG1_WF2
	Ja, and the reward is so great for, if that's what you want to do and that's your passion	6FG3_WF3
Open code: confident in ability to complete studies towards becoming a specialist physician		
Professionally qualified	*So, then after - when I went to medical school I told myself I want to like, learn more. At the end of the day I wanted to see myself get a PhD.*	RS1_AM1
	But I think going through the training, the training is not easy, it's not friendly. You get ridiculed, you get embarrassed, you get undermined, and it's a lot of hard work. So, I think over the years I just got discouraged and told myself, I don't want to go through this. I don't really think it's worth it, that I take a different path. But then, as I said, I'm going through it. (Laugh) But, through God's grace I must say, it's not as bad as I thought or I've seen it.	RS2_AF1
	Like I say, if you told yourself I want to do this, you can do this.	RS6_AF1

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Axial code: self-efficacy beliefs		
	So, like I have just pushed myself away from the rural places, because I realise that after internship or com service, I go to rural places, then that thought of just opening my own practice and just doing making money will come along and I'll forget about specialising. So, I made sure that I don't go there so that I can specialise.	RS1_AM1
	Personally, I took a pay cut. To come here? Yes, yes. Seriously, it's about 20%. It's significant. Yes, so it's not about the money, you know, I'm being honest with you. It's about the satisfaction you know? Because I want to be in a position where I can actively help but I'm, in the health centre it is about people's health and improving the health system. So, it's not about the money for me.	RS9_AM2
Open code: confident to overcome obstacle of living and working in an environment associated with poor socio economic conditions and prospects when choosing a career as rural physician		
Professionals in training	*I want to go to where people need me the most, not because of people pushing. I believe in my heart that I am needed by people that do not have the means and access, so I would rather go to their doorsteps which is in those case, the rural areas where access to healthcare is limited.*	6FG1_AF2
Professionally qualified	*I agree, I think it should be a passion and love that is able to oversee and overlook all the other problems.*	RS6_AF1
	The social grants, the food parcels, those are problems that in this category you can solve it, like most of the time, but it is difficult.	RS8_AF1
Open code: lacking confidence to choose a rural physician career due to difficulty of working and living in an environment associated with poor socio economic conditions and prospects		
Professionals in training	*I think in the rural setting; it is maybe just my perception. To a certain extent I think the amount of time you can actually spend on a patient is not very output intensive type of thing, because there are always more of these issues that people can't come then, don't have transport etc. etc. and I think that things that you often get yourself over involved in, because it's easy to get yourself over involved in those situations*	6FG3_WM1
Professionally qualified	*No it's not for me. (Laugh). I would say that you end up being more of a social worker than an actual doctor.*	RS7_WM1
Open code: lacking confidence to choose a rural physician career due to lack of available schools and opportunities for family and children		
Professionals in training	*And you must be in a place where they can grow up and have opportunities and things, so children do play a big role in the future.* *It*	6FG2_WF1
Professionally qualified	*Ja. It means the child must come out of school. Is there a good enough school wherever you are going to go, because that's important, as well as for your partner, they will need to find a job, depending on where, which field they are involved in. So, it does, become difficult.*	RS6_AF1

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Axial code: self-efficacy beliefs		
	I mean where would the kids go to school, such things? And where would my wife work? So, if I had to sacrifice and go to a rural hospital, then accessibility in terms of the transport and the roads, has to be very good. If I need to go and see my family, then I'll be willing.	RS6_AM2
	If you want your kids to go to a good school, and have them doing gymnastics and hockey, then you can't go and sit in a rural area.	RS9_WM1
Open code: lacking confidence to choose a rural physician career due to difficulty experienced as a result of an absent support structure (partner/ spouse/ family)		
Professionals in training	*But I think if I had my family around, or anyone else, then I think I would be able to spend more time with them and that would be valuable, and I would have enjoyed that kind of thing. But, ja, I was just alone so it was a different experience and I think I would've liked it more had I had other people surrounded by me.*	6FG1_CF1
	For me, for example, my parents live 15 minutes away, so I can go home and see them on weekends. That makes a very big difference. Now, I'm thinking about taking a job and moving to another part of the country, and like I've had to realise that the support system is going to be gone. I mean we've already been in a community area like rural community. And that was quite difficult for 5 weeks without the support of your family that you're used to having. Sure, you can call them, but you just can't go home and get a hug when you're crying or something silly like that.	6FG2_WF3
Professionally qualified	*That's all very well and good, but unfortunately I don't see them seeing the point that they want the family, I think they would want the family, and especially from my side, if I was an anaesthetist I would want to still have access to my family and whatever and now I've got to go and work at a small district hospital somewhere and all I'm doing is a spinal anaesthetic, you know and its basic anaesthetics, you know, if that's what I'm going to be doing, I might as well stay in a larger centre*.	RS7_WM1
Open code: confident to overcome obstacle of having to learn new languages when choosing a career as rural physician		
Professionals in training	*It was better for me. At least I thought I could understand and I can greet and say, hello, and that kind of thing. But that's as much as it got to. But I think that eventually you will learn. It's just a matter of time. It's part of the job if you make that decision.*	6FG1_CF1
Open code: lacking confidence to choose a rural physician career due to difficulty to learn new languages when working and living in a rural environment		
Professionals in training	*And then, you can't really connect with the patients if you don't speak their language. And I think for me that was also a big deal in feeling part of that community*	6FG1_CF1
	The only thing that's quite bad is the language barrier. That's the only thing that brought me down. I love working in a rural area. I love the town, it was beautiful, I really enjoyed it. But, the language barrier is just too much and especially if you go deeper	6FG1_WF3

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Axial code: self-efficacy beliefs		
	rural like at the clinics, those primitive clinics, nothing, no English, not even 'hello'. (laugh)	
	I'm saying it's quite difficult because most of the people are illiterate and so on. Language wise or language barriers? Also their understanding lacks. Sometimes you try to advise patients and stuff like that. So they don't understand the terminology that you use? They are not as well informed as the people in cities (Laugh).	6FG2_AM1
Open code: confident to overcome obstacle of having to practice medicine in a resource constrained environment when choosing a career as rural physician		
Professionals in training	*I don't know if I have a romantic idea about it, but for me, I would like to experience rural, rural because I think it would take me out my comfort zone. And because then I'd know what's really going on in the country, if that makes any sense, with the local population, and not only in South Africa, in Africa in general*	6FG1_WF1
	That excites me and the more type of medicine where you see really what you've got, and you make the best of what you've got and try even doing your best. For me personally, I don't feel that I need to go to an academic hospital to learn how I want to be practising the rest of my life in medicine	6FG3_WF4
	Whether it's rural or public, or urban or wherever it is, ja, if everything has to do with management. If someone opens an urban or rural practice, it doesn't matter, it has to do with how it's managed, and if you get taught how to use what you have, and if there are guidelines and there are structures in place, then you just follow. You don't have to try and make something work, because it's been sorted out.	6FG3_WF5
Open code: lacking confidence to practice medicine in a resource constrained environment when choosing a career as rural physician		
Professionals in training	*I don't mind working there; it's just problematic because of the environment within the hospital. You have the skills, but equipment and support may not be there.*	6FG1_AF2
	But I still think, it doesn't matter how well its managed, the logistics in the rural setting, that are always going to stand in the way, be it laboratories, x-rays, referral surgeries, stuff like that. So I think it doesn't matter how well it's managed, I do think that things are more difficult in rural setting. It's a tougher environment.	6FG3_WF3
Professionally qualified	*If they can bring MRI's into the rural area, they can bring CT scans, they can bring all those things, and then big theatres, all the machines, the equipment that we need. And then the only limiting factor then would be a social life because, unless they can make malls in the rural as well, then maybe life will be better (laugh).*	RS2_AF1
	Dit is moontlik, en ek dink net, en hierdie is 'n persoonlike opinie, is ek dink dis 'n administrasie probleem. Hmm… as jy sit in die middel van nêrens wil jy net weet daar's iemand aan die anderkant van 'n telefoon. Maar as jou persoon wat op die sentrale is vir die aand gaan slaap het, kom jy nie deur die sentrale nie en dan kom jy nêrens nie. As jy byvoorbeeld 'n	RS3_WM1

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Axial code: self-efficacy beliefs		
	telefoonoproep erens heen wil maak en die skakelbord werk nie, dan werk hy nie, dan is… so ek dink dit is klein goedjies om te weet dat jou hospitaal werk goed. Dat, as ek iemand moet inkubeer, het ek die toerusting want dit is 'n groot "issue", is, jy weet, baie keer weet jy hoe om goeters te doen, maar jy kan nie want dit is net nie daar nie…	
	As a general physician, which is also a reason why I don't want to do it. There are fewer and fewer general physicians in private practice and very high demand. So you're going to end up being alone, maybe even at a hospital where you are responsible for seeing everybody. And it will be impossible.	RS4_WM1
	And, that would personally break me. I would not be able to work in an environment where there was so little support and so little drugs or just basic things available. So, how can it be expected for me to perform these miracles to patients, for patients that I don't have the support financially or in terms of the necessary resources?	RS5_WM1
	The infrastructure in the hospital. And in the town? They're not going to build a mall (laugh). Ja, I can't describe how frustrating it is to be in a place where you know what you're supposed to be doing, you know this is what you need, but it's just not there, the patient is in front of you, what do you do?	RS6_AF1
Open code: lacking confidence to practice medicine in an environment with limited professional and administrative support when choosing a career as rural physician		
Professionally qualified	*You want to come to work to do your job, but you get your own colleagues being a hindrance for you to do your job.*	RS1_IF1
	But I doubt if I'll ever do it, because the numbers are so daunting. You go there and see 80 patients by yourself. And if you see somebody that's got something that you don't know how to manage, there is no one to ask.	RS1_WF1
	And the people who manage us they lie about statistics when they get to financials.	RS6_AM1
	So, I think it's a perception, I think it comes down from management and I can believe the guys when they say that management were calling them criminals and you know, they stand there, they work long hours, you know, and then they get shafted by management, I'm sorry it's just you know that type of thing just…	RS7_WM1
Open code: lacking confidence to practice medicine in an environment with limited clinical scope when choosing a career as rural physician		
Professionally qualified	*Look if I'd been somewhere like the United States or something where you, it's not, there is more scope for your practice, um that, ja, I think my views would have been different, you know. If I hadn't been so frustrated back then during my community service and some of the other things, I would've been OK, if I'd been exposed to some of the things, and I suppose it's not every single place that you go to. And I was quite excited to go and work in a rural place, but…*	RS7_WM1

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Axial code: self-efficacy beliefs		
Open code: lacking confidence to choose a rural physician career due to workload challenges in rural settings		
Professionals in training	*I think if you're a doctor you definitely know you're going to have to work hard. You shouldn't be naïve, especially in a country like this and believe it's going to be easy. But, our system is not supportive.*	6FG1_WF3
	I just think that the patient load is enormous. Like when we were working in the out patients department, we could easily see more than 100 patients a day and we don't get through all of them. You end up sending half of them home. So, I think that's one of the greatest difficulties. You really don't spend enough time on each patient because you don't have the time to spend on them.	6FG2_WF3
Professionally qualified	*But I doubt if I'll ever do it, because the numbers are so daunting. You go there and see 80 patients by yourself.*	RS1_WF1
Open code: confident to overcome obstacle of having to practice medicine alongside traditional healers when choosing a career as rural physician		
Professionals in training	*I just think that there is a need for people to understand what it is that we can provide and what it is that they can provide.*	6FG1_CF1
	I think I started seeing medicine not so much as about learning about medicine, but also just learning in general. So, learning about people, learning about the different things that they want to do, learning about the different ways they live and then also, learning about medicine. So, if I have to work with a traditional healer, I will probably see it as a learning opportunity.	6FG1_WF1
	I just want to mention that in the very small communities, there is a way of being proactive. Grab from the traditional healing and try to learn from them, but also try to teach them what they are doing.	6FG3_WF1
	You mustn't work against them, because rather I'd think a rural practitioner compared to an urban one, you should take some of our own time and read up about it. So you can educate yourself? And then co-work in conjunction with them. When you get a patient and you hear that this is what you went to the traditional healer for, then you can know that the traditional healer probably gave her something like this so I must be aware of possible complications or what medicine will work.	6FG3_WM2
Professionally qualified	*Uhm, ek dink dis belangrik dat jy besef dat die ouens dra geweldig baie geloof by die mense wat na hulle toe gaan. Mense glo absoluut vas in hulle, so ek dink hulle het 'n plek om saam te werk en opleiding te doen en die gemeenskap betrokke te kry en hulle kan 'n groot deel speel in die gesondheidsorg. Of hulle moet behandeling gee, het ek 'n paar ander opinies oor… ek sal dit los vir die HPCSA om uit te sorteer, maar ek dink hulle het 'n defnitiewe rol om te vertolk net soos in jou Afrikaanse gemeenskap dominees byvoorbeeld het 'n groot rol om te vertolk, want die gemiddelde Afrikaner is nog steeds gelowig.*	RS3_WM1

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Axial code: self-efficacy beliefs		
	Shunning them away will not solve the problem. Involving them and informing them and informing their patients and bringing our part, will be our solution to the problem.	RS5_WM1
Open code: lacking confidence to overcome obstacle of having to practice medicine alongside traditional healers when choosing a career as rural physician		
Professionals in training	*One of the children that I had, actually passed on, because the condition was so severe. And I think it's just difficult when you have a system that actually propagates something the same way as actually causing the same problem that we are trying to mitigate as doctors. So I think the traditional healer is always going to be a sore issue, because on one hand we know it's a reality, and we are trying to curb that by giving them more priority and trying to get them into the system by using better techniques and everything like that. But on the other hand we cannot just be oblivious to the fact that some of the things they're using are actually going to cause much detriment to the patient.*	6FG3_AM1
	Yes, it really freaks me out. I know you say don't work against them, and I agree. But when someone brings in a child who has end stage liver cirrhosis or necrotic syndrome I can't understand where you can just go, OK, its traditional practices	6FG3_WF3
Professionally qualified	*Ja, I especially look at what we do now and traditional healers and patients who come here (referred from rural areas) and the disasters which we need to try and fix. You know, it might have, I can't say it doesn't have a place. If people believe in it and it works, sure fine, but there's a lot of people who are being taken for a ride, pay a fortune for a traditional healer, get pushed into kidney failure, liver failure which we need to fix. I don't actually think that it can work side by side.*	RS4_WM1
	I've unfortunately been at the bedside of how many paediatric patients that have been treated with enemas or whichever bark or tree extract, that have succumbed to acute renal failure, due to acute tubular necrosis. And it's something that's disheartening and extremely paralysing, because here I am, equipped supposedly, with the most advanced medical knowledge that the world can provide, and I am not able to fully make these parents of the patient understand what has happened.	RS5_WM1
	I worked in rural area for some time. I can tell you they know how to mess patients up and they never take responsibility for anything.	RS6_AM1
	What really irritates me is that there doesn't seem to be any accountability on their part for their patients, whereas I pay NPS and I can get sued and the HPCSA is on my back all the time, and whatever, you know, if I'd, you know, I gave the kid a sunlight soap enema, its killed the kid, but there is no responsibility for that. So what?	RS7_WM1
	It's contrary to our African thinking to think that rural specialists can work with traditional healers. There is lots of complicated issues that come into it. Their approach to medicine is too different. They are two different things.	RS9_AM1

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5.4.2.3 Discussion of self-efficacy beliefs

This section reflects on the control beliefs of study participants in terms of the confidence they have in their ability to complete medical studies towards becoming a physician or specialist physician and their confidence to live in and practice medicine in rural areas.

The first set of beliefs discussed under this axial code relate to beliefs with regard to **confidence in abilities to complete medical studies towards becoming a physician or specialist physician.** A few participants from the professionals in training indicated they have confidence in their own ability to complete their undergraduate medical studies as they are motivated to earn a salary and start practicing their chosen profession. As far as the beliefs of the participants in the professionally qualified group are concerned, a significant number of them indicated that they have the self-confidence to complete their studies towards becoming a specialist physician and they are motivated by their own desire for recognition as an expert in their specialty. A study by Sobral (2004:950-957) confirm that medical students in general display strong intrinsic and self-directed motivation to complete their studies and achieve success, despite demanding training programmes. Mavis (2001:93-102) refers to prior studies that reported the positive impact of confidence by medical students on their ability to complete their studies and/ or specialist training.

The researcher observed the following similarities and/ or differences between various demographic groups with regard to self-efficacy beliefs about the ability to complete studies towards becoming a physician and specialist physician:

- African males in the professionally qualified reflected the strongest conviction of their ability to become specialist physicians;
- The majority of the participants from the professionally qualified group who indicated they believe in themselves to complete their specialist studies are married and grew up in rural areas;
- The majority of participants from the professionally qualified group who contributed self-efficacy beliefs in this regard have friends who are practicing medicine in rural areas, whilst none of the professionals in training indicated they have rural physician friends; and
- Other demographic factors do not seem to account for differences between groups.

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The second set of beliefs discussed in this section concern the **self-efficacy beliefs of study participants regarding their confidence to live in rural areas**. One participant each from the two research groups believe they are able to overcome the obstacles associated with living and working in such an environment as they are confident they will be able to cope with the surrounding poor socio economic conditions and prospects when choosing a career as rural physician. Their positive beliefs are driven by their desire to make a difference in poor and underserved areas. Conversely, one participant each from the two study groups indicated they are lacking the confidence to cope with the dismal socio economic circumstances that generally prevail in rural areas. In this regard, the participant from the professionals in training group indicated he would struggle to cope with the poverty and social issues of the environment, whilst the participant from the professionally qualified group suggested he would have difficulty to perform "social worker" roles that are often required from rural physicians. Padarath *et al*. (2009) suggest that medical students should be more aware and informed of the prevailing socio economic circumstances in rural areas in order to facilitate the belief that medicine is a vocation rather than a "means to amassing wealth and prestige". Based on the beliefs shared by participants in this study, students and young physicians alike are more aware of the socio economic circumstances in rural areas, possibly as a result of their prior experiences in rural environment, however, they seem to lack confidence to live in areas characterised by the poor socio economic circumstances and associated challenges posed to lifestyle preferences in this regard.

One participant from the professionals in training group indicated she is confident in her ability to learn additional languages when choosing a career as rural physician so as to enable her to communicate effectively with patients in their mother tongue. Three participants from the same research group were less confident that they would be able learn additional languages and effectively connect with their patients who are often illiterate and less educated about medical conditions and health care than their urban counterparts. According to Padarath *et al*. (2009) many physicians are deterred to relocate to another country due to their perceived difficulty or unwillingness to master a new language. The same argument probably holds true for South African physicians who are able to speak Afrikaans or English, having to learn to speak isiZulu or any of the other eight official languages of the country.

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A few participants from both groups indicated they lack the self-reliance to pursue a career as rural physician because such career would prevent them from providing educational opportunities to their children and they won't be able to function effectively without a personal support structure such as a spouse or close family. Study participants do not wish to create discomfort to their families and generally wish to provide good educational opportunities for children. They believe it is not possible to do so in a rural environment. These beliefs resonate with findings by De Vries *et al*. (2010:227) who determined that the location of where medical students wish to practice medicine is highly influenced by, among others, whether there are sufficient educational opportunities for children and employment opportunities for partners and spouses.

The researcher observed the following similarities and/ or differences between various demographic groups with regard to self-efficacy beliefs about their confidence to live in a rural area:

- African female participants from both groups indicated they are confident to live in a rural environment that is characterised by poor socio economic circumstances whilst white males indicated they would be less confident to do so;
- Coloured and white female participants from the professionals in training group indicated their readiness to learn additional languages in order to serve their rural patients better;
- The majority of participants who contributed beliefs in this regard have prior rural exposure and/ or working experience;
- The majority of participants from the professionally qualified group who contributed positive and negative beliefs in this regard grew up in rural areas, are married and have friends who are working in the rural health sector;
- Other demographic items do not seem to account for differences between groups.

The last group of beliefs discussed in this section relate to the **self-efficacy beliefs of study participants regarding their confidence to work in rural areas**. A few participants from the professionals in training group indicated they are confident to overcome obstacles associated with medical practice in a resource constrained environment when choosing a career as rural physician. These participants generally accept that rural health facilities have less resources and are not well staffed or

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equipped, but believe that it is possible to function in such environment and make an impact on the rural communities that are served by the health facility in that regard. In contrast, a significant number of participants from the professionally qualified group stated they do not feel sufficiently self-confident to take up a career as physician in a rural health facility mainly due to the absence of medical technology, drugs and professional support; bureaucracy and inefficiency in the workplace; unrealistic workload demands associated with rural health facilities, their own inexperience and the remoteness of rural areas. These beliefs resonate with statements by Willis-Shattuck, Bidwell, Thomas, Wyness, Blaauw and Ditlopo (2008:247) and Wilson *et al.* (2009) which, among others, indicate that many physicians are deterred to take up a rural career due to a lack of self-confidence which is often the result of negative experiences around lack of support and health infrastructure during internship or community service in a rural area.

A few participants from the professionally qualified group also listed other beliefs that inhibit their confidence to take up rural careers. These beliefs reflect their lack of confidence to take up a rural physician career due to workload challenges in rural settings, to practice medicine in an environment with limited clinical scope and to practice medicine in an environment with limited professional and administrative support when choosing a career as rural physician. Some of the participants from the professionals in training group shared their lack of confidence to practice medicine in a rural area which is perceived to have high work load challenges compared to other health settings. De Villiers (2004:143 & 235) concur with these beliefs. She found that the inability to cope with workload and the large number of primary healthcare challenges, including handling assaults and trauma, was deemed as one of the major influencing factors why physicians were frustrated in district hospitals.

Participants from both groups contributed beliefs pertaining to whether they have the confidence to practice medicine alongside traditional healers who are perceived to have a stronger presence and impact on rural people, although they practice in all areas of the country. About a third of the participants from the professionals in training group indicated they are confident to overcome the apparent obstacle of having to practice medicine alongside traditional healers when choosing a career as rural physician. They

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indicated that they are willing to respect the areas of practice and skills of traditional healers, as long as the respect is reciprocated. They are confident that they would be able to practice medicine effectively within a system of medical pluralism where patients often switch between orthodox and traditional health providers or choose to be treated by both simultaneously, however, such medical practice requires collaboration between rural physicians and healers (Moshabela *et al*., 2011:843). Only a few of the participants from the professionally qualified group supported the beliefs of the professionals in training. These participants acknowledge that co-operation and communication between orthodox and traditional health practitioners may yield better health outcomes for their patients. They also suggested that the government's efforts to regulate the practice of traditional healers should be recognised and supported. On the contrary though, a large number of participants from the professionally qualified group indicated they do not have the confidence to practice medicine alongside traditional healers, particularly in rural areas where their influence is strong. Participants from this group stated they are just not able or willing to effectively treat patients who have been harmed by traditional healers, prior to seeking the medical assistance of a physician. In addition, they are not willing to work alongside a practitioner whose skills, methods and approach are not appreciated or recognised by them. These beliefs were probably formed as a result of negative experiences in this regard and as discussed in Section 4.4.2.3. Crisp (2012) stresses that the role of traditional leaders in rural areas is "huge" and if physicians are not willing to or not confident to work with traditional healers in a system characterised by medical pluralism, they are likely going to be dissatisfied and professionally frustrated.

The researcher observed the following similarities and/ or differences between various demographic groups with regard to self-efficacy beliefs about their confidence to work in a rural area:

- White females from the professionals in training group believe they would be able to function in a resources constrained environment, whilst African females and White males from the professionally qualified group shared strong beliefs that they are not confident to work in or able to perform effectively in a resource constrained rural health facility;

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- Participants from all race and gender groups in the professionally qualified group indicated they lack the confidence to practice medicine in an environment where professional and administrative support is lacking;
- Participants from all race and gender groups in the professionals in training group believe they would be able to effectively work alongside traditional healers, whilst African and White males from the professionally qualified group shared strong beliefs that they would not be able to work alongside traditional healers;
- Half of the participants from the professionals in training group who indicated they would be able to practice medicine alongside traditional healers grew up in rural areas; and
- The vast majority of participants from both groups who contributed negative beliefs in this regard grew up in large cities;
- None of the participants from the professionals in training group who contributed beliefs in this regard had any prior exposure or working experience in rural health facilities whilst about a third of the participants from the professionally qualified group have previously worked in rural health facilities. Of significance is the observation that half of the participants who indicated they do not feel confident to work in a resource constrained environment have previous rural exposure and/ or experience;
- The majority of participants from the professionally qualified group who shared negative beliefs in this regard, have friends who are working in rural health facilities as medical officers employed by provincial health departments, whilst friends do not seem to have an impact on the beliefs of professionals in training in this regard; and
- Other demographic factors do not seem to account for similarities or differences between groups in this regard.

Based on the findings above, the researcher summarised the self-efficacy beliefs of both research groups regarding their confidence to complete their studies and live and work in a rural health environment. The relative strength of these beliefs were determined by using the ATLAS.ti “groundedness” concept,” where the researcher proposes that those open codes (which represent beliefs in this study) that are used the most frequently (i.e. assigned to participant responses), are the most salient beliefs of the relevant research group and as such could be a useful mechanism to determine the power of control beliefs in this regard. The summary is presented graphically in Figure 48 below.

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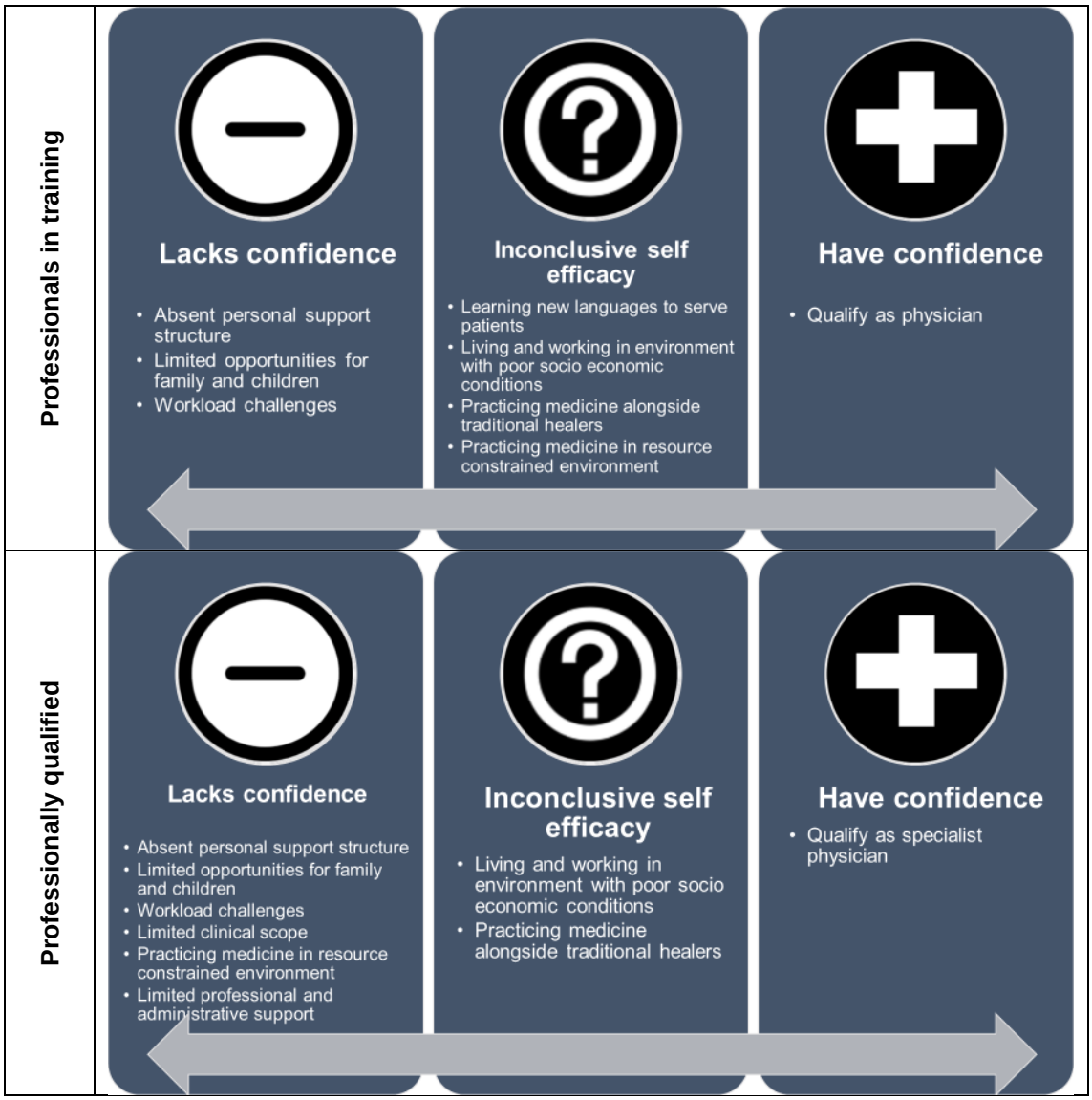
Figure 48: Control beliefs: confidence and ability



The next axial code details the control beliefs participants hold regarding the controllability of the decision to choose a career as rural physician.

5.4.3 Axial code: controllability beliefs

5.4.3.1 Introduction

Controllability beliefs represent the second set of beliefs generated by the researcher to explore the perceived behavioural control of study participants in terms of choosing a career as a rural physician. According to The Free Dictionary Online (2015),

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controllability is the noun for control which means "to exercise authoritative or dominating influence over". In the context of the TPB, controllability in this case refers to a physician's perception of the control he or she has over making a career decision that favours rural medical practice.

Using this guideline, the open codes generated by the researcher in this section represent the salient beliefs of study participants regarding how much personal control they have to over choosing a career as rural physician.

5.4.3.2 Open codes and participant responses

The main control beliefs that emerged from the process of axial coding are presented by the open codes in Table 50. The table includes examples of individual participant responses pertaining to the controllability of the decision to choose a career and perform as a rural physician. An interpretation of these results is discussed in Section 5.4.3.3.

Table 50: Open codes: controllability beliefs

Axial code: controllability beliefs		
Open code: the decision to choose a career as rural physician is within individual control		
Professionals in training	*We are individuals. We make our own decisions.*	6FG1_AF1
	Yes, it was a positive experience. Rural health was a very positive experience, but I can't do it because I want to specialise.	6FG1_WF3
	I don't want to come back and study again, but I'm thinking rural. So you've made a decision? Sort of, I've thought about specialising. I'm 26 now, taking my own time in finishing this bloody degree. (Laugh) The thing is I'm planning on taking over my dad's practice and that will only be in about 4 years' time and by that time, he's really considering retirement.	6FG3_WM2
	I think it depends on what you obviously want to get out of the experience. Even now when we're having to consider which hospital we're going to go and do our internship at, people will base their decision to go do it at that academic hospital because they feel they get more training, whereas personally I'm choosing to go to a rural hospital, because I would rather have the hands on mass training.	6FG3_WF4
Professionally qualified	*It's not a calling - it's a decision.*	RS1_AM1
	And then like after completing, I went to Polokwane where it's more of a city. The reason why I went there is because I wanted to specialise thereafter. So, like I have just pushed myself away from the rural places, because I realise that after internship or com service, I go to rural places, then that thought of just opening my own practice and just doing making money will come along	RS1_AM1

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Axial code: controllability beliefs		
	and I'll forget about specialising. So, I made sure that I don't go there so that I can specialise.	
	There is nothing that prevents somebody doing that (becoming a rural physician), however, the bureaucracy and the cumbersome obstacles that you must try and circumvent or overcome to do this, is so frustrating, that I would not even attempt it.	RS5_WM1
	To me it's very important to be honest. Particularly the lifestyle one, cos I think you make the decision earlier on in life, are you going to pursue making money and creating wealth you know, or are you more interested in building a family, you know, spending quality time with your kids and being there, available for them as they grow up.	RS6_AF1
	It is, whether you are in rural, it is individual.	RS9_AM2
Open code: the decision to choose a career as rural physician is partially outside individual control (government incentives)		
Professionals in training	*I think the extra money is actually forcing people to go back because I think they also realise that it shouldn't be forgotten .*	6FG1_AF1
Professionally qualified	*It's not deep rural. It's considered rural. The place is about 40 kms from the house where I was staying. I was extremely happy. I got a rural allowance; I drove my car and had a petrol allowance. I was chuffed. I was earning lots of money there. I was driving to and from work every day, seeing my family and loved the community.*	RS9_AM1
Open code: the decision to choose a career as rural physician is partially outside individual control (government policy)		
Professionals in training	*I think bursaries help to take people back.*	6FG1_AF1
	But maybe forcing people to go community service to rural areas, won't be a bad idea.	6FG1_WF3
	No, then I'm going away. I'm not staying in South Africa. It's already 3 years. To force you to stay in their system.	6FG1_WM1
	And also so I'm on a government bursary, so I'm actually obliged to go back.	6FG1_AF2
	But in Nigeria you get apparently you get drawn and if you're one of the 10 you have to go rural, sorry.	6FG1_WF3
Professionally qualified	*Because you find that if like now, Minister Motsoaledi, can leave the post, someone else comes in and starts a whole new thing. A whole new thing altogether, so but if there is that thing, this is the direction we are going, want to see ourselves. Whoever comes, this is what we are going to do. A different political party, this is what we are going to do. So a strategy for the country? Ja, so the problem is if someone comes in and everyone wants to change everything. One can come with new policies, new strategies and then after 4 years another Minister comes in and then everything changes altogether.*	RS1_AM1

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Axial code: controllability beliefs		
	So it (NHI) will probably work if the system overhaul is done, but if I will be willing to after 2 years of internship and community service (laugh) be willing to go and be a specialist in community service is a different story. I doubt it. I wouldn't be very happy myself having to now go to a rural area.	RS4_WM1
	And in terms of the younger generation, the only process that gets them there is this rotation of comm. serve and allocating based on the selections that you make. Otherwise many people wouldn't consciously make the decision to go and work in a rural setting for their internship or their comm. serve, it's only because they are sort of forced to do that.	RS8_AF1

5.4.3.3 Discussion of controllability beliefs

In this section the researcher discusses the control beliefs of study participants in terms of their perceptions regarding how strong their personal control over the decision to choose a rural career may be and to what extent do external factors beyond their control determine such decision on their behalf.

The first set of beliefs that are discussed in this section concerns the beliefs of participants regarding the **personal control they have over the decision** to choose a career as rural physician. Participants from both research groups believe the decision to choose their careers, including a decision to choose a rural career, is within individual control. These participants believe they are in control of their plans for the future, i.e. whether they specialise, the choice of speciality area and location of practice. They furthermore believe that choosing a career as rural physician is their own decision and not forced upon them by government or other external stakeholders, however, there may be factors that influence that decision negatively.

The researcher could not locate peer reviewed research that explored the current perceptions of South African medical students regarding their future career prospects, particularly with imminent changes due to the planned implementation of the NHI system. Research conducted by De Vries *et al*. (2010:228) suggest that medical students and physicians including registrars take control of their own careers and their career plans still seem to be individualised, apart from performing compulsory community service. According to De Vries *et al.* (2010:228) a large proportion of students intend to work

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abroad for at least part of their careers. The results of this particular study do not give the impression that students consider the possibility that they might be prevented by means of legislation or regulations from working abroad or be limited in terms of where they may apply for jobs within South Africa.

The researcher observed the following similarities and/ or differences between various demographic groups with regard to beliefs about the individual control of participants to choose a career as rural physician:

- African and white participants from both groups who speak English, Afrikaans, isiXhosa, Xitsonga and Sepedi believe that choosing a career as rural physician is within individual control;
- More than half of participants from both groups who believe that choosing a rural career is within individual control grew up in rural areas;
- The majority of participants from the professionally qualified group who believe that choosing a rural career is within individual control are married, whilst none of the professionals in training group are married;
- Dependants or family working in a rural health facility do not account for differences between groups in this regard; and
- Most of the participants from both groups who contributed beliefs in this regard have friends who are currently practicing medicine in a rural health environment.

The second group of beliefs discussed in this section relate to the belief that a rural career choice is **partially outside the individual control** of study participants. One participant from each group believe the government creates incentives which attract physicians to work in primary healthcare, including rural health. Newly qualified physicians often have huge financial obligations due to study and other debt and the additional financial benefits associated with rural careers such as rural allowances, petrol and housing allowances, attract young physicians to consider a rural career.

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Participants from both groups believe government policy such as awarding bursaries for academic achievers who originate from rural areas to oblige them to work in the area where they grew up, as well as requiring newly qualified physicians to perform community service in rural areas are mechanisms to force physicians to work in those areas. One participant from the professionally qualified group indicated that the community service system is the only intervention that government has at its disposal to compel physicians to work in rural areas as the “younger generation” of physicians are not likely to choose a rural career when given the choice. Another participant from the professionally qualified group indicated that the planned implementation of the NHI may possibly require specialist physicians to work in rural and primary health care settings for a period after qualifying, however, he doubts that specialist physicians would be willing to do so as they were already compelled to do so when they performed the compulsory community service upon qualifying as a physician.

None of the participants believe that government have absolute control over long term careers, including placement in rural areas. At the time when the researcher collected data for this study, sections 36 to 40 of the National Health Act (South Africa, 2004) which contain provisions that intend to regulate the location of medical practices, among others, had not yet been promulgated. In the meantime it was promulgated, however, declared unconstitutional and as such government has no legal recourse to force physicians to set up practices in underserved, including rural areas as yet (Kahn, 2014b). Although this Act did not feature in the discussions and focus groups, participants from both groups have expressed beliefs that should the government implement strategies that control the locality of practice or force physicians to work in places other than those chosen by themselves, they would consider alternative options which may include leaving the country. According to Cullinan (2014) the NDoH communicated that it does not have the mandate to make unilateral decisions about where practices may be set up as it would be unconstitutional. This matter deserves further attention in future research.

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The researcher observed the following similarities and/ or differences between various demographic groups with regard to beliefs about the influences of the government in controlling the career choices of physicians, including choosing a career as rural physician:

- African participants from both groups expressed beliefs that government incentives assist with attraction and retention of rural physicians;
- Participants from all race and gender groups contributed beliefs with regard to the partial control of government by using bursaries and community service as mechanisms to increase physicians in rural areas;
- The vast majority of participants from both groups who contributed beliefs in this regard have prior exposure and/ or working experience in rural areas. Half of them grew up in rural areas; and
- Other demographic features do not seem to account for differences between the groups.

Based on the findings above, the researcher summarised the controllability beliefs of both research groups regarding their perceived control to choose a career in a rural area. The relative strength of these beliefs were determined by using the ATLAS.ti "groundedness" concept", where the researcher proposes that those open codes (which represent beliefs in this study) that are used the most frequently (i.e. assigned to participant responses), are the most salient beliefs of the relevant research group and as such could be a useful mechanism to determine the power of control beliefs in this regard.

The summary is presented graphically in Figure 49 below.

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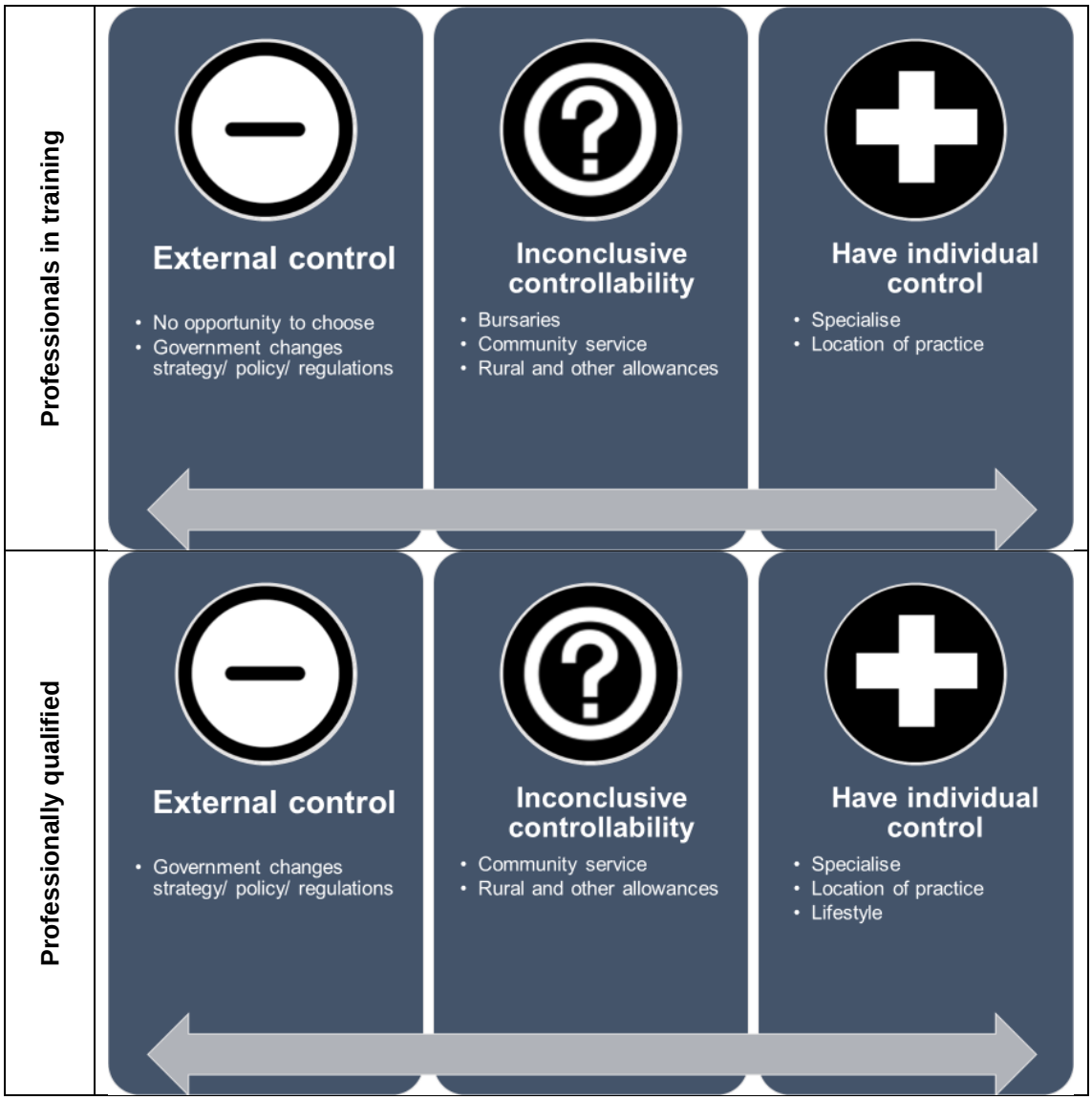
Figure 49: Control beliefs: controllability



5.4.4 Summary: perceived behavioural control

In this section, the researcher tabularised the results of the data analysis process, which involved axial and open coding, pertaining to the perceptions of participants regarding their ability to choose a career as rural physician and the control they have over making such career decision. The results were analysed and are discussed in terms of the salient control beliefs held by participants regarding choosing a career as rural physician. In all instances, the researcher made reference to relevant literature to support or oppose research findings.

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In summary, the control beliefs of both research groups regarding the presence of factors that may facilitate or hamper choosing a career as rural physician are presented in Table 51. The outcomes of control beliefs are expressed in terms of the confidence and personal control participants believe they have regarding choosing a career as rural physician. Beliefs that are associated with outright opposing outcomes, expectations or feelings are listed in the table in descending order of "groundedness" to reflect the strength of the subjective value of these beliefs (Alvira-Hammond, 2012; Archer, 2012; Friese, 2014). Those beliefs that reflected positive as well as negative outcomes, expectations or feelings are referred to as "inconclusive" or "mixed" and are excluded from the summary table as they do not seem to have relevance to account for differences in predicting intentions between the two research groups.

Further to the above, the researcher established that professionals in training have mixed levels of confidence as far as learning new languages to serve patients, living and working in an environment with poor socio economic conditions, practicing medicine alongside traditional healers and practicing medicine in resource constrained environment are concerned. In addition, this group expressed mixed views pertaining to the individual controllability of bursaries for further studies, community service placement and the allocation of rural and other allowances for rural health professionals. As far as the professionally qualified group is concerned, they expressed mixed views about having the confidence to live and work in environment with poor socio economic conditions as well as practicing medicine alongside traditional healers. They also expressed inconclusive beliefs regarding the ability of individuals to control bursaries and allocation of rural and other allowances. The mixed views relate to the fact that government policy regulate the criteria and value of incentives for rural career choices. These policies and incentives can be changed or withdrawn at any given time and are thus uncontrollable from an individual perspective.

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Table 51: Salient control beliefs: summary

Salient control beliefs	Groundedness order	
Beliefs associated with positive outcomes, expectations, feelings pertaining to a rural career	**Professionals in training**	**Professionally qualified**
Confident to qualify as physician	1	
Have control over location of medical practice	2	1
Have control over lifestyle choices		2
Beliefs associated with negative outcomes, expectations, feelings pertaining to a rural career	**Professionals in training**	**Professionally qualified**
Lacks confidence to choose rural career due to having to practice medicine in resource constrained environment		1
Confident to qualify as specialist physician		2
Have control over decision to specialise	1	3
Lacks confidence to choose rural career due to limited professional and administrative support in rural environment		4
Lacks confidence to choose rural career due to limited opportunities for family and children	6	5
Lacks control over government health strategy, policy, regulations	2	6
Lacks confidence to choose rural career due to absent personal support structure	5	7
Lacks confidence to choose rural career due to perceived workload challenges	4	8
Lacks confidence to choose rural career due to limited clinical scope		9
Lacks control if choice of location of medical practice is regulated	3	

The summary in Table 52 represent the researcher's impression regarding the impact of demographic variables to account for differences in salient control beliefs of the two research groups.

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Table 52: Demographic variables and control beliefs

Control beliefs	Demographic variables					
Beliefs associated with positive outcomes, expectations, feelings	**Race and gender**	**Prior rural experience**	**Origin**	**Language**	**Marital status**	**Friends**
Confident to qualify as physician	Whites		Urban	Afrikaans, English		
Have control over location of medical practice						Yes
Have control over lifestyle choices						Yes
Beliefs associated with negative outcomes, expectations, feelings	**Race and gender**	**Prior rural experience**	**Origin**	**Language**	**Marital status**	**Friends**
Lacks confidence to practice medicine in resource constrained environment		Yes	Urban		Married	
Confident to qualify as specialist physician	Africans	Yes	Rural		Married	Yes
Have control over decision to specialise						Yes
Lacks confidence to choose rural career due to limited professional and administrative support in rural environment		Yes	Urban		Married	Yes
Lacks confidence to choose rural career due to limited opportunities for family and children	Whites, Africans			Afrikaans, isiXhosa	Married	
Lacks control over government health strategy, policy, regulations		Yes		Afrikaans, English	Single	No
Lacks confidence to choose rural career due to absent personal support structure		Yes	Urban	English		
Lacks confidence to choose rural career due to perceived workload challenges	White females	Yes	Urban	Afrikaans, English		
Lacks confidence to choose rural career due to limited clinical scope	White males	Yes	Urban	English		
Lacks control if choice of location of medical practice is regulated		Yes				No

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Control beliefs	Demographic variables					
Beliefs associated with mixed outcomes, expectations, feelings	**Race and gender**	**Prior rural experience**	**Origin**	**Language**	**Marital status**	**Friends**
Confident to learn new languages	Coloured and White females	Yes	Urban	Afrikaans, English		
Lacks confidence to learn new languages			Urban	Afrikaans, English, Setswana		
Confident to live and work in an environment associated with poor socio economic conditions and prospects	African females		Rural	IsiXhosa, Sepedi, Xitsonga		
Lacks confidence work and live in an environment associated with poor socio economic conditions and prospects	White female	Yes	Urban	Afrikaans, English		
Confident to practice medicine alongside traditional healers	Whites	Yes	Urban	Afrikaans, English		Yes
Lacks confidence to practice medicine alongside traditional healers	African males, whites	Yes	Urban	Afrikaans, English, Sesotho, Swahili	Married	Yes

The observations in Table 52 represent the researcher's impression regarding the impact of demographic variables to account for differences in control beliefs of groups with different demographic profiles. The open blocks in the table suggest those demographic variables are either not relevant or do not account for differences in the beliefs of participants who contributed to that specific item, whilst the completed blocks reflect more detail about the demographic profile of participants who contributed to the particular belief. Although it emerged that prior rural experience and origin (i.e. rural vs. urban) have a strong impact on accounting for differences in the control beliefs of study participants, the researcher is of the view that further in depth research is justified in this regard.

Collectively these salient control beliefs, be they positive, negative or inconclusive, present an impression of the confidence and personal control participants believe they have towards choosing a career as rural physician. Based on the findings discussed above and the emerging themes presented in the summary tables, the researcher is of

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the view that perceived behavioural control, as a core variable of the TPB, has predictive value to account for the differences in career intentions and choices between the two research groups as well as between groups with different demographic profiles .It is furthermore her impression that the predictive value of perceived behavioural control is stronger than other TPB variables such as subjective norm.

In the next broad section, the researcher discusses the extended variables applicable to the TPB model used for this study as well as findings pertaining to intentions of the two research groups.

5.5 SELECTIVE CODE: EXTENDED TPB VARIABLES AND INTENTIONS

5.5.1 Introduction

Authors such as Conner and Armitage (1998:1429-1464) and Picazo-Vela, Chou, Melcher and Pearson (2010:685-696) propose the inclusion of ***additional or extended*** TPB variables in order to enhance the predictive value of the TPB as a decision making model. Arnold *et al*. (2006:383) and Van Hooft *et al*. (2006:156-166), among others, identified and included extended variables in their studies to explore whether they add predictive value to intentions regarding career choices.

In the case of this study, the researcher set out to, among other research objectives, determine whether previously tested extended TPB variables, namely moral obligation and identification with employer, account for differences in the prediction of a career choice as a rural physician. During the process of open and axial coding these extended TPB variables were further developed and the researcher eventually included moral obligation and identification with the career of a rural physician itself, rather than employer, to test their utility in the TPB as a career decision making model. In addition, during the data analysis phase of the study, the researcher identified past behaviour as a further extended TPB variable that may have utility in a career decision making context. The proposed inclusion of this variable is based on the assumption that past career decisions may strongly influence future intentions. For example, if a physician has already decided to specialise, the probability of him or her choosing a career as rural physician is lower than someone who remained in general medical practice.

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According to Ajzen (1991:199) moral norms reflect a person's perception of the "moral correctness or incorrectness of performing a behaviour". Conner and Armitage (1998:1442) believe that moral norms may have an impact on the execution of behaviour that are associated with moral or ethical considerations. "Moral norms can therefore be defined as one's own socially determined and socially validated values attached to a particular behaviour. As such, moral norms may reflect an additional form of normative pressure." Authors such as Conner and Armitage (1998:1441) and Godin, Conner and Sheeran (2005:498) label moral norms as "personal normative beliefs" and strongly believe their addition as an extension variable of the TPB enhances its predictive validity. It is argued that intentions based on moral considerations are more directly self-focused compared to behavioural outcomes and should therefore better predict behaviour than intentions based on attitudes."

Arnold *et al.* (2006:376) proposed and tested an extension to the TPB which concerned "identity". They stated that "sense of identity" may exercise its own effect on intentions and as such could influence an individual's behaviour. As in the study by Arnold *et al*. (2006), the researcher adapted "sense of identity" to mean "career identity" which in this case is deemed to represent identification with the career or a rural physician. The researcher set out to ascertain to what extend study participants identified with such career. Meijers (1998:200) defines career identification as "…a structure of meanings in which the individual links his own motivation, interests and competencies with acceptable career roles…". According to Holland, Daiger and Power (1980) career identification contributes to an individual's confidence in making career decisions.

Conner and Armitage (1998:1436) suggest that past behaviour is possibly a good predictor of future intentions. In this study, the researcher do not regard past behaviour as "habits" (Rhodes & Courneya, 2003:129-146), but rather to represent actual past career decisions that had long term implications, such as the decision to specialise. Sommer (2011:99) points out that Ajzen (2005) declined to accept that a possible direct relationship may exist between past behaviour and intentions because he is of the view that past behaviour was rather a "reflection of temporal stability". The researcher did, however, observe that Ajzen regards this aspect as matter for further investigation as he

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states in Ajzen (2011a) that: “This issue is still unresolved, begging for additional research”.

The researcher generated a separate axial code for each of the above extended TPB variables. In addition, intentions are also discussed as a separate axial code under this selective code. According to Ajzen (1991:188), intention is an indication of a person's inclination to implement a certain behaviour, and it is considered to be the “immediate antecedent” of behaviour. As explained in Section 2.4.1.4 of this document, intentions are indicators of how hard a person is willing to try or how much effort he will put in to implement certain behaviour (Ajzen, 1991:181). Thus, in this study the researcher explored what the career intentions of participants are in order to anticipate the likelihood of a rural physician career choice, taking into consideration the findings pertaining to their beliefs and the relative value of these beliefs.

Each of these axial codes are analysed and discussed in the next few sections.

5.5.2 Axial code: extended TPB variables

5.5.2.1 Introduction

The open codes generated by the researcher in this section provide greater insight into three chosen extended variables of the TPB to determine whether they add predictive value to intentions regarding choosing a career as rural physician. The researcher analysed moral obligations experienced by study participants to choose career as rural physician, their identification with such career and the impact of past career decisions on the intention of study participants to practice medicine in rural areas.

5.5.2.2 Open codes and participant responses

The main themes pertaining to moral obligation, career identification and past career decision-making that emerged from the process of axial coding are presented by the open codes in Table 53. The table includes examples of individual participant responses pertaining to these themes and an interpretation of these results is discussed in Section 5.5.2.3.

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Table 53: Open codes: extended TPB variables

Axial code: extended TPB variables		
Open code: physicians have a moral obligation to choose a career as rural physician		
Professionals in training	*So whatever you choose to do is to help others and with medicine you can do that. That kind of encouraged me to push through it.*	6FG1_AF1
	I think that ideal medical students would all want to go to rural areas. If we all followed our values, that's where we would be because that's where we're uplifting, that's where we're learning, but it's not always possible. It's a very personal issue? For me. If I was following what I think would be the good thing to do, I would go back rural.	6FG1_WF1
	Honestly I do not picture myself in a private practice and also not just private GP space, but also the private hospitals. I want to go to where people need me the most, not because of people pushing. I believe in my heart that I am needed by people that do not have the means and access, so I would rather go to their doorsteps which is in those case, the rural areas where access to healthcare is limited.	6FG1_AF2
	I think for me one of the things that I value the most is public service. It's one of the reasons I actually chose medicine. And I think given that our country, there is such a huge mismatch between how many people serving the urban population and how many people are serving the rural population. There is no way you can look at that and not say, it's not for me, I can't do that.	6FG1_CF1
	If you think about doctors without borders and you think about all the doctors all over the world that want to work with doctors without borders, but we can in our country do it anyway, I mean we can really make the most of it.	6FG1_WF1
	Because for me to sort out someone's social or psychological problems with the disease is also, I'll go home feeling good that I helped someone - even if I only saw 3 patients a day.	6FG3_WF2
Professionally qualified	*I find being a doctor - it's almost like a culture, it's a calling that you really have to want to make a difference. And there are a lot of people that come and you have to get that training as an undergraduate, but you are not coming, you are not pushing numbers, you have peoples' lives in your hands and if that means you are hungry, and you can't eat, that's a minor sacrifice to be able to save a life. And I feel that because we are producing quantity, not the values of what you want the privilege of having to be able to look after people is not. It becomes an honour to be a doctor because of the status, not because of the privilege to look after other people.*	RS1_WF1
	I think also you can be influenced by having had that experience, because you realise, what a difference just the basic knowledge that you have makes that side, even just to rehydrate a child that's shocked correctly. Over here we take it so for granted because we do it every day, but when you realise there are places where that alone would save lives, you always have at the back of your mind, you know, am I at the right place, doing the right thing. Would I stay here forever and what would be the um, what would be the purpose of that is it to advance, you know, my studies and then how would that then benefit the people who are in the rural areas. Do you go back there, physically or do you find another means of making sure that the information gets there, or ja.	RS8_AF1
Open code: identification with career as physician		

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Axial code: extended TPB variables		
Professionals in training	*When I was a very small girl someone asked me what am I going to be some day. I said I want to be a doctor. And since then I couldn't think of anything I'd rather do.*	6FG3_WF1
	Well first of all, when I say I don't remember exactly, I just knew that I wanted to be a doctor and that's it. I never really thought about it, and then during the last years of my schooling in Durban I stayed with a person who was a doctor and his wife was a nurse. And then I kind of got an idea of how busy he was, because he was in private practice. I think I got it to be a negative idea. He was like really, really busy and I kept thinking, I don't think I want to become a doctor anymore. And yet you're here today. But I'm just the kind of person that once I make a decision, I stick to it. So, I didn't change my mind by the way.	6FG1_AF1
Professionally qualified	*I find being a doctor - it's almost like a culture, it's a calling that you really have to want to make a difference.*	RS1_WF1
	So it's always been an interest. At some stage I considered doing veterinary science instead, because I also love animals and it's also a medical field. But I actually enrolled for veterinary science for 1st year and I swopped back to medicine after about 2 weeks or so. So it's basically just borne out of an interest in human anatomy and physiology.	RS4_WM1
	But for me to decide on what I wanted to do, I think it's one of those, where you know, you've always wanted to become a doctor, and at school you were achieving well. So um, you see it is something that you can achieve, you know. And it's a big ambition.	RS6_AF1
	I always wanted to do it from when I was young, I don't even remember when, I think like 4, 5, and then it just stayed.	RS8_WF1
Open code: identification with career as specialist physician		
Professionals in training	*I just want to add; you obviously work harder in things that you find interesting. I do like obstetrics and it was a lot of hard work doing the calls and things like, I still enjoy it where I didn't work even as hard as maybe in orthopaedics, I hate it, I just don't like it. Even though you did sleep in the night, more than obstetrics, I didn't enjoy it as much because I don't enjoy the speciality that much.*	6FG1_WF2
	Rural health was a very positive experience, but I can't do it because I want to specialise.	6FG1_WF3
Professionally qualified	*It's not a calling - it's a decision. I think I'm mad to be specialising in Obs & Gynae. I like working with women, beautiful people who are women and I like taking care of them. And to me, Obs & Gynae, it has been, like now it becomes a way of life, so I want to help them you see. Especially I like oncology; I want to help people with cancer, especially women. So, that's why I decided.*	RS1_AM1
	You know I had the privilege to rotate through most of the specialities. I found that obstetrics and Gynae has got quite fulfilling outcomes. It's not as depressing; it's not having so much lack of hope as some disciplines where you find patients coming in severely ill, chronically ill, cancers. It is very little that you can do, or intervene. So with obstetrics and Gynae, it's a lot of adrenaline rush, it's a lot of emergencies, but the moment you put your mind and your hands in everything in it, you see the outcome and it's mostly beautiful. It's all about delivering healthy babies and keeping the mothers healthy. That's what I like about it.	RS2_AF1
	Ek dink op skool net geweet van die dokters wat jy in die TV sien en ek het geweet ek hou nie van bloed nie, so ek het begin medies swot en ek het geweet ek wil 'n spesialis word, ek wil 'n internis word van	RS3_WM1

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Axial code: extended TPB variables		
	die begin af, dit was vir my – ek het nog nooit regtig daaroor gedink nie …	
	When I was younger I wanted to become a neurosurgeon. You've got different ideas, the brands, the diversity of neurosurgery, etc. My sister also did internal medicine incidentally. So we talked about internal medicine a lot, it's an interesting field, its dynamic, so that's why I ended up in internal medicine as well probably.	RS4_WM1
	Not at all, not at all. It's just my situation has been of the chance or of, (sigh) it happened such that I had a post to go and specialise. I always wanted and always known that I would be a specialist. I have never ever considered being a GP because for me there is no challenge in being a GP.	RS5_WM1
	I think for me, during the process of internship as well, you sort of get feedback as you rotate through the different specialties and you get a feel for them and my first rotation as an intern was in paediatrics and coming out of university, you are so anxious to be given such a huge responsibility, and I remember just being terrified through the entire experience. And just feeling like I needed to go back and re-do it. Just to make sure you know, that I got rid of those fears and anxieties that I had. And just also the encouragement from the staff within the paediatric department I think played a significant role in influencing my decision to pursue paediatrics further.	RS8_AF1
	Um, well I think I did paediatrics at the end of my internship and it was really, I didn't enjoy any of the other rotations until I ended up in paediatrics, but again, the people working in paediatrics, I just felt as though wow, I've finally arrived home. They're usually mild mannered people, you know, that, (some laugh) Well, not always, but most of them. Kind people? Ja, kind people and, I just found a niche there and then things just evolved from there.	RS8_WF3
	Personally, for me, I want to be a specialist doctor in a sense that it allows you to be an expert and serve better.	RS9_AM2
Open code: identification with career as rural physician		
Professionals in training	*Honestly I do not picture myself in a private practice and also not just private GP space, but also the private hospitals. I want to go to where people need me the most, not because of people pushing. I believe in my heart that I am needed by people that do not have the means and access, so I would rather go to their doorsteps which is in those case, the rural areas where access to healthcare is limited.*	6FG1_AF2
	And I think given that our country, there is such a huge mismatch between how many people serving the urban population and how many people are serving the rural population. There is no way you can look at that and not say, it's not for me, I can't do that.	6FG1_CF1
	I don't know if I have a romantic idea about it, but for me, I would like to experience rural, rural because I think it would take me out my comfort zone. And because then I'd know what's really going on in the country, if that makes any sense, with the local population, and not only in South Africa, in Africa in general.	6FG1_WF1

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Axial code: extended TPB variables		
	My mum is very involved in rural health and public health. She works in HIV medicine and I've just seen the difference that she's made doing minor things, well, seemingly minor things, the difference that the nurses and everything have made to rural clinics that have made me decide that I really wanted to do this.	6FG3_WF3
	I come from a small place in KZN and my grandfather was the only GP in town and my father is the only GP in town and it's pretty rural. We see about 98% of his patients are black. I grew up with them in the house and I've always looked up to them. I honestly must say I never thought I would do anything else.	6FG3_WM2
Professionally qualified	*For me, rural medicine has always been something I idealise a little bit.*	RS1_WF1
	I'm not a person against the idea of working in a rural hospital. I'm even willing to say, if you're a specialist, I mean Mpumalanga does not have any practicing urologists there and I mean, Rob Ferreira, the hospital is probably well enough equipped to say, listen, urological trauma or smaller malignancies, or cancer cases, we can probably manage there, And I see no reason why a urologist who works for instance in private in Nelspruit could not also commit one or two days a week, at Nelspruit hospital.	RS5_WM1
	When I started I always had at the back of my mind that I always want to help in the rural, however, it happens.	RS8_IF1
	If you have to drive long distances you have to change your car every 3 years. I love rural, but eish.	RS9_AF1
	For me, I'm still thinking about it. You know, I'm still thinking about it. For a while I was at an out station whilst at university, yes, yes, there are stations in rural areas, the guys go there.	RS9_AM2
Open code: decided to become a specialist physician whilst an undergraduate student		
Professionally qualified	*Wel ek nog altyd geweet ek wil spesialiseer. Ek het gaan medies swot sodat ek 'n internis kan word. Dit was nog nooit regtig vir my… ek het nog altyd geweet dis wat ek wil doen.*	RS3_WM1
	I always wanted and always known that I would be a specialist.	RS5_WM1
	So it's stimulating in that respect and I could never be a GP. I've always wanted to specialise.	RS7_WM1
Open code: decided to become a specialist physician during internship/ community service		
Professionally qualified	*No, after I decided to specialise in Obs & Gynae after, during the internship. It was when I was an undergraduate, I thought I would do Paeds or orthopaedics, and thereafter the internship I realised this wasn't for me. I can't handle the small kids.*	RS1_AM1
	Then, in terms of making the choice to specialise, um, it's something that I came to a decision after having gone through internship and	RS6_AF1

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Axial code: extended TPB variables		
	community service, which exposes you to basically all the disciplines within medicine which you might not have seen.	
	Um, well I think I did paediatrics at the end of my internship and it was really, I didn't enjoy any of the other rotations until I ended up in paediatrics, but again, the people working in paediatrics, I just felt as though wow, I've finally arrived home. They're usually mild mannered people, you know, that, (some laugh) Well, not always, but most of them. Kind people? Ja, kind people and, I just found a niche there and then things just evolved from there.	RS8_WF3
Open code: decided to become a specialist physician whilst working as medical officer/ general practitioner		
Professionally qualified	*Then after internship and community service, I did some time as a medical officer in surgery at the hospital I was at doing community service, and I realised then that it wasn't for me. So basically all through internship I really wanted to do cardio thoracic as well.*	RS7_WM1
	Once you get through internship and community service, you tell yourself you're never doing calls again. And then, I think, well for myself I was practicing as a GP and it was just not enough. I felt I needed to be good at something because I couldn't be a generalist because you can't be good at everything as a GP, and for me it was just needing to be good at one speciality and manage that speciality as best as I can.	RS8_IF8
	You have to be qualified, it doesn't matter how good you sound, you have to always hear – this one is just an MO…	RS9_AF1
Open code: decided to become a specialist physician after practicing medicine in rural area		
Professionally qualified	*Definitely - because it is the only reason why it has pushed me into this speciality. Because, I mean, if I was doing ophthalmology and radiology and that type of thing, which you don't find in the rural sector. I'm sure we appreciate their role and their skills but I was unfortunately thrown into a different career.*	RS1_IF1
	I think so, absolutely. Um, because I just don't want to work like that anymore. You know.	RS7_WM1
	For me it was almost the same, but it was just a case of, I also worked in a rural hospital for 2 years, and just really feeling like as a generalist you have to be responsible for so many other conditions, and I felt like I really wasn't able to just get a handle on most of the problems and, um, just feeling like you are the jack of all trades, but almost inadequate across the board. And paediatrics, because I had done that in my comm. serve I just felt more comfortable with that. And I felt like, if I can just do this I know I'll stay up all night, that's what I said to myself. So if I can just be able to do this, I wouldn't mind staying up the whole night and so on.	RS8_AF1
	I think for me it had a big influence because I went to a rural hospital in Durban North and when I got there, no one at all wanted to do paediatrics. They were highly scared of children. So they were kind of like, please will somebody volunteer. So then I said I will do that and its fine.	RS8_WF1

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5.5.2.3 Discussion of extended TPB variables

In this section the researcher discusses a few extended variables of the TPB to determine whether they add predictive value to intentions regarding choosing a career as rural physician. The researcher analyses moral obligation, career identification and the impact of past behaviour on the intention of study participants to practice medicine in rural areas.

The first set of extended TPB variables that are analysed in this section relate to the **moral obligation beliefs** shared by study participants in terms of choosing a rural physician career. The researcher established that about a third of the participants in the professionals in training group believe they should practice medicine in underserved communities which includes rural and peri-urban areas. These participants feel that rural patients are the most deprived and deserving type of patients in the overall health system. They furthermore contend that physicians cannot ignore the reality of the mismatch between urban and rural health care access and provision in South Africa and if they follow their own life value systems, physicians should be open to spend some time in rural health as part of their overall career path in medicine. One participant raised the fact that many newly qualified physicians opt to work for international relief organisations such as Doctors without Borders when they start their careers in order to contribute to the upliftment of the areas where they work and in addition expand their knowledge base and life experiences. She feels that working in a rural area in South Africa presents a similar opportunity for physicians to contribute locally whilst enhancing their own skills, knowledge and life experiences. A few participants from the professionally qualified group agreed with the beliefs expressed by the professionals in training and added that the opportunity to make a difference in a rural community places a moral obligation on physicians to at least spend some of their career in a rural or underserved community before making long term career plans. These findings correlate with a statement by Ashmore (2013) that "…altruism and ethics explicitly form part of health workers' professional values…". According to Breier and Wildschut (2007:35), the HPCSA ethical guidelines for health professions state the following about moral norms: "Medicine, dentistry and the medical sciences are professions based on a relationship of trust with patients. The term "profession" means "a dedication, promise or commitment publicly made." [Pelligrino 2000:148]. To be a good doctor, dentist or medical scientist requires

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a life-long commitment to good professional and ethical practices and an overriding dedication to the good of one's fellow humans and society. In essence the practice of medicine, dentistry and the medical sciences is a moral enterprise." Côté, Gagnon, Houme, Abdeljelil and Gagnon (2012:2290) found that moral norm is a strong predictor of intentions by health professionals (nurses) to ensure good patient care. In light of this observation, it appears as though moral obligation is a strong influencer of intentions to perform a certain behaviour among physicians, noting that moral norm considers the ethical aspects associated with health professional behaviour.

The researcher observed the following pertaining as to whether demographic factors account for differences in participant beliefs regarding personal normative beliefs to choose a career as rural physician:

- There are no differences between the beliefs of different race and gender groups in both groups regarding moral obligation to choose a career as rural physician. English speaking participants shared strong beliefs about moral obligation;
- The majority of participants in both groups who contributed beliefs in this regard grew up in large cities however, all of them have prior rural exposure and/ or working experience;
- The majority of participants in the professional in training group who shared beliefs regarding moral obligation do not have friends or family who practice medicine in a rural health facility.

The second set of beliefs discussed in this section relate to participants' **identification with the career** of a physician and more specifically a rural physician. Only two participants from the professionals in training group shared beliefs that which reflect that they identify with the career of a physician in a general sense, however, a third of the participants in the professionally qualified group stated strong beliefs that they identify with being a physician in a general sense and have found their career choices to be fulfilling and meaningful thus far. The researcher is of the view the participants from the professionals in training group have not yet formed their "physician career identity" as they have limited working experience and they still view themselves as students and not professionals. The vast majority of participants in the professionally qualified research group identify with the career of a specialist physician in their chosen specialty fields.

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Participants indicated their specialty choices will enhance their expertise in the chosen fields and fulfil their aspirations in terms of skills development and service to patients. A few participants from the professionals in training shared their career identity beliefs pertaining to being a specialist physician. They generally shared the same reasons as the professionally qualified participants, however, their career identity as a specialist physician still have to be developed as is the case with an identity as physician. These findings resonate with findings by Draper and Louw (2007:17) who point out that medical students (under and postgraduate) generally have positive perceptions of the medical profession. They also found that although students recognise the challenges associated with being a physician or specialist physician, the negative aspects are generally overshadowed by their beliefs regarding the significance of the profession.

About a third of the participants from both groups seem to identify with the career of a rural physician mostly because of the potential impact that rural physicians have in the improvement of healthcare in rural communities. Participants from both groups believe that rural physicians contribute to improving the quality of life of poor and vulnerable communities in deep rural areas and their input assist to significantly improve social circumstances in those areas. Most participants identify with this aspect of a rural physician's career. Tolhurst and Stewart (2006:452) found that most urban medical students in Australia who expressed an interest in rural medical practice identified with the opportunity to "make a difference in people's lives" aspect thereof. In addition, they identified with the career of a rural physician in the public health sector as this is more aligned with their own career identity.

The researcher observed the following pertaining to whether demographic factors account for differences in participant beliefs regarding career identity, specifically towards choosing a career as rural physician:

- Females and white male participants from the professionally qualified group reflected a strong career identification with being a physician. African females and white males identified strongly with being a specialist physician;
- There are no differences between the different race and gender groups pertaining to identification with a rural physician career;

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- The vast majority of participants from the both groups group who identify with a rural physician career grew up in large cities, but have prior exposure and/ or working experience in a rural area. The same statement holds true for those who identify with being a specialist physician;
- The majority of participants who contributed career identity items have friends who are working in rural health facilities as medical officers. The vast majority of participants who identify with the career of a rural physician indicated they have friends who are practicing medicine in rural health facilities;
- The majority of participants in the professionally qualified group who identify with a rural physician career are currently specialising in Family medicine, Obstetrics and Gynaecology and Paediatrics; and
- Other demographic factors do not seem to account for differences between the research groups.

The third set of items that are addressed in this section relate to **past behaviour** of specifically the professionally qualified group regarding their career decisions. The researcher established that about a third of the professionally qualified group decided to specialise whilst they were undergraduate students whilst another third of them made the decision to specialise whilst completing their internship and/ or compulsory community service period. The vast majority of these participants thus chose their further careers prior to completing their community service period. A few participants decided to specialise after working as medical officers in the public sector, including the rural health sector. Almost all of the professionally qualified participants decided to specialise because of their desire to improve their knowledge, become experts in their chosen specialty and to improve patient care. Their negative experiences of working in the public sector, including in rural health facilities, often motivated their decision to specialise further. These experiences are detailed in Section 4.4.2 of this document. Conner and Armitage (1998:1445) discuss the possibility that past behaviour is deemed to be a strong predictor of future behaviour. Sommer (2011:100) concurs that past behaviour can possibly contribute significantly to predict future behaviour, particularly if “human information processing”, i.e. integrating past experiences into the decision-making process, is considered in the TPB model. This argument supports the idea that if a participant chose to specialise, rather than remain in general practice (which would be

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more suitable for rural and/ or primary health care) in the context of “past behaviour”, it is highly unlikely that such participant will choose to practice medicine in a rural environment once he or she specialised.

The researcher observed the following pertaining to whether demographic factors account for differences in past behaviour of participants pertaining to career decisions:

- White males in the professionally qualified research group generally decided to specialise whilst they completed their undergraduate studies whilst most female participants from all race groups decided to specialise whilst completing their internship and/ or compulsory community service;
- The vast majority of participants who decided to specialise whilst completing internship, community service or working as a medical officer have worked in rural health facilities at some stage of their career thus far;
- Quite a few of the participants who grew up in rural areas decided during internship/ community service to specialise further;
- Participants who specialise in Obstetrics & Gynaecology and Paediatrics generally decided during internship or community service to specialise;
- The vast majority of the participants who decided to specialise whilst completing their internship or compulsory community service have friends who are practicing medicine in the rural health sector; and
- Other demographic factors do not seem to account for differences between groups.

Based on the findings above, the researcher summarised the key themes related to the extended TPB variables that were generated by means of axial and open coding. The predictive significance of the extended TPB variables were determined by using the ATLAS.ti “groundedness” concept where the researcher proposes that those open codes that are assigned most frequently to participant responses represent the most significant predictive value of intentions of the particular research group. The summary is presented graphically in Figure 50 below.

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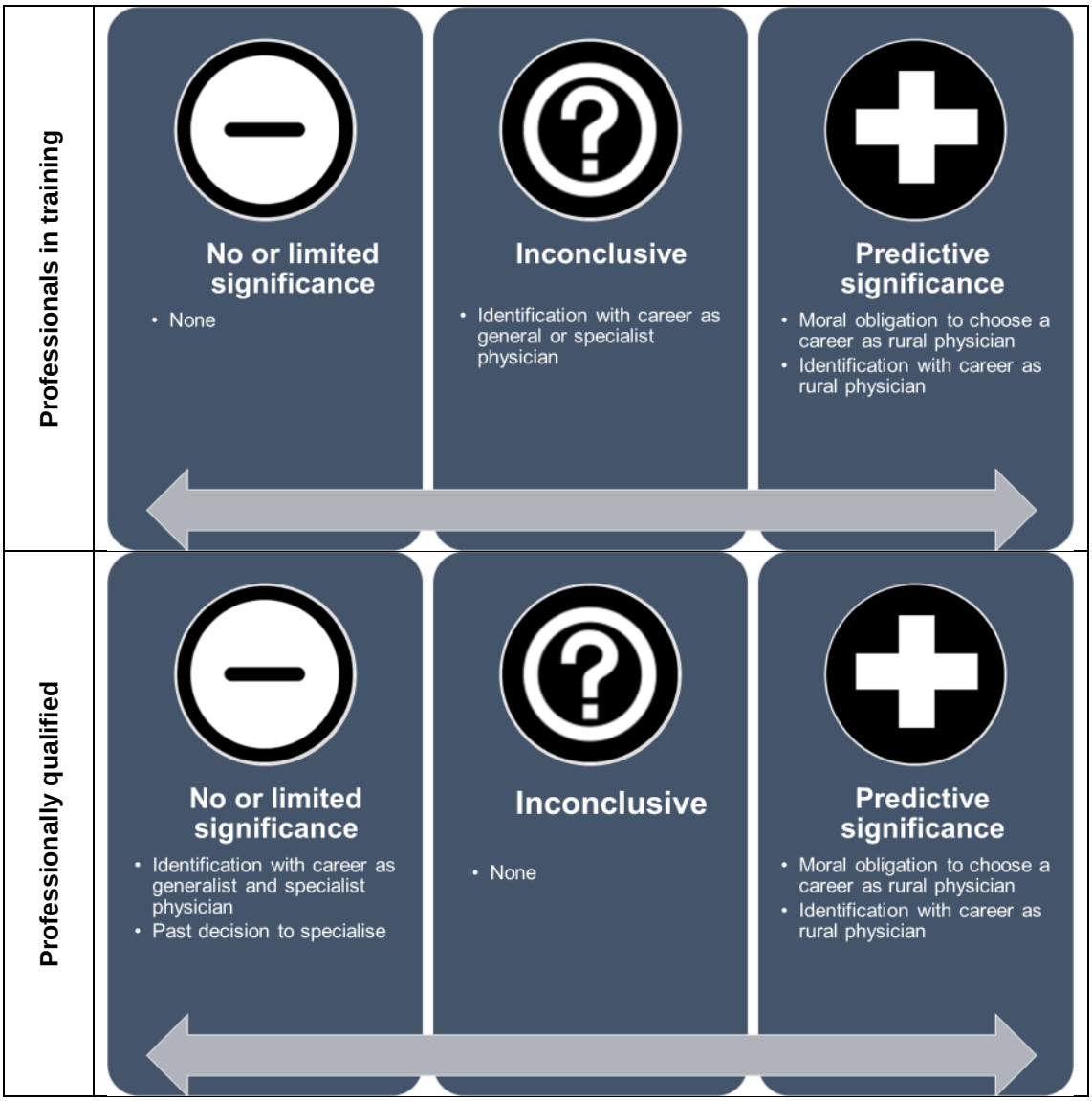
Figure 50: Rural career prediction value of extended TPB variables



The next axial code details the intentions of study participants pertaining to further career choices, including choosing a career as rural physician.

5.5.3 Axial code: intentions and behaviour

5.5.3.1 Introduction

In this section, the researcher generated open codes that reflect the career intentions of participants in the two research groups. An analysis of these intentions provide greater

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insight into their future plans and their readiness to make career decisions that include among others, a career choice that favours rural medical practice.

As explained elsewhere in this document, intentions in the TPB context are considered to be the direct precursor of behaviour (Ajzen, 1991), thus the researcher assumed for the purposes of this study that an expressed intention to choose a career as rural physician will likely result in a decision (i.e. behaviour) to choose such career, noting that such career intentions should be aligned with an appropriate informational and background foundation.

5.5.3.2 Open codes and participant responses

The main themes pertaining to further career intentions and location of practice that were expressed by participants as they emerged from the process of axial coding are presented by the open codes in Table 54. The table includes examples of individual participant responses regarding their intentions and an interpretation of these results is discussed in Section 5.5.3.3.

Table 54: Open codes: intentions and behaviour

Axial code: intentions and behaviour		
Open code: intention to choose a career as physician in the private health sector		
Professionally qualified	*I love the private sector. I've worked in the private hospitals and I've worked in GP practices.*	RS1_IF1
	The salary difference is huge you know. So, to me, salary wise working in the State, it's a joke. You're even embarrassed to tell your colleagues how much you earn. I mean your friends; how much you earn. Even my siblings, you know. They just know this Dr and it's a status. But, to really look at the salary, it's embarrassing. So, again, another factor which leads us going into private	RS2_AF1
	But of course one day I probably will consider moving to private predominately for income.	RS4_WM1
	Um, so I'd rather go and work in private practice where I can work for myself, and I can work the way that I want to work.	RS7_WM1
Open code: intention to choose a career as physician in public health sector		
Professionals in training	*Honestly I do not picture myself in a private practice and also not just private GP space, but also the private hospitals*	6FG1_AF2

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Axial code: intentions and behaviour		
	Just the money earned in the public sector makes it for me worthwhile to think about staying in the public sector without having the responsibilities and risk of going into private. If the public sector didn't pay enough then you must think about, am I earning enough for my work for all the hours I put in, and all the money I've paid to study. Paying for everything that I want to do. But, if you earn enough money there, and even if you get more in private, I think the risk and everything is just weighed up, I think public sector can still win.	6FG2_WF1
	But what is the cost of going into private? To set up a private practice. If it's your own private practice and you take a week's holiday, you have no income, whereas if you're in the public sector you get a regular salary.	6FG2_WF2
	Or be totally against private, such as I am, sort of inclined to, etc.	6FG2_WM1
	To actually further my career, I was planning to stay in the public sector, find myself a nice clinic job, once the kids start coming because I plan on having a family, I will have to find myself a nice half day clinic job.	6FG3_WF1
Professionally qualified	*I think for me, I'm an eternal optimist, so I'm hoping I will stay in the public sector because I like teaching*	RS1_WF1
	Ek sal ook heelwaarskynlik in die volgende tien jaar harder werk en meer geld en opsysit sodat ek van 45 af kan terugkom akademie toe of doen wat ek wil, maar dit gaan afhang van jou lewenskeuses.	RS3_WM1
	And I see myself in the future, perhaps joining an academic department, as in, and it's not impossible, and I actually would enjoy it doing a PhD or a doctorate in medicine in a certain field in urology. So, for me, the financial is further down, the academic studies are definitely high up and then, ja, and then you're involved in the department, educating and learning registrars, I think it would be a challenge. It's something that I would like to do.	RS5_WM1
Open code: intention to choose a career as generalist physician		
Professionals in training	*Specialising doesn't really fit that for me. … Because I want to see everyone from when they're a baby to when they grow up. I'd rather be working in a small town as a GP, but probably be specialising in a range of things.*	6FG3_WF4
	I must say I'm torn between specialising and becoming a general practitioner. I really have a heart for paediatrics. I loved the rotation we did last year, but as he says, I'm also 26 and thinking family wise and commitment wise, that I don't think it's worth it to specialise. And also seeing what the Registrars go through in the departments, I don't know about the rest of them, but when one consultant asks a registrar what does this and this study say about that and that, it just makes my blood go ice cold. I don't just don't want to do it.	6FG3_WF2

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Axial code: intentions and behaviour		
Open code: intention to choose a career as specialist physician		
Professionals in training	*Rural health was a very positive experience, but I can't do it because I want to specialise.*	6FG1_WF3
Open code: intention to choose a career as rural physician		
Professionals in training	*And also so I'm on a government bursary, so I'm actually obliged to go back.*	6FG1_AF2
	I think for me one of the things that I value the most is public service. It's one of the reasons I actually chose medicine. And I think given that our country, there is such a huge mismatch between how many people serving the urban population and how many people are serving the rural population. There is no way you can look at that and not say, it's not for me, I can't do that.	6FG1_CF1
	I don't know if I have a romantic idea about it, but for me, I would like to experience rural, rural because I think it would take me out my comfort zone. And because then I'd know what's really going on in the country, if that makes any sense, with the local population, and not only in South Africa, in Africa in general.	6FG1_WF1
	I think in rural areas you have a much better, stronger sense of community and I think that's what I would enjoy about working in rural areas.	6FG2_WF4
	So, choosing a rural hospital in a nice rural area, something like a nice rural something that's less rural is close by so that they can live there and you can have a job there	6FG2_WF5
	My mum is very involved in rural health and public health. She works in HIV medicine and I've just seen the difference that she's made doing minor things, well, seemingly minor things, the difference that the nurses and everything have made to rural clinics that have made me decide that I really wanted to do this. So there is a likelihood that you might land up in rural environment, although it's still in the back of your mind? Yes.	6FG3_WF3
	My personal passion is rural medicine, so I intend to literally be out in the bush in a Landrover Defender…. So I don't intend on specialising.	6FG3_WF4
	I don't want to come back and study again, but I'm thinking rural.	6FG3_WM2
Open code: already specialising, but may consider a career as District Clinical Specialist		
Professionally qualified	*Absolutely. I'd actually like to do something like that [DCST]. I mean you can still teach which is fulfilling? But in a rural setting you can always teach, because then you are always there. …I'd really like it.*	RS1_WF1
	It's considered rural…. I wouldn't mind going back there after I qualify.	RS9_AM1
	I think it is a good arrangement [DCST], but so far it is working. But the problem is filling the space for the posts, because I notice that the posts are not filled. I don't know why. Would you be, so you are sort of thinking about it? Yes.	RS9_AM2

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5.5.3.3 Discussion of intentions and behaviour

In this section the researcher discusses career intentions expressed by study participants and specifically intentions to choose a career as rural physician.

The first set of intentions discussed in this section concern the intentions of study participants to choose a career as **physician in the private or public health sector**. Almost a third of the participants from the professionally qualified group expressed an interest, and in some cases, an outright intention to practice medicine in the private health sector upon qualifying as specialists. Their intentions are motivated by attractive working conditions and remuneration prospects in the private sector as well as the need to be in control of their working conditions by being self-employed.

These findings concur with the results of a study by Ashmore (2013) who found that specialists often prefer the private sector as it is perceived to be more “resource rich” and physicians have less “stresses with the administration” as well as more independent decision making. Conversely a significant number of participants from the professionals in training group shared their intentions to practice medicine in the public sector whilst only a few professionally qualified participants shared the same intentions.

The intentions of the professionals in training to work in the public sector is motivated by their commitment to serve the majority of patients in South Africa, the perceived higher risk of medico legal challenges that is associated with private sector medical practice, the high cost to set up a private sector practice and the perceived flexibility of public sector physician careers where it is possible to negotiate working lesser hours but with the retention of benefits such as pension and leave.

These findings to some extent align to the results of studies by Van Wyk, Naidoo and Esterhuizen (2010:149-153) and De Vries *et al*. (2010:227-228) who found that between 35% and 50% of final year medical students across South Africa intend to spend some time in the public sector upon competing internship and/ or community service. These studies however, do not confirm that medical students intend to follow long term careers in the public health sector.

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The participants from the professionally qualified group who intend to pursue careers in the public sector are motivated because of their intentions to teach or become researchers. These intentions concur with findings of research findings of Price and Weiner (2005) and Ashmore (2013) who found that specialists who choose careers in the public sector generally enjoy research and teaching.

The researcher observed the following pertaining to whether demographic factors account for differences in participant intentions to choose a career as rural physician:

- There was no difference between different race and gender groups in the professionally qualified group regarding intentions to choose a career in the private sector. White Afrikaans speaking participants in both groups expressed stronger intentions to work in the public health sector than other groups;
- The distribution of participants in the professionally qualified group who intends to choose a career in the private sector is even between those who grew up in rural areas vs. those who grew up in cities;
- All the participants who intend to work in the public sector grew up in large cities;
- Other demographic factors do not seem to account for differences in this regard.

The second group of intentions relate to the intentions of study participants in the professionals in training group to choose a career as **general or specialist physician**.

Only two professionals in training expressed intentions during the focus data collection process in focus groups that they do not intend to specialise, however, as detailed in Section 4.2.2, quite a few participants in this group indicated that at this stage they are unsure whether they will eventually specialise further. Only one participant stated clearly during the focus groups that she wishes to specialise and hence will not choose a career in general practice in a rural environment. More than half of the participants in this group indicated on their forms that they wish to specialise further. These results concur with findings by Van Wyk *et al*. (2010) and De Vries *et al*. (2010) who established that the majority of final year medical students in South Africa intend to specialise upon qualification. The percentage of those who intend to specialise range between 50% and 90%.

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The majority of professionals in training indicated that they intend to specialise. Many white females however, indicated they are not sure or do not wish to specialise further. The sample consisted of a large number of white females and therefore the researcher took note of the intentions of this group, however, used the information with caution in the analysis of results pertaining to the investigation of the core variables of the TPB in this study.

The third group of intentions that are discussed in this section concern the intention of study participants to choose a career in **primary healthcare, including a career as rural physician.**

About a third of the participants in the professionals in training group indicated their intentions to pursue a career in rural health. These participants are mainly motivated by their desire to serve poor and marginalised communities in remote areas of the country, pursuing their dreams and passion for medicine and lifestyle considerations. Although the number of those with intentions to work in rural areas is not as high as those suggested by the study of De Vries *et al*. (2010:227 to 228), the reasons for intending to work in rural areas correlate with the said study.

As mentioned elsewhere, the professionals in training group included a large group of females who may be less likely to choose rural and this may explain why the number of students intending to work in rural health in this group may be lower than previous studies. In addition, three of the professionally qualified participants articulated their intentions to take up positions in the District Clinical Specialist teams that are deployed across all health districts in the country to pursue their career dreams to treat and care for patients in underserved areas (Van Wyk *et al*. 2010). The impact of the establishment of DCST on career intentions of specialist physicians is an area for further investigation.

Note should be taken of the assessment by Wilson *et al*. (2009) that the availability of more specialist opportunities in rural areas may not necessarily attract specialist physicians to these positions in order to address the “rural-urban mismatch” of specialists in the country.

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- Mainly English speaking white females in the professionals in training group expressed strong intentions to choose a career as rural physician whilst African males in the professionally qualified group shared intentions to join District Clinical Specialist teams in underserved areas in rural and peri urban areas;
- The majority of participants in both groups who contributed intentions grew up in urban areas, but have prior rural exposure and/ or experience. The majority of participants from the professionals in training group who intend to choose a career in the rural health sector grew up in large cities. Similarly, the professionally qualified participants who intend to join District Clinical Specialist teams also originate from urban areas; and
- Half of the professionals in training who indicated their intentions to choose a career in rural health plan to specialise, suggesting they might spend part of their career in rural health prior to specialisation or alternatively contribute to rural health as a specialist physician working for example in outreach programmes or as members of District Clinical Specialist teams in rural or underserved districts.

It should be noted that the researcher did not specifically pursue the area of intentions to stay in South Africa or pursue a career abroad as the topic falls outside the scope of this research project, however, it could be an area for further exploration in future.

Based on the findings above, the researcher summarised the intentions of both research groups to choose a career in the rural health sector. The relative strength of these beliefs were determined by using the ATLAS.ti “groundedness” concept” where the researcher proposes that those open codes (which represent intentions in this case) that are used the most frequently (i.e. assigned to participant responses), are the most prevalent intentions of the relevant research group. The summary is presented graphically in Figure 51 below.

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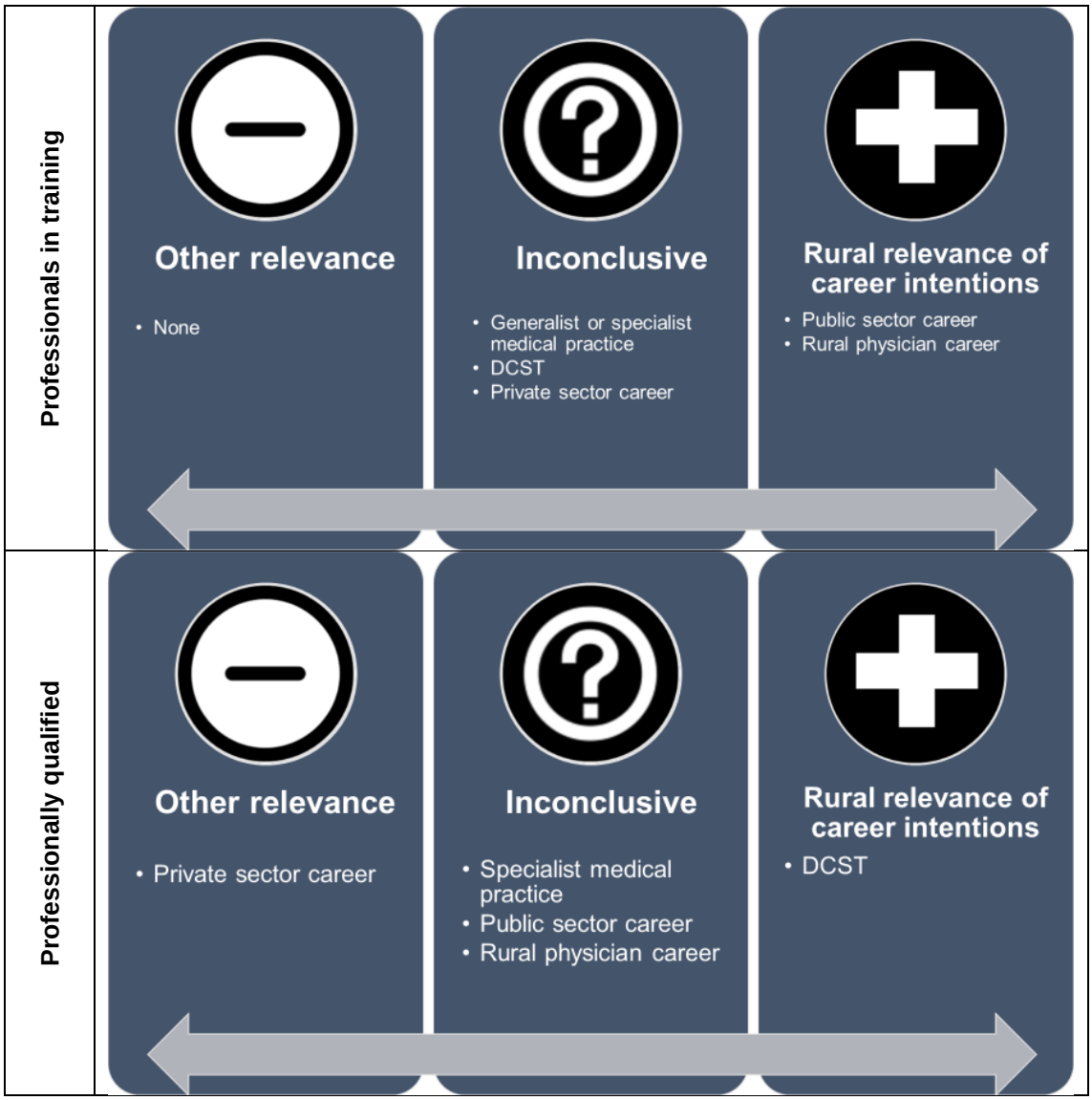
Figure 51: Rural relevance of career intentions



5.5.4 Summary: extended TPB variables, intentions and behaviour

In this section, the researcher tabularised the results of the data analysis process, which involved axial and open coding, pertaining to the moral obligation of study participants to choose a career as rural physician; their identification with such career and the impact of past behaviour on the intention of study participants to practice medicine in rural areas. These axial codes all represent extended variables of the TPB model used in this study. The section concludes with career intentions expressed by study participants and specifically intentions to choose a career as rural physician which in terms of the TPB

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serve as the precursor for the decision to choose such career. In all instances, the researcher made reference to relevant literature to support or oppose research findings.

In summary, the significance of extended variables of the TPB to add predictive value to intentions regarding choosing a career as rural are presented in Table 55. The outcomes of extended variables are expressed in terms of the predictive significance of moral norm, career identification and past behaviour regarding choosing a career as rural physician and intentions are expressed in terms of rural relevance of physician career intentions. Extended TPB variable beliefs and career intentions that are associated with absolute opposing outcomes, expectations or feelings are listed in the table in descending order of “groundedness” to reflect the strength of the subjective value of these beliefs as far as choosing a career as rural physician is concerned (Alvira-Hammond, 2012; Archer, 2012; Friese, 2014). Those beliefs that reflected positive as well as negative outcomes, expectations or feelings are referred to as “inconclusive” or “mixed” and are excluded from the summary table as they do not seem to have relevance to account for differences in predicting intentions between the two research groups.

Professionals in training have mixed beliefs pertaining to the predictive value of career identification with a career as general or specialist physician as far as choosing a career as rural physician is concerned. They furthermore shared diverse intentions pertaining to choosing a career as generalist or specialist physician, pursuing a career in the private health sector or applying for a position in District Clinical Specialist teams. These mixed intentions represent “inconclusive" predictive value in terms of intentions and ultimate decisions to choose a career as rural physician. Participants from the professionally qualified group shared diverse intentions to choose careers as specialists in the public sector, including rural health which thus represent “inconclusive” predictive value in terms of intentions and ultimate decisions to choose a career as rural physician.

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Table 55: Extended TPB variables and intentions: summary

Extended variables and intentions	Groundedness order	
Extended variables and intentions with positive relevance for rural career	**Professionals in training**	**Professionally qualified**
Intention to choose a rural physician career	1	2 (Only DSCT)
Identification with career as rural physician	2	1
Moral obligation to choose a career as rural physician	3	
Intention to choose a public sector career	4	
Extended variables and intentions with limited or negative relevance for rural career	**Professionals in training**	**Professionally qualified**
Identification with career as specialist physician		1
Past decision to specialise		2
Identification with career as physician		3
Intention to choose a career as specialist physician in private sector		4

With regard to use of demographic variables such as race, gender, origin (rural/ urban), home language, marital status, dependent family, previous work experience or training exposure to rural medical practice and family or friends working in the profession to account for differences in the information background profile of the two research groups, the researcher summarised her findings in Table 56.

Table 56: Demographic variables and extended TPB and intentions

Extended variables and intentions	Demographic variables					
Positive predictive value for rural career	**Race and gender**	**Prior rural experience**	**Origin**	**Language**	**Marital status**	**Friends**
Intention to choose a rural physician career	Females	Yes	Urban	English	Single	
Intention to choose a rural physician career (Only DCST)	African males, white female	Yes	Urban		Married	

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Extended variables and intentions	Demographic variables					
Identification with career as rural physician	Females	Yes	Urban		Single	
Moral obligation to choose a career as rural physician	Females	Yes	Urban	English	Single	
Intention to choose a public sector career	White	Yes	Urban	Afrikaans	Single	
Negative / limited predictive value for rural career	**Race and gender**	**Prior rural experience**	**Origin**	**Language**	**Marital status**	**Friends**
Identification with career as specialist physician		Yes	Urban			Yes
Past decision to specialise	White males (*) Females (#)	Yes	Urban (*) Rural (#)			Yes (#)
Identification with career as physician		Yes	Urban	Afrikaans, English		
Intention to specialise	All					
Intention to choose a career as specialist physician in private sector		Yes				
Mixed predictive value for rural career	**Race and gender**	**Prior rural experience**	**Origin**	**Language**	**Marital status**	**Friends**
Identification with career as physician		Yes	Urban	Afrikaans, English		
Identification with career as specialist physician		Yes	Urban			Yes
Intention to choose a career as specialist physician in private sector		Yes				

(*) Past decision made during undergraduate medical studies; (#) Past decision made whilst working in rural area or during internship or during community service.

The observations in Table 56 collectively represent the researcher's impression regarding the impact of demographic factors to account for differences in extended TPB variables and intentions of groups with different demographic profiles. The open blocks in the table suggest those demographic variables are either not relevant or do not account for differences in the beliefs of participants who contributed to that specific item,

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whilst the completed blocks reflect more detail about the demographic profile of participants who contributed to the particular belief. The information in the above table contribute to a better understanding of the impact of demographic variables on beliefs, however, the researcher is of the view that further research is justified in this regard.

Based on the findings discussed above and the emerging themes reflected in the two summary tables, the researcher is of the view that moral obligation is useful to explain intentions to choose a career as physician, but not to explain differences between the two research groups pertaining to choosing a career as rural physician. Career identification explains differences in career intentions between the two research groups and thus adds value to the TPB model as an extended variable. Past behaviour explain differences pertaining to choosing a specialist physician career, but does not account for differences between the two target groups pertaining to choosing a career as rural physician.

5.6 CHAPTER SUMMARY

The purpose of this chapter was to discuss the results, analyses and findings of research conducted to test an extended version of the TPB in the context of choosing a career as rural physician. In addition, the researcher explored whether additional or extended variables that were identified prior and during the course of the study, assisted to improve the predictive value of intentions regarding choosing a career as rural physician.

The researcher applied processes of open and axial coding to generate and analyse data that explain the core and extended TPB variables associated with choosing a career as rural physician among two research groups, namely final year medical students and registrars. The researcher generally regarded open codes to represent the “salient beliefs” of study participants pertaining to the expected outcomes, expectations or feelings related to the relevant background or informational variable of the TPB. In light of this, the researcher used text in the open codes that represent typical TPB quantitative statements to measure attitude, social norm and perceived behavioural control (i.e. reflect positive and negative end points) that are evaluative in nature and are reflective of thoughts and beliefs of study participants. During the focused coding process, the

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researcher discarded codes where no participant beliefs were collected and/ or contributed.

Each of the core variables of the extended TPB used for this study were regarded as a separate selective code in the coding process. The additional or extended variables that were chosen for inclusion in the study, namely career identification, moral obligation and past behaviour were discussed under a separate selective code. Similarly, the last selective code includes an analysis and findings pertaining to intentions of study participants, specifically with regard to choosing a career as rural physician.

In this chapter the researcher analysed, discussed and compared beliefs of the target groups pertaining to the following broad themes under each selective code:

- ***Attitude***: rural environment; rural lifestyle; characteristics, independence and contribution of rural physicians; advantages of a rural physician career; career development of a rural physician; and what a rural physician job entails (i.e. clinical practice and working environment).
- ***Subjective norm***: expectations and influences of career guidance counsellors, educators and academia; family; friends; and role models.
- ***Perceived behavioural control***: self-efficacy and controllability of decision; ***Extended TPB variables and intentions***: career identification, moral obligation and past behaviour as well as career intentions.

In the next chapter, the researcher concludes the research. A summary of findings and main contributions will be presented as well as strengths and limitations of the study. The researcher will lastly suggest themes and areas for future research that may flow from this study.

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CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

This research study tested the application of the TPB in a South African career decision making context and it introduced a qualitative research design which is uncommon in typical research conducted to test the TPB (Renzi & Klobas, 2008:2).

In the **introductory chapter**, the researcher introduced the study with a statement of purpose, outlines the research objectives, discussed the delimitations and assumptions associated with the study and highlighted the importance and potential benefits of the study.

Chapter two was dedicated to a review of literature to prepare the researcher with a thorough understanding of related themes, prior to implementing the research methodology:

- The South African health sector and in particular health human resources strategies and challenges in the public health sector and more specifically in the rural health sector. Literature pertaining to career choices and career decision making of physicians were also reviewed;
- Career decision theory and models; and
- The TPB in basic and extended format and particularly with regard to its employability as a career decision making model as well as its utility in qualitative research. Its application in previous South African studies were also explored.

In **chapter three**, the researcher describes her research paradigm and reasons for the chosen research methodology. Although the majority of research conducted to test the TPB in various settings use quantitative studies which fall within the positivist paradigm (Ajzen, 2014b), it was deemed as an unsuitable paradigm as the researcher wanted to gain a deep understanding of the impact of the core and additional variables of the TPB as well as background factors which are unique and specific to a South African context as far as intentions are concerned. The researcher also had the desire to interact with representatives of the population to strengthen her understanding of their experiences and intentions and clarify her own perceptions and interpretations of the contexts of the

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participants. The researcher furthermore discusses the chosen sampling strategy, data collection methods and data analysis process in the third chapter.

The study identified two different target populations – the first group were physicians and other health professionals with expertise in rural health who could verify the themes to be explored in the study and the second target population was identified to test the TPB in a South African context and included a representative sample of undergraduate and postgraduate medical students from the Faculty of Health Sciences at the University of Pretoria.

Once she selected and gained access to participants in the study, the researcher collected data by means of focus groups and individual interviews on two groups of respondents within the parameters of the approved research proposal. Using the approach employed by Renzi and Klobas (2008:8), all information collected for each interview and focus group discussion, including the demographics questionnaire, field notes and transcripts of the recorded interviews and focus group sessions were then prepared for uploading onto a computer assisted qualitative data analysis system, namely ATLAS.ti in accordance with guidelines provided by a South African expert in qualitative research and computer-assisted data analysis (Archer, 2013).

The researcher gained valuable insights from the chosen research methodology which assisted to generate meaningful information that were deemed valuable in responding to the research questions of this study.

Chapters four and five were dedicated to presenting and analysing the findings. In chapter four the researcher applied processes of open and axial coding to generate and analyse data that explain the social, personal and information background factors associated with further career decisions of the selected target groups, i.e. final year medical students and registrars, including choosing a career as rural physician.

The social background factor was mainly explored using biographical information supplied by the participants prior to the focus group and/ or interview sessions. The

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researcher enhanced this information using participant responses pertaining to their upbringing, partner careers and location of undergraduate studies.

The exploration of personal background factors provided insights into the general attitudes of the selected target groups to reflect their intrinsic, attainment, cost and utility values related to a career in medicine and more specifically a rural physician career.

As far as information background factors are concerned, the researcher investigated the impact of past experiences and prior knowledge on the career decision making of participants, including choosing a career as rural physician.

In chapter five, the researcher presented the results, analyses and findings of research conducted to test an extended version of the TPB in the context of choosing a career as rural physician. The chapter was dedicated to explore the core variables of the chosen TPB model as well as additional variables and intentions pertaining to a career choice that favours rural medicine. The researcher analysed, discussed and compared beliefs of the target groups pertaining to the following broad themes under each selective code:

- ***Attitude***: rural environment; rural lifestyle; characteristics, independence and contribution of rural physicians; advantages of a rural physician career; career development of a rural physician; and what a rural physician job entails (i.e. clinical practice and working environment).
- ***Subjective norm***: expectations and influences of career guidance counsellors, educators and academia; family; friends; and role models.
- ***Perceived behavioural control***: self-efficacy and controllability of decision;
- ***Extended TPB variables and intentions***: career identification, moral obligation and past behaviour as well as career intentions.

As reflected in Figure 52, this cha**pter** contains concluding remarks about the research that was conducted and findings of the study. A summary of findings and main contributions will be presented as well as strengths and limitations of the study. The researcher will lastly suggest themes and areas for future research that may flow from this study.

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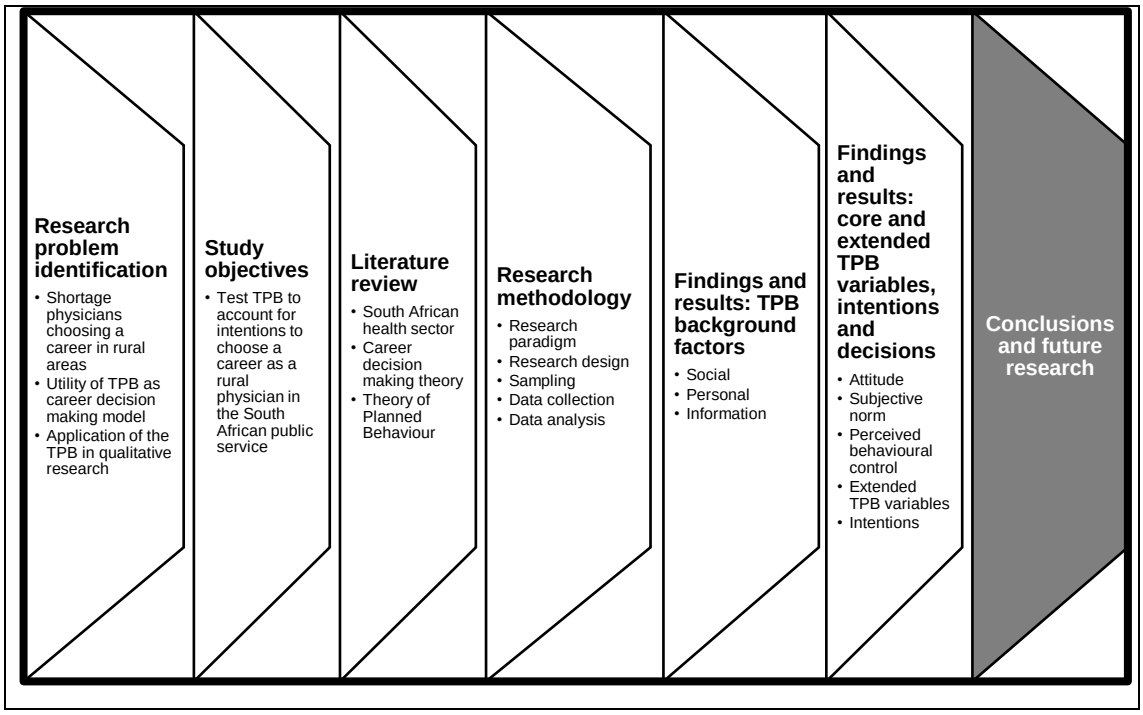
Figure 52: Overview of Chapter 6



Source: Researcher's own summary.

6.2 ACHIEVEMENT OF RESEARCH OBJECTIVES

According to RuDASA *et al*. (2011) rural communities in South Africa continue to experience several barriers to access health care. They state that the quality and availability of healthcare at the point of delivery is poor in rural areas because of understaffed rural health facilities and weak management. Rural health facilities continuously struggle to attract and retain sufficient physicians to turn this dire situation around. This scenario gave rise to the chosen research topic and problem statement as the researcher was intrigued to gain an understanding of the career decision making of medical graduates and specifically their motivation to choose a career as a rural physician.

In light of the complexity associated with career decision making, the researcher decided to use a theoretical model of decision making, specifically the TPB (Ajzen, 1991:182) to investigate the career choices of under and postgraduate medical students and ascertain their intentions and behaviour in this regard. The primary purpose of this study was thus

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to test the capacity of an extended version of the TPB to account for intentions to choose a career as a rural physician in the South African public service amongst two groups, namely final year medical students of the University of Pretoria and registrars who are specialising further through postgraduate medical studies at the University of Pretoria.

The study aimed to address six research objectives (refer Section 1.4). The findings as related to the research objectives are discussed in the next sections.

In order to improve the flow and logical presentation of findings, the researcher merged the discussion of two research objectives related to ascertaining whether previously tested and additional extension variables of the TPB account for differences in the prediction of a career choice as a rural physician into a single section.

6.2.1 Beliefs regarding the outcomes of choosing a career as rural physician and the importance and associated benefits thereof

The TPB proposes that a person's attitude towards the behaviour represents his/ her positive or negative evaluation of performing the particular behaviour of interest (Ajzen, 2005:118). Attitude towards a behaviour thus represents the degree to which implementation of the behaviour is valued (either positively or negatively). Attitude is generally influenced by behavioural beliefs which link the behaviour to various outcomes.

Through a reiterative process of open and axial coding during the data analysis process, the researcher responded to this research question by generating a framework with broad themes that reflect the beliefs of study participants in both groups regarding the outcomes of choosing a career as rural physician. As stated by Ajzen (2014b), the expected outcomes may have positive and/ or negative values to study participants. The framework of beliefs regarding rural physician career outcomes, representing the joint beliefs of both research groups, is presented in Table 57.

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Table 57: Framework for beliefs regarding rural physician career outcomes

Belief category	Sub category	Outcome themes	Subjective value of expected outcome		
			Positive outcome	Negative outcome	Inconclusive outcome
Beliefs about the characteristics of a rural environment	Beliefs about expected outcomes of a rural environment, including a rural health environment in South Africa	Physical attributes of rural environments	Pleasing physical environment		
		Socio economic circumstances		Economic stagnation Slow development	
		Remoteness and infrastructure		Isolated Infrastructure challenges	
Beliefs about a rural lifestyle	Beliefs about expected positive and negative outcomes of a rural lifestyle	Quality of life			Mixed views
		Suitability to raise a family with children	Not suitable		
		Safety and security			Mixed views
Beliefs about the characteristics, independence and contribution of rural physicians	Beliefs about rural physician traits, values, abilities, characteristics, independence and contribution to healthcare	Personality traits and qualities	Ideal physician traits		
		Ability and opportunity to practice independently			Mixed views
		Community connection and contribution	Have ability to connect to community		Mixed views about contribution to healthcare
Beliefs about the advantages of a rural physician career	Beliefs about the outcomes of a rural career choice	Attractiveness	Yes: trainees	No: professionals	
		Enjoyment	Enjoyable		
		Wisdom of career choice	Wise career choices: trainees	Unwise career choice: professionals	
		Advantageous		Not advantageous for specialist physicians	
		Earnings potential			Mixed views
Beliefs about career development of a rural physician	Beliefs about career development opportunities associated with a rural physician career.	Fulfil career aspirations	Yes: trainees	No: professionals	
		Intellectual stimulation	Yes: trainees	No: professionals	
		Career development opportunities		No: professionals	
		Improvement of clinical skills and self confidence	Yes: trainees	Limited opportunity: professionals	

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Belief category	Sub category	Outcome themes	Subjective value of expected outcome		
			Positive outcome	Negative outcome	Inconclusive outcome
Beliefs about a rural physician job (clinical practice)	Beliefs about a rural physician job as far as practicing medicine is concerned	Prevalence of medical malpractice, unethical behaviour and corruption		High incidences of malpractice, unethical behaviour and corruption	
		Nature and characteristics of rural patients		Poor socio economic circumstances	
		Quality of care and workload	Diverse nature of work: trainees	Inferior care and high workload Limited scope (only PHC)	
		Resources and support		Constrained Lack of professional and administrative support	
		Health professional colleagues		Higher exposure to adverse conditions caused by traditional healers	Working alongside foreign health professional
		Injuries, fatigues and stress		More fatigue and stress than working in other health sectors	Risk of injuries

The framework reflects the broad themes and outcomes pertaining to the anticipated outcomes of a rural physician career. In line with the proposition by Ajzen (2011b:77) that people are able to formulate and hold many beliefs about any given behaviour, however, are likely to only remember a small number of these beliefs, the researcher concludes that this framework of beliefs together with the subjective value of the beliefs represents the most relevant set of beliefs which will ultimately be the main determinant of eventual behaviour by the target groups. Noting the significant differences between the beliefs of trainees and professionally qualified physicians regarding what rural careers and actual medical practice in a rural environment entail, the researcher is of the view that the belief framework is useful to explain reasons for career decisions of particularly professionally qualified physicians. In addition, the beliefs held by trainees may be a result of their inexperience or lack of exposure to rural medical practice and as such educational institutions and policy makers could use the framework to generate strategies pertaining to rural medical education and/or policy that will facilitate behaviour change (i.e. choosing a rural career over other possible career options).

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6.2.2 Do the core TPB variables account for differences in the career choice to become a rural physician among two research groups

The TPB proposes that the intention to perform certain behaviour is influenced by three core variables, namely an individuals' favourable or unfavourable evaluation of the behaviour (attitude towards the planned behaviour), subjective norms which represent the individual's perception of social pressure to perform the planned behaviour and thirdly the person's perceived capability to perform the behaviour (control over the planned behaviour or self-efficacy) which would reflect the individual's perception about the relative ease to implement the behaviour (Ajzen, 1991:181).

The TPB furthermore proposes that the amalgamation of attitude towards the behaviour, subjective norm and perceived behavioural control lead to the development of behavioural intentions (Ajzen, 2011b:75). In general, the more favourable an attitude and subjective norm is perceived to be and the greater the perception of control is, the more likely a person would be to perform a certain behaviour.

In responding to this particular research objective, the researcher reported findings pertaining to attitude, subjective norm and perceived behavioural control towards choosing a career as a rural physician in Chapter 5 of this study. She furthermore tabularised the most salient behavioural, normative and control beliefs of both research groups, i.e. "professionals in training" (final year medical students) and "professionally qualified" (registrars) in order to determine whether the core variables of the TPB account for differences in career intentions that favour rural medical practice (refer Table 41, Table 47 and Table 51 respectively) In addition, the researcher presented the associated value of the behavioural, normative and control beliefs in descending order of "groundedness" to reflect the strength of the subjective value of these beliefs (Alvira-Hammond, 2012; Archer, 2012; Friese, 2014).

The researcher established that the "subjective probability" by both research groups to choose a career as rural physician was influenced by their strongest behavioural beliefs which include believing that rural physicians improve healthcare in rural communities and rural physicians possess the ideal traits and qualities of a physician which includes passion, resilience, willingness to take risks, ability to connect with communities,

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accountability and responsibility. Furthermore, the motivation to comply with the expectations and/ or influences of rural physician role models represent the strongest indicator of a career decision that favours rural medical practice for both research groups. Thirdly, it emerged that participants in both groups are confident that they will qualify as physician or specialist physician and they currently feel they have control over the eventual location of their medical practice and lifestyle choices. It should be noted that their confidence towards qualifying as specialist physician does not necessarily mean they have control or are able to choose a career as rural physician, hence the placement of this belief in the “negative” category in the above table.

On the other hand, salient beliefs pertaining to the resource constrained status of rural health facilities, the association of rural medical practice with higher incidences of malpractice, unethical behaviour and corruption and the limited clinical skills and self-development opportunities associated with rural careers represent the strongest indicator of a career choice other than becoming a rural physician for professionally qualified group, whilst the lack of clinical support in the rural working environment, perceived high workload and resource constrained rural health facilities seem to have the strongest impact on anti-selection of a rural career by professionals in training. Furthermore, the motivation to comply with the expectations and/ or influences of spouses/ life partners represent the strongest indicator of a career choice other than becoming a rural physician for professionally qualified group, whilst the impact of the expectations and/ or influences of physician friends who work in rural areas seem to have the strongest impact on anti-selection of a rural career by professionals in training. Thirdly participants listed various control beliefs that are associated with negative outcomes as far as choosing a rural physician career is concerned. Participants from the professionals in training indicated that the decision to choose a rural career may be outside their individual control in cases where government policy dictate placement of physicians, whilst professionally qualified participants do not seem to be as concerned about government policy but anti-select a rural career because they lack the confidence to practice medicine in an environment associated with poor working conditions, resource constraints and limited opportunities for spouses, partners and children.

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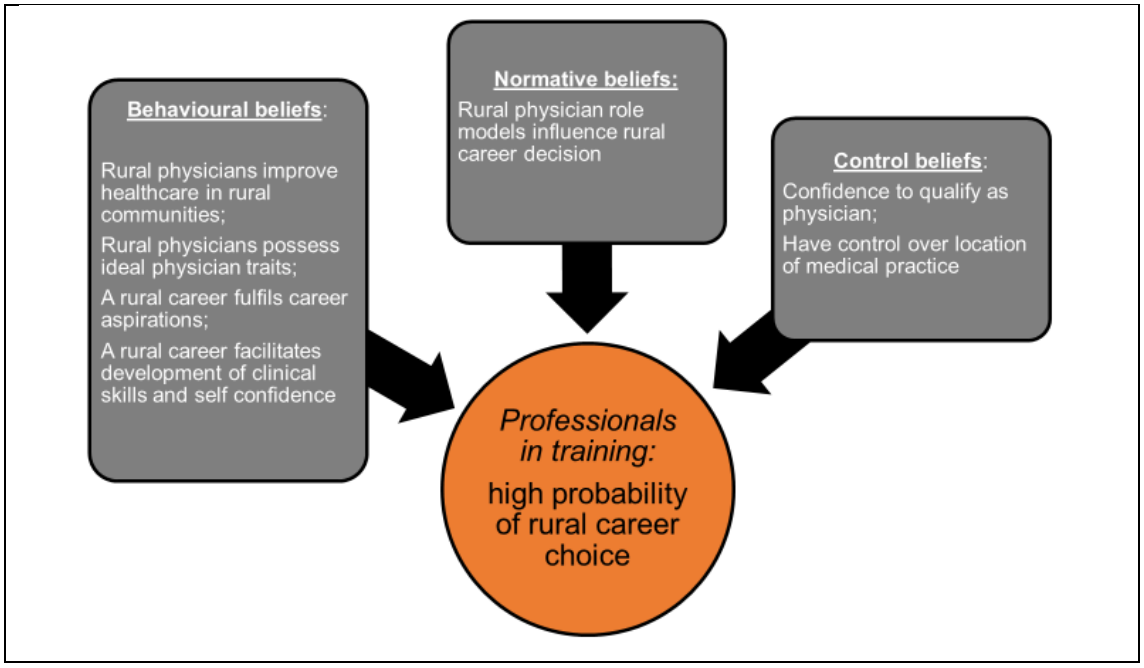
In Figure 53 through to Figure 56 the researcher demonstrates that the core variables of the TPB are able to account for differences in the career choice to become a rural physician among the two research groups of this study. The beliefs that will influence a strong probability of such career choice are very similar for both groups, however the beliefs (and their subjective value) that may lead to anti-selection of a rural career are quite different, particularly in the case of normative and control beliefs.

Figure 53: Core TPB variables: beliefs associated with high probability for professionals in training to choose a career as rural physician



The researcher concludes that it is likely a young physician will consider and/ or choose a career as rural physician if the individual believes that such career will contribute to improving healthcare in rural communities. This belief is underpinned by a strong service orientation which plays an important role in the career choices of medical students (Wilson *et al*., 2009).

Secondly, an individual may choose a rural career to emulate a rural physician role model whose personal traits he regards in high esteem and which are deemed to represent ideal physician traits. These include being resilient, compassionate, respectful and displaying a passion for rural medicine, despite facing a range of barriers that are

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associated with living and working in rural areas. Rural physician role models appear to be the only significant normative referent for this research group.

The third set of beliefs that are likely to have a positive influence on choosing a career as rural physician relate to beliefs that such career will contribute to the personal development of the physician in terms of fulfilling career aspirations, developing clinical skills and confidence to practice medicine independently.

Lastly, the researcher concludes that participants in the professionals in training group have strong self-efficacy beliefs that they will qualify as physicians, but they want to retain actual control over the decision to take up a career as rural physician, thus suggesting that the current “forced” placement of newly qualified physicians in rural areas under the compulsory community service programme, is regarded as part the broader development and preparation programme of physicians rather than a government structured career pathing system. This perceived control seems to be a strong determinant of the eventual career decisions of young physicians and serves as a major factor in the likelihood that a rural career may be chosen or not. It furthermore suggests that intentions by the government to introduce a “certificate of need” which would regulate the location of private medical practices in an attempt to decrease the concentration of health professionals in urban areas (Kahn, 2014b), may have an even further detrimental effect on the career choices of children and young physicians as it would decrease the perceived control an individual would have in making career decisions.

The next figure represents the researcher’s impression of the beliefs that would increase the probability of professionally qualified physicians to take up a rural career. The researcher concludes that professionally qualified participants prioritised similar beliefs as the professionals in training group regarding the positive outcomes of a rural career which in turn translate to a strong probability that a rural career may be chosen by this group. The professionally qualified participants also indicated that the pleasing physical attributes of some rural environments may attract them to relocate to a rural area. In addition, self-efficacy beliefs pertaining to their confidence to living and working in a rural environment where they would have to cope with the surrounding poor socio economic conditions, lack of opportunities for spouses and children as well as other rural

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challenges, seem to be a significant factor for this group in the decision to choose a rural career.

Figure 54: Core TPB variables: beliefs associated with high probability for professionally qualified physicians to choose a career as rural physician

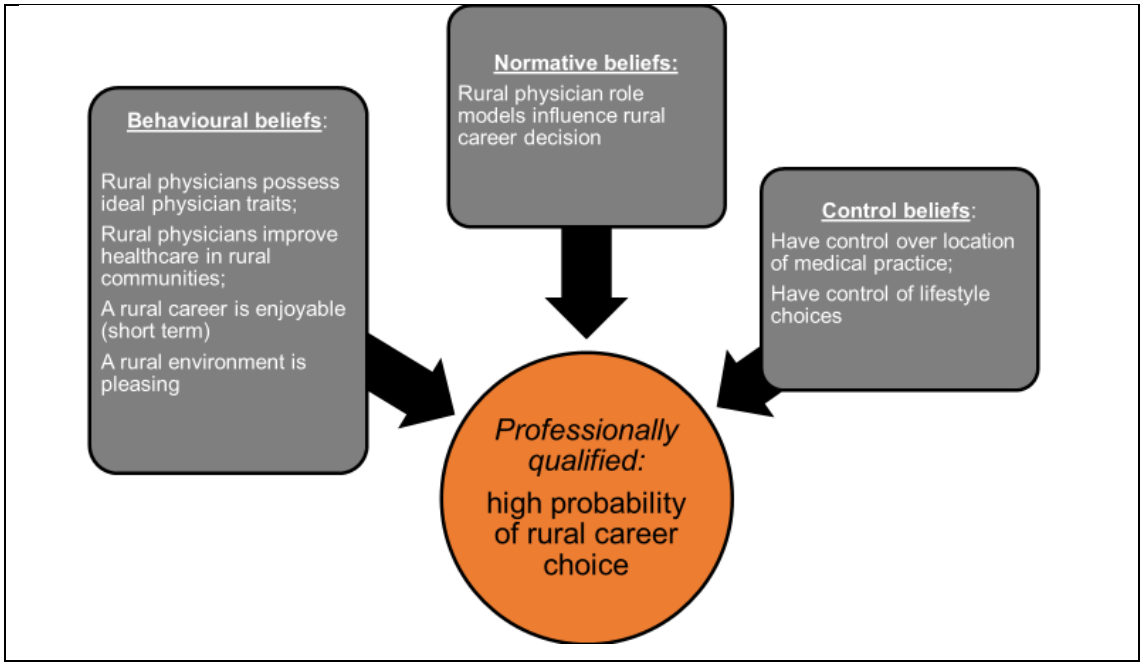

Figure 55 represents the researcher's concluding impression of the beliefs associated with core variables of the TPB that collectively reflect a low probability that trainee or young physicians will eventually choose to become a rural physician. The researcher is of the view that the probability that a trainee or young physician will choose a rural physician career is low where the individual believes rural medical practice is associated with unfavourable working conditions, a lack of professional and personal support, resource constraints (human, technology, consumables, infrastructure and the like) and where he/ she lacks the confidence to cope with and overcome these challenges. It would appear that physician friends serve as an important normative referent in the formation of beliefs and ultimate decision making process of this group and it is postulated that the negative experiences of friends in the profession contribute to the formation of negative behavioural and control beliefs. If a situation should arise where physicians perceive to lose control of their individual career decisions, including further specialisation, due to government policy or regulations about placement, location and

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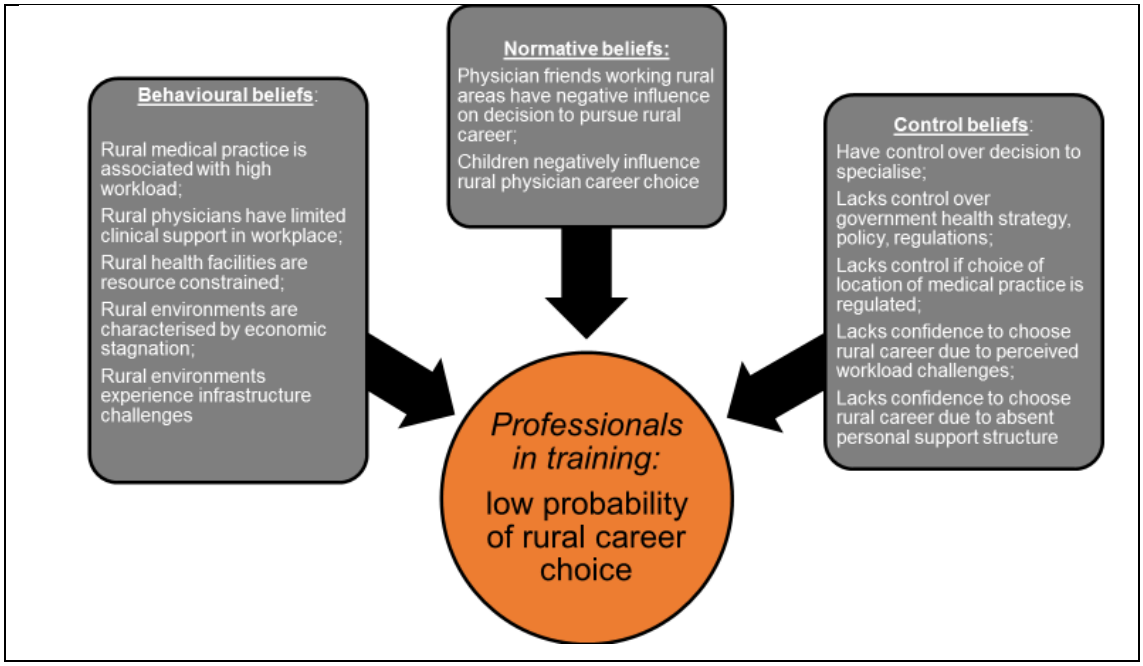
nature of medical practice, such situation may contribute to the possible anti-selection of a physician career. This finding however deserves deeper investigation.

Figure 55: Core TPB variables: beliefs associated with low probability for professionals in training to choose a career as rural physician



The next figure represents the researcher's impression of the beliefs that would decrease the probability of professionally qualified physicians to take up a rural career. The data analysis process generated at least twenty salient beliefs that are held by the professionally qualified group pertaining to negative outcomes associated with a rural physician career. The researcher included the ten with the strongest subjective value in Figure 56. It can be concluded that professionally qualified physicians, thus specialists and other senior physicians, will probably not choose a rural physician career if they believe that:

- Rural health facilities are resource constrained;
- Rural medical practice is associated with more malpractice, unethical behaviour and corruption;
- A rural career inhibits improvement of clinical skills and self- development;
- A rural lifestyle is not suitable to raise and educate children;

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- A rural environment is characterised by economic stagnation;
- A rural career does not fulfil career aspirations;
- A rural career is not intellectually stimulating;
- Rural medical practice is associated with lack of professional and administrative support;
- Rural medical practice is associated with more exposure to adverse conditions caused by traditional healers;
- Rural physicians have limited clinical support in the working environment;
- A rural lifestyle is remote and isolated;
- Rural environments experience infrastructure challenges;
- Rural patients have poor socio economic circumstances;
- Rural medical practice is associated with high workload;
- Rural medical practice is associated with more work related fatigue and stress;
- A rural career choice is foolish;
- A rural career for specialist physicians is frustrating;
- A rural environment is associated with slow development;
- Rural medical practice is associated with inferior quality of care; and
- Rural medical practice is limited to primary healthcare.

Spouses/ life partners and children represent the most significant social referents in the decision to anti-select a rural career whilst physician friends who are working rural areas also have negative influences on decisions to pursue a rural career. Parents seem to positively influence career decisions to specialise which in turn reduces the likelihood of the physician choosing a career in primary care or general medicine in a rural environment.

Should a professionally qualified physician feel that he lacks confidence to practice medicine in resource constrained and possibly corrupt environment; be required to function effectively without professional and administrative support and to ensure work and educational opportunities for his spouse and children, it is unlikely that such physician will choose a rural physician career. In addition, and similar to the beliefs of the professionals in training group, if a situation should arise where physicians perceive

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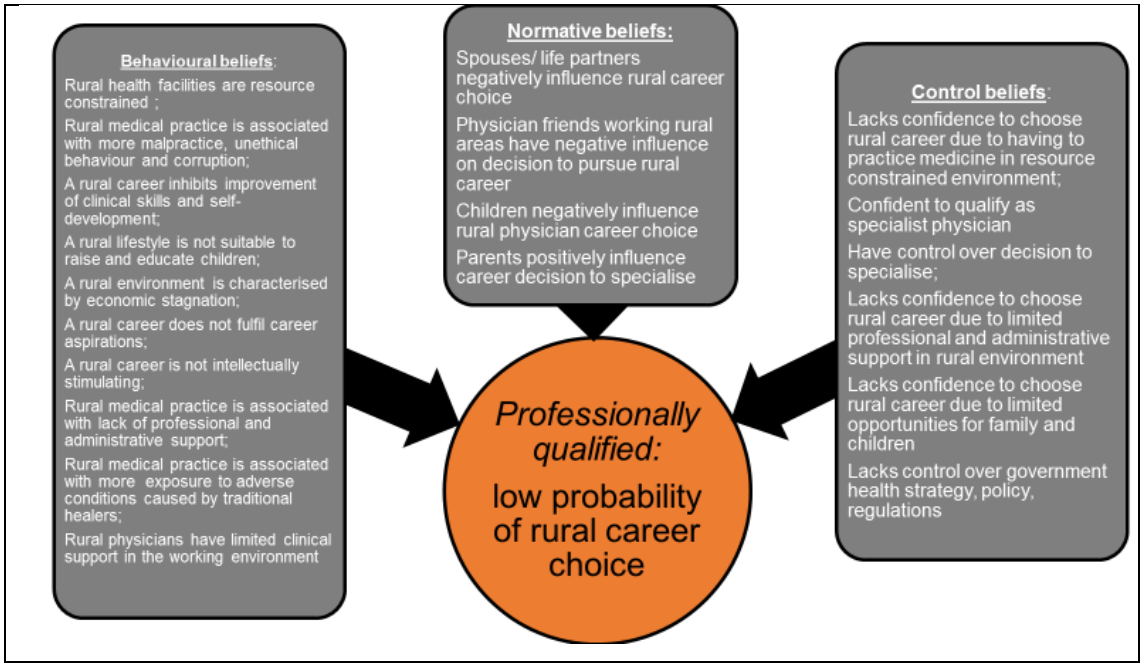
to lose control of their individual career decisions, including further specialisation, due to government policy or regulations about placement, location and nature of medical practice, such situation may contribute to the possible anti-selection of a physician and/ or specialist physician career.

Figure 56: Core TPB variables: beliefs associated with low probability for professionally qualified physicians to choose a career as rural physician



The following beliefs did not seem to account for differences between the two research groups:

- ***Behavioural beliefs***: rural quality of life, safety and security associated with rural lifestyle, the ability of rural physicians to practice medicine independently, the contribution of rural physicians to rural healthcare; the long term earnings potential of a rural career, career development opportunities associated with a rural career and the risk of occupational injuries and diseases associated with rural medical practice.
- ***Normative beliefs***: the impact of career counsellors, educators, health sciences faculties, ethnic background of family and physician family. It should be noted that in many instances these social referents have strong influences and expectations regarding the further career decisions of study participants (as reflected by the

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"groundedness" of beliefs), however, it is not possible to ascertain the nature and strength of their impact on study participants pertaining to choosing a rural physician career. Examples of such include the observations that study participants are influenced by registrars, spouses and life partners and physician family when making career decisions and considering further career paths, however, the exact influence of these social referents are not clear and warrants future in depth investigation.

- ***Control beliefs***: beliefs regarding learning new languages to serve patients, living and working in an environment with poor socio economic conditions, practicing medicine alongside traditional healers and practicing medicine in resource constrained environment do not seem to account for differences between the two research groups.

Although there are overlaps in the behavioural, normative and control beliefs between the two research groups, the TPB was useful to identify the similarities and differences pertaining to the core variables of the TPB between the two groups. The TPB was also useful to identify differences in the subjective value of beliefs by the two groups, thus providing a deeper understanding of the strength of the core variables in the TPB model that was tested in the study. Overall, the researcher concludes that within the context the TPB's assertion that favourable attitudes, subjective norm and perception of control would probably lead to implementation of a behaviour, it is unlikely that participants from the professionally qualified group would choose a career as rural physician because the majority of their attitudes and perception of control are unfavourable towards choosing such career (refer Figure 54 and Figure 56 for an overall impression of this group). Conversely, the overall impression of the attitudes, subjective norm and perceived behavioural control of the professionals in training group suggest that they may still consider a rural physician career as their beliefs seem to be more balanced between favourable and unfavourable (refer Figure 53 and Figure 55). In an attempt to explain the main differences between the two research groups, the researcher would hypothesize that although both groups chose the same broad career, i.e. to become a physician, the negative beliefs held by the professionally qualified group are too strong to persuade them to choose a career in rural medicine. It would appear that the positive ideals, aspirations and feelings of moral obligation displayed by medical students, are destroyed by their eventual negative work experiences during compulsory community

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service and internships. Although this was not a specific research objective of the study, the observation deserves further investigation in future research as the cross sectional nature of this study could not address the issue.

On personal reflection, the researcher became aware throughout the data collection and data analysis process, with particular reference to generating codes that reflect typical "TPB language", that she is just beginning to "scratch the surface" of this powerful theory as far as using it in a qualitative research context. She acknowledges that she had preconceived ideas that she would test two opposites with students on the one side and registrars on the other side and expected that they would have different beliefs regarding most aspects generated in the data collection phase, thus creating a fairly simple, structured and organised set of results that would feed into a TPB model for rural career decision making. The eventual results turned out to be much more complex with similarities in many respects, however differences are embedded in the finer nuances of the results.

6.2.3 Do previously tested and additional extended TPB variables account for differences in the prediction of a career choice as a rural physician

Various authors such as Conner and Armitage (1998:1429), Arnold *et al*. (2006), Van Hooft *et al*. (2006) and Picazo-Vela *et al*. (2010), among others, propose the addition of further variables to enhance the predictive validity of the TPB. These additional variables range from past behaviour, habits, moral norms, self-identity, identification with behaviour, affective beliefs to conscientiousness. Ajzen (2014:2) concurs that the addition of more variables may improve the predictive value of the TPB in a variety of contexts.

In order to respond to the third and fourth research objectives in this study, the researcher included previously tested extended TPB variables, namely moral obligation and identification with employer to account for differences in the prediction of a career choice as a rural physician. During the process of open and axial coding these extended TPB variables were further developed and the researcher eventually included moral obligation and identification with the career of a rural physician itself, rather than employer, to test their utility in the TPB as a career decision making model. In addition, during the data

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analysis phase of the study, the researcher identified past behaviour as a further extended TPB variable that may have utility in a career decision making context. The inclusion of this variable is based on the assumption that past career decisions may strongly influence future intentions. For example, if a physician has already decided to specialise, the probability of him or her choosing a career as rural physician is lower than someone who remained in general medical practice.

It emerged that identification with the career of a rural physician represent the strongest indicator of a potential career decision that favours rural medical practice among both research groups whilst career identification with the career of a specialist physician and past decisions to specialise represent the strongest impact on possible anti-selection of a rural career by professionally qualified participants. Moral obligation emerged as a strong indicator towards choosing a rural career for the professionals in training. They feel that rural patients are the most deprived and deserving type of patients in the overall health system. They furthermore contend that physicians cannot ignore the reality of the mismatch between urban and rural health care access and provision in South Africa and if they follow their own life value systems, physicians should be open to spend some time in rural health as part of their overall career path in medicine.

Authors such as Conner and Armitage (1998:1441) and Godin, Conner and Sheeran (2005:498) label moral norms as “personal normative beliefs” and strongly believe their addition as an extension variable of the TPB enhances its predictive validity. It is argued that intentions based on moral considerations are more directly self-focused compared to behavioural outcomes and should therefore better predict behaviour than intentions based on attitudes.” The researcher concludes that the addition of moral norm will enhance the TPB model to test career decision making in this regard. The other two extended variables also assisted to explain differences in career intentions and should be included in future studies to test the applicability of the TPB in a career decision making context.

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6.2.4 Do demographic variables account for differences in the prediction of a career choice as a rural physician

To respond to this particular research objective, the researcher initially set out to collect and analyse data on demographic variables associated with the research groups and ascertain whether these variables account for differences in the prediction of career choice as rural physician. After an extensive literature review of the TPB as well as reviewing the large amount of useful "general" background information generated during the data collection phase, the researcher expanded the scope of this objective to categorise and include the "general" information under three broad background factors that are generally present in an expanded version of the TPB namely social, personal and information background factors (refer Figure 8). The researcher deemed the inclusion of background factors to be of significant value in the study, particularly in a South African context where demographics matter in a career decision making context (Stead & Watson: 2006:7-8).

Demographic variables are usually investigated under social background factors in the TPB. The researcher found the analysis and findings in this regard valuable to contextualise findings for the impact of core and extended variables of the TPB which were discussed in chapter 5. Ajzen (2011a; 2011b:85), supports the view that background factors can provide valuable information about possible precursors of beliefs whilst Ajzen and Klobas (2013:213) believe that background factors may be influenced by social norms and "institutional context" such as socio economic or political environments.

The researcher applied two approaches towards assessing the impact of demographic variables in this study. Firstly, she dedicated a separate chapter to analyse and determine many different kinds of background factors that would be of potential relevance to the decision to choose a career as physician in the first instance and more specifically to become a rural physician. The TPB itself does not propose a fixed "list" of background factors to be explored in TPB related research, however, allows for the inclusion of background factors identified in prior research or demographic factors associated with study participants to explain findings by "tracing the factor's effects on beliefs" (Ajzen and Klobas, 2013).

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Secondly, the researcher assessed the impact of various demographic variables as a subset of social background factors on the three core and extended variables of the TPB model that were tested in this study. This approach generated a significant amount of additional data which may be useful to direct and/ or inform future research and interventions pertaining to rural career choices and rural education programmes.

As far as social background factors are concerned, the researcher profiled the two research groups in terms of a number of variables which included among others race, gender, home language, origin (i.e. rural or urban), prior working experience or exposure to rural health, family or friends working in rural health. The researcher concluded that the professionally qualified research group was probably more representative of the South African population than the professionals in training. This group also presented more diversity in terms of working experience, age, marital and parental status. In addition, the researcher generated additional information pertaining to social background factors that revealed many of the spouses/ partners of physicians pursue different careers which have implications in terms of the mobility and location of physician practices. Furthermore, most of the participants, including all races and genders, grew up in privileged environments with access to educational support and funding. Lastly, the researcher established that participants from the professionally qualified group completed their undergraduate studies at all but two of the medical schools in South Africa, however, the majority of participants in this group obtained their MBChB degrees through the University of Pretoria.

With regard to personal and information background factors, the researcher tabularised her findings for both research groups, i.e. “professionals in training” (final year medical students) and “professionally qualified” (registrars) to ascertain the impact of these factors on career decisions in general and then specifically with regard to decision to specialise and/ or to choose a career as rural physician. In addition, the researcher presented the associated value of the various background factors in descending order of “groundedness” to reflect the relative strength of these factors beliefs (Alvira-Hammond, 2012; Archer, 2012; Friese, 2014).

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As far as personal background factors are concerned, the researcher explored the general attitudes of participants in the two groups and it emerged that the general attitudes of participants from the professionals in training group towards being a physician (including the various career options associated with such career) reflected high attainment, intrinsic and utility values on being able to provide medical care and service to medically underserved communities or areas, enjoy a comfortable lifestyle and the prospects of good and sustainable income. The professionals in training furthermore place high value on job security, making a difference in the lives of their patients, working in teams, delivering lifelong healthcare to particularly women and child patients and completing internship and community service as an essential aspect of physician development. As far as "cost" values are concerned, participants from the professionals in training group reflected negative psychological associations with the challenges of working in the public sector, corruption and unethical practices in the health sector and dealing with patient social issues. The professionally qualified seemingly place high attainment, intrinsic and utility values on the prospects of good and sustainable income, a comfortable lifestyle, teaching and academic work, intellectual stimulation and specialist medical practice. The group furthermore place high value on completion of internship and community service as part of overall physician development, making a difference in the lives of their patients, job security and the ideals of the proposed NHI, on condition that the implementation thereof is accompanied by repairing and revitalising the public health system. As far as "cost" values are concerned, participants from the professionally qualified group reflected negative psychological associations with the challenges of working in the public sector, corruption and unethical practices in the health sector, referral of patients to other health centres, exploitation of vulnerable people and communities and colleagues involved in dual practice ("RWOPS").

Looking at information background factors, it emerged that the professionals in training were knowledgeable about rural health challenges and had positive working experiences in the urban and public health sectors, whilst they lack knowledge about what medical studies entail as well as further career opportunities in medicine. In addition, they had negative experiences of subspecialty rotation during their undergraduate studies. Participants from the professionally qualified group indicated they are informed about the primary health care policy of government, rural health challenges and further career

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opportunities in medicine. They furthermore reported positive experiences of subspecialty rotations during internship and community service. Professionally qualified participants shared negative experiences of working in the public and particularly the rural health sector and also indicated they lacked knowledge of what a rural physician career entails. These findings may explain their career choice to specialise further and provide some indication that they are unlikely to choose medical practice in a rural area in future.

The second approach towards determining whether demographic variables account for differences in the prediction of career choice as a rural physician entailed an assessment of the impact of demographic variables on the personal and background factors associated with the research groups; the salient behavioural, normative and control beliefs of research groups as well as extended variables that were tested in this study. The researcher generated an extensive number of findings and/ or observations in this regard, however her findings warrant much deeper investigation in future studies. From this analysis, the researcher concluded that the following variables account for differences between groups and other demographic variables with specific regard to choosing a career as rural physician:

- *Personal background factors*: prior rural exposure and experience, physician friends working in rural facilities and to a lesser extent race and gender profiles seem to have a stronger impact on accounting for differences between different groups.
- *Information background factors*: the origin of participants, i.e. whether they grew up in rural or urban areas, their prior rural exposure and experience and to a lesser extent their race and gender profiles seem to have a stronger impact on accounting for differences between different groups.
- *Attitude*: previous work/ study experience in a rural area and friends working in rural health facilities seem to have a strong influence in shaping the behavioural beliefs of study participants regarding the outcomes associated with a rural physician career.
- *Subjective norm*: previous work/ study experience in a rural area, origin (i.e. rural or urban) and to a lesser extent race and gender have an influence on normative beliefs of both research groups. Physician friends seem to have a strong negative influence on the decision to pursue a rural physician career.

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- *Perceived behavioural control*: it emerged that prior rural experience and origin (i.e. rural vs. urban) have a strong impact on accounting for differences in the control beliefs of study participants;
- *Extended TPB variables and intentions*: race and gender profiles as well as marital status account for differences in moral obligation, past behaviour, career identification and eventual career decisions.

The researcher concludes that background factors and demographic variables are able to account for differences in predicting whether an individual will take up a rural physician career. These topics, however, require much deeper investigation than what has been possible to execute in this study, hence the recommendation that further analysis be conducted to explore the finer nuances of how the TPB account for these differences. To demonstrate the possibilities of further analysis in this regard, the researcher consolidated her observations as presented in Table 29, Table 34, Table 42, Table 48, Table 52 and Table 56 respectively to generate an impression of the beliefs that differentiate demographic groups in terms of race and gender. For this purpose, the researcher created a potential profile that collectively reflects the salient beliefs of different race and gender groups pertaining to the core variables and background factors of the TPB. Such profile could serve as the basis for the design of interventions to prepare and attract physicians to rural medical practice and secondly to gain deeper understanding of the beliefs that influence the anti-selection of rural careers.

Figure 57 through to Figure 60 represent the researcher's overall impression of the background factors and beliefs that are relevant and of value to various race and gender groups within the group who participated in the data collection process, i.e. black males, black females (African, Indian and Coloured females in the research groups), white males and white females. As indicated, these findings deserve more in depth investigation, but present some initial themes for interrogation in future research studies.

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The apparent implications of these profiles suggest that normative and control beliefs are different for white and black participants, whilst behavioural beliefs about the outcomes of a rural physician career differ to some extent between males and females. Similar profiles can be drawn up for other demographic variables such as rural or urban origin, prior rural exposure and variables discussed in Section 4.2.2 of this study. At a high level, these findings confirm that background factors (as far as demographic variables are concerned) and beliefs are indeed connected. Whether these background factors have a significant impact on beliefs is an area of further exploration. In line with the postulation by Ajzen (2011b), the researcher concurs that it may be possible that individuals or groups with different demographic profiles will reflect different beliefs about the same behaviour which will in turn produce different attitudes, subjective norms and perceptions about control.

Figure 57: Differentiating background factors and salient beliefs of black males in the research group

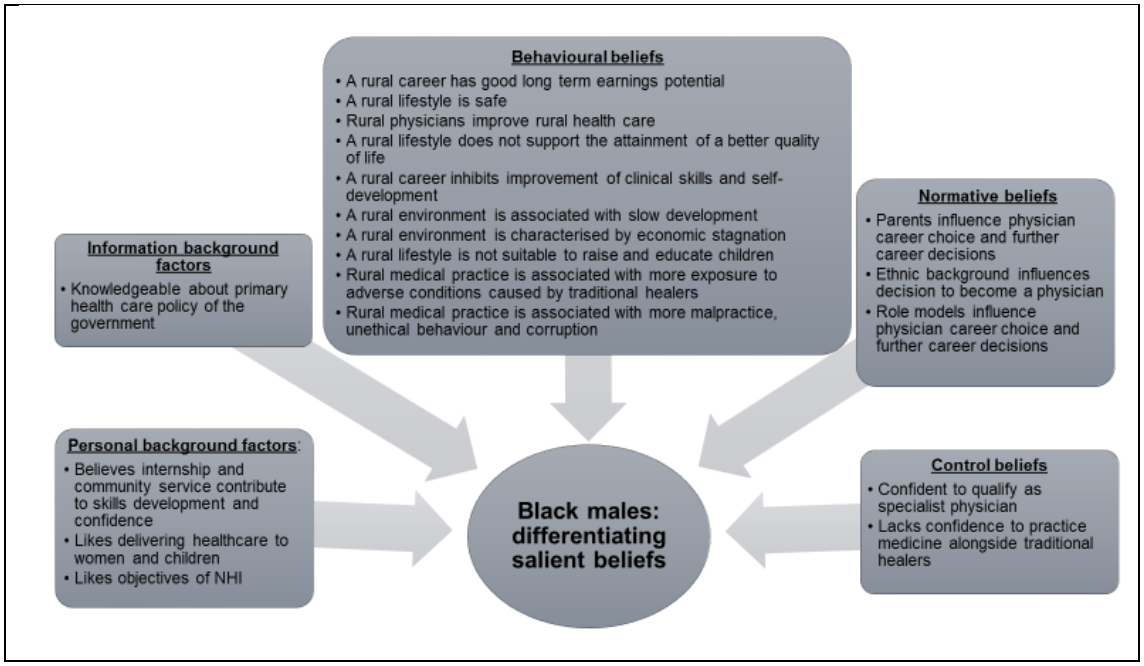

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Figure 58: Differentiating background factors and salient beliefs of black females in the research group

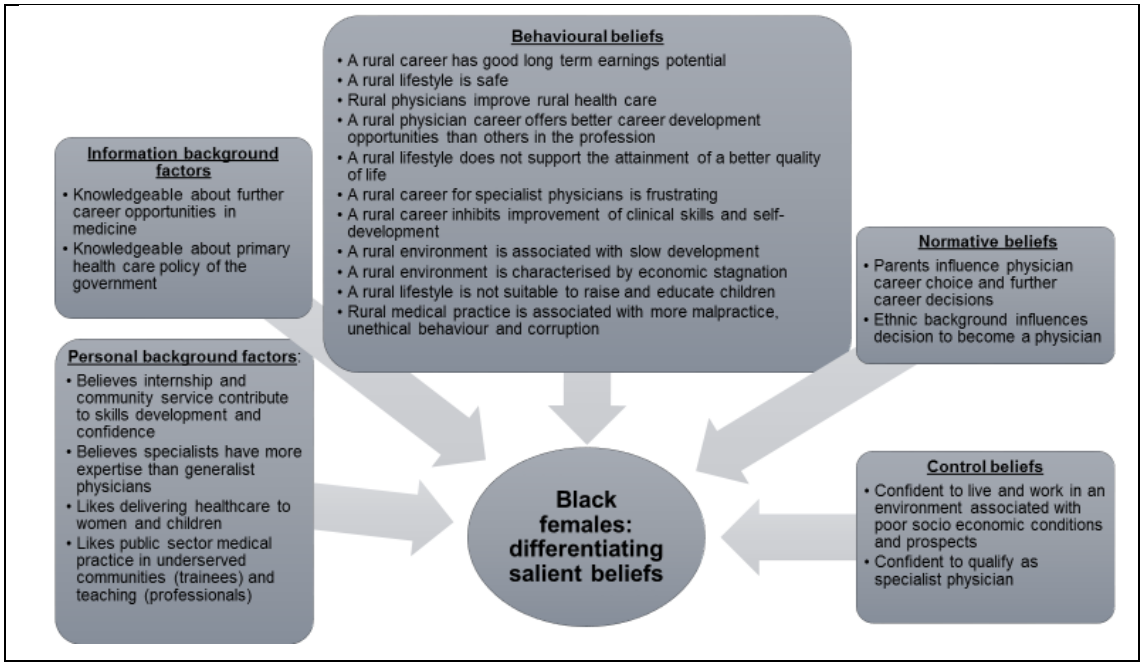

Figure 59: Differentiating background factors and salient beliefs of white males in the research group

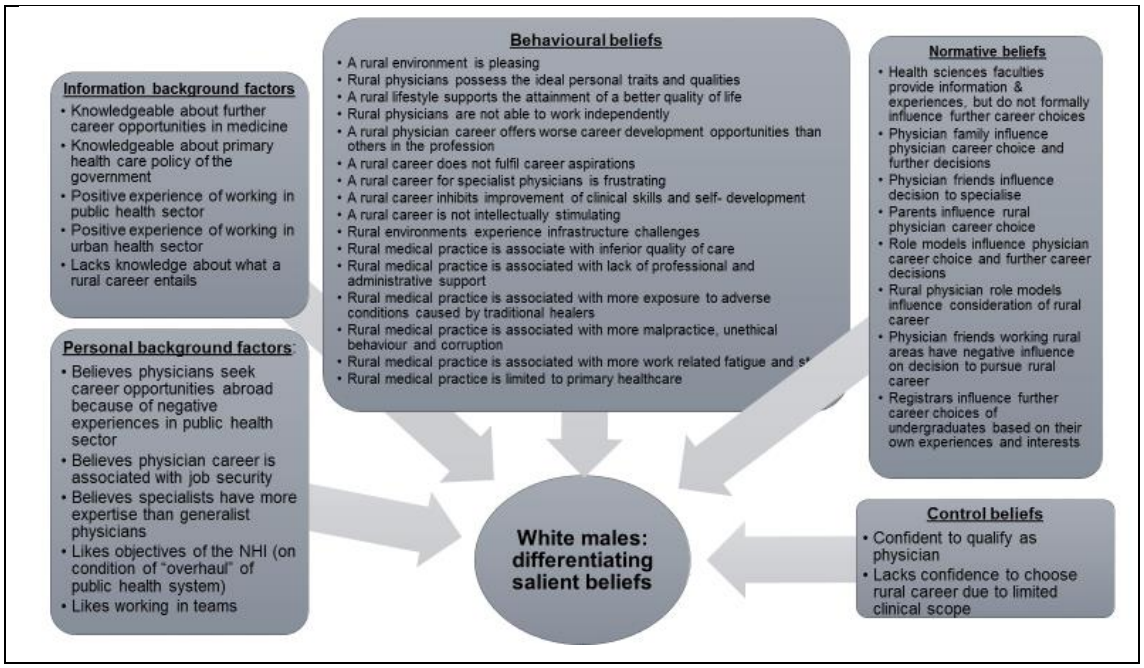

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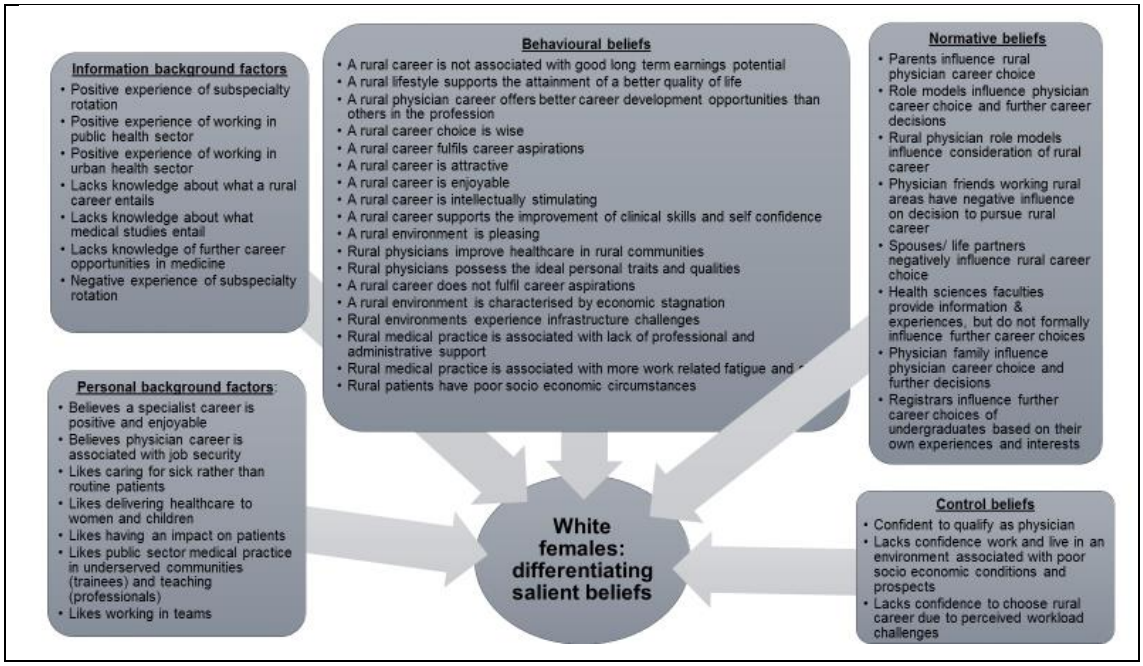
Figure 60: Differentiating background factors and salient beliefs of white females in the research group



The next section responds to the research objectives of whether the TPB can be employed in qualitative research.

6.2.5 Application of the TPB using qualitative research methodology

The majority of research conducted to test the TPB in various settings use quantitative studies (Ajzen, 2014b). When formulating the purpose and research objectives of this study, the researcher felt that the variables of an extended version of the TPB served as a valuable framework to investigate the topic at hand and expanding the TPB as a career decision making theory, however due to the need to test complex factors that influence career decisions by physicians, particularly to work in a rural area, she opted to employ a qualitative research method because it allows for the addition of more diverse research than that of strictly quantitative methods (Ambert, Adler, Adler & Detzner, 1995:881). This approach assisted the researcher to gain a deeper understanding of background, foundational and additional variables of the TPB which are unique and specific to a South African context as far as career intentions of physicians are concerned.

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To respond to the research objective of whether the TPB can be employed in a qualitative research methodology, the researcher is of the view that the TPB is indeed useful in this regard.

The researcher was able to interact with representatives of the target populations to strengthen her understanding of their experiences and intentions and clarify her own perceptions and interpretations of the contexts of the participants. The interaction with participants from the research groups also facilitated a deeper understanding and more informed analysis of the different interpretations, variations and associations that participants have regarding the core and additional constructs of the TPB. In addition, the researcher could gain a deeper understanding of the lives and experiences of participants which shaped their behavioural, normative and control beliefs as well as intentions to choose a career as rural physician.

Flowing from this study, the researcher is able to build on the qualitative research approaches and methodology applied by, among others, Dunn *et al*. (2008:331-334), Renzi and Klobas (2008), Zoellner *et al*. (2012:1774-1784) and Robertson, Mullan and Todd (2014:157-164) as she provided comprehensive descriptions of the qualitative data collection and data analysis methods used in the study. More specifically the researcher organised open codes which represent positive and/ or negative beliefs, that are used most frequently (i.e. assigned to participant responses), in descending order of "groundedness" to reflect the strength of the subjective value of these beliefs for each research group. This approach assisted the researcher to more accurately determine the subjective value, importance or associated benefits of the salient beliefs pertaining to TPB variables tested in the study. This specific approach operationalises the definitions of "groundedness" used by various authors as they apply in ATLAS.ti coding methodology (Alvira-Hammond, 2012; Archer, 2012:57; Friese, 2014:51). The researcher's proposal to introduce the "groundedness" concept of ATLAS.ti as a mechanism to establish the relative value and importance of background factors and behavioural, normative and control beliefs held by study participants seems to be a unique and new feature of qualitative investigation associated with TPB research to date.

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6.3 CONTRIBUTION OF THE RESEARCH

The main contribution this study in terms of expanding the existing body of knowledge in the broader career theory, public health and social psychology disciplines are discussed in this section.

6.3.1 Contribution of the study to career theory and management

The study tested the application of the TPB in a South African career management context. The TPB is not currently regarded as a predictor of career choice (Stead & Watson, 2006:94-109). The researcher is of the view that the TPB, used in a qualitative context, reflects the criteria listed by Stead and Watson (2006:13) to qualify as a career management theory, thereby expanding the body of knowledge in career psychology:

The TPB contains clear constructs and descriptions for its theoretical framework, thus assisting the user to understand “what happens”, i.e. what are the beliefs of target populations in a variety of contexts. When applied in a qualitative context, the TPB can also facilitate understanding of “why” something happens, thus contextualising the beliefs of target populations. In this regard, the researcher is of the view that the interaction with study participants as well as the evaluation of the relative value and importance of beliefs and background factors assisted her to gain insights into the “why” of these beliefs and factors.

Secondly, Stead and Watson (2006:14) state that many career theories are limited in terms of the base on which these theories have been developed, i.e. they are often based on “Westernised middle class” samples. The researcher believes that the analysis and findings of this study pertaining to whether background factors of the TPB, including demographic variables, account for differences in the prediction of career choices as far as choosing a rural physician career is concerned, could contribute to a better understanding of the factors that influence career decision making for a wide variety of demographic variables. Although the study is inconclusive on all possible variables that could be considered, it lays the foundation for future research in this regard.

A third contribution of this study in terms of expanding the body of knowledge in career theory, is that the researcher offered a viable method to test TPB constructs for the

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purposes of career theory development by means of a “grounded” qualitative research method, i.e. using ATLAS.ti’ s groundedness concept as a mechanism to determine relative value of the constructs to the target populations.

6.3.2 Contribution of the study to health management

The researcher highlighted the fact that rural areas, not only in South Africa, but internationally experience challenges to attract and retain physicians for a variety of reasons. Various studies have examined career choice as a rural physician (refer Section 2.2.4), however it has been difficult to generalise from these studies because they have not utilised a theoretical framework. The researcher is of the view that the constructs of the TPB in its extended form contributed greatly to the identification of salient beliefs and background factors that enhance understanding of the factors that influence the choice of a rural physician career for a wide variety of populations such as undergraduate students, general and specialist physicians, physicians from different races, genders, backgrounds, origin, marital status and the like.

Judging from the voluminous amount of published literature and media reports regarding challenges pertaining to health human resources and the public health system in South Africa, the researcher is of the view that the chosen topic of the study is highly politicised and emotional. The use of a theoretical framework such as the TPB contributed to the exploration of the topic at hand in an unemotional and argumentative manner, thus considering diverse and opposing views throughout the study. The researcher is of the view that she would not have conducted the data analysis process in a balanced manner in the absence of a theoretical framework such as the TPB.

Thirdly, the researcher believes the study outcomes are useful to influence and give direction to the nature of career counselling to be given to undergraduate medical students whilst still at university to prepare them better for the world of work and clarify their expectations of medical practice in various settings, including rural practice. The comprehensive set of behavioural beliefs that are associated with the outcomes of a rural physician career provides a useful platform to inform and/ or prepare students about the positive and negative aspects pertaining to rural environments, rural lifestyles, rural health working environment and rural physician career development.

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6.3.3 Contribution of the study to the TPB

The findings generated by this study suggest that testing predictions of behaviour using TPB constructs by means of qualitative research may be useful to generate practical frameworks that could create better understanding of beliefs and behaviour as well as inform interventions aimed at influencing or changing behaviour. The researcher is of the opinion that testing the TPB through a qualitative research method enhanced the body of knowledge in the application of the TPB as well as contributed to the further refinement of research methodology to record TPB research.

The researcher furthermore believes that the addition of extended variables such as moral obligation, past behaviour and identification with behaviour add value to the TPB and should be included in career decision-making research as they have demonstrated use in predicting intentions in this particular study.

6.4 STRENGHTS AND LIMITATIONS OF THE RESEARCH

The researcher regards the following aspects to represent the particular strengths of this study:

- The relatively large and diverse group of participants in the professionally qualified research group allows for generalisability as these participants were more reflective of the South African physician population and they obtained their undergraduate qualifications at various health sciences faculties across the country, thereby limiting the influence of institutional culture that may have been be present with the professionals in training group.
- During the data collection process, the researcher personally facilitated the focus group sessions or interviewed participants face to face and she dedicated sufficient time to explain the purpose of the study and to establish rapport with the participants at the beginning of the sessions. This approach resulted in the collection of a significant amount of data that met the criteria proposed by Guba and Lincoln (1989) regarding judging the soundness of qualitative research, i.e. credibility, transferability, dependability and confirmability.
- The researcher's interaction with the students was pleasant and they conducted themselves professionally and ethically. Their contributions were constructive,

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although they were not shy to share their feelings about issues that frustrate or excite them. The students were generally supportive of each other in the discussions. In general, the researcher found that all participants showed a genuine interest in the study which enhanced the quality of data collected and subsequent analysis thereof.

- Using the TPB to test career decision-making that favours rural medical practice assisted the researcher to present her research results in an objective and unemotional manner as the approach to use “bipolar adjectives” (i.e. reflecting positive and negative end points in formulating open codes) obliged her to continuously search for positive and negative outcomes in a research topic that is generally associated with negative or controversial outcomes judging from the literature review process.

Whilst this study provides significant input into the body of knowledge regarding career decision making of South African physicians that favours rural medical practice as well as using the TPB in a qualitative research context, the researcher identified the following limitations:

- As detailed in Section 3.5, the researcher experienced many challenges to access target groups for the purposes of data collection. This caused particular challenges to ensure that the research group for professionals in training were sufficiently representative in terms of race and gender profile. The voluntary participation of students in the data collection process resulted in an eventual population that included a relatively high number of white females, thereby limiting the generalisability and “groundedness” of findings related to this group.
- The venues and timeslots for data collection sessions were not always optimal. Many of the sessions were interrupted by colleagues or patients of the registrars, telephone calls, etc. however, the researcher was willing to allow these interruptions as she wanted to make optimal use of the interaction with the participants, even if their time and attention was limited. It was found that the participants generally remained focused on the topic at hand and managed to multi task, despite being interrupted.
- The contribution made by the registrars during the data collection process is significantly more detailed and voluminous compared to the input of the professionals in training group. This is mainly the result of the fact that undergraduate students only

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contributed by means of focus groups, whilst registrars were interviewed either individually or participated in small focus groups thus allowing more opportunity for contributions by this group.

- Whilst the researcher made use of an interview and focus group outline during the data collection stage (refer Table 19) to ensure consistency in data collection, yet allow interviews and focus group sessions to develop their own soundness, the researcher excluded some of the questions towards the latter part of interactions with professionally qualified participants. This was either due to time limitations because the participant was only available for a short period of time or due to her perception that data saturation has been achieved. Data saturation refers to the stage in the data collection process where the researcher is not able to find new information that contributes significantly to the development of the concept that is being researched (Glaser & Strauss, 1967 in Francis, Johnston, Robertson, Glidewell, Entwistle, Eccles & Grimshaw, 2009). During the data analysis stage, she realised that a few themes such as the impact of demographics on control beliefs, would have benefitted from further exploration or clarification of responses, thus suggesting it may have been worthwhile to have applied a less flexible approach in this regard.
- The researcher found that participants from both research groups had various interpretations and associations with the term “rural” which may have impacted on their salient beliefs pertaining to living and working in a rural environment. The challenge of defining “rural” in a universal context makes comparisons difficult as also pointed out by Van Wyk *et al*. (2010).
- The analysis of vast volume of data generated in this study may have benefitted from a team coding approach in order to widen the analytic interpretation and utility of codes for different constructs of the TPB. Although the researcher followed a rigorous process to ensure that codes are categorised and allocated to all relevant TPB variables, some may have been omitted inadvertently. A team coding approach may have expanded the analysis “net” and provided a “reality check for each other” (Saldaña, 2012:35).
- As with all TPB research, the outcomes of beliefs that reflect a high likelihood of a rural career choice cannot fully anticipate the decisions eventually made by study participants. The researcher will only be able to ascertain what career choices

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participants eventually made, if they are tracked and followed over a long period of time.

The next section proposes areas for future research emanating from this study.

6.5 RECOMMENDATIONS FOR FUTURE RESEARCH

The findings of this study were encouraging and introduced novel themes and methodology in research pertaining to rural career choices and using the TPB in qualitative research, however ongoing research in this regard is suggested. In addition, the researcher identified additional areas of research in the career management, public health and TPB domains. These recommendations are discussed in this section.

With regard to proposed further research areas in *career management*, the researcher identified the following possible themes:

- Merging SCCT and TPB and create a new career decision making theory: it is the researcher's view that based on available literature, the TPB which was developed by Icek Ajzen (Ajzen, 1991:179), could be incorporated into or deemed as an extension to the broader scope of SCCT (SCCT) as discussed in Section 2.3.2.4 of this study. Lent and Brown (2006:29) refer to the principles of the TPB in a discussion on conceptualising and assessing social cognitive constructs in career research which may indicate the possibility of extending the SCCT to also include TPB constructs in vocational decision making models;
- Expanding the boundaries of the "career" concept. Stead and Watson (2006:181) discusses the "indigenisation" of careers and vocational psychology in a South African context. This study explored, among others, the potential impact of demographic and background aspects related to the target populations of the study on their career decisions, however the researcher is of the view that more research is required to formulate theories and design interventions that are relevant in a South African and developing country context; and
- Career decision making for underprivileged people is a theme that deserves further investigation. In the context of this study, the researcher could not locate any South African studies that investigated the impact of social standing and financial strength on access into medical school and career decision making in this regard, however is

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of the view that a privileged upbringing is likely to facilitate a platform for academic excellence due to the support and stimulation received in childhood years as well as access to established networks that support entry into educational institutions and workplaces.

With specific regard to *medical career decision* making, including choosing a career as rural physician, the researcher identified the following themes for further investigation:

- Comprehensively describing and unpacking what a medical career may entail. During the data analysis process, the researcher found it challenging to distinguish whether a career in medicine is narrowly defined by being a physician as such or whether it reflects the path that a physician could potentially follow throughout his lifetime in terms of choosing different types of medical practices or specialties, the workplaces of a physician, the areas of focus or contribution of a physician, the personal circumstances of a physician, and the like. The researcher accessed a wealth of information regarding academic and other requirements to be selected for medical training, however the majority of career guiding information that she found seems to present a romantic or "idealistic" picture of a physician career, with incoherent information on the wide variety of career options in the field, including rural medical practice.
- Another area for further research may include investigating and comparing rural and urban physician careers. The differences between a temporary placement in a rural environment (for example to meet bursary obligations and compulsory community service requirements) versus working in a rural environment for a lifetime (for example physicians who were recruited from rural areas and trained in Cuba with a specific planned placement in rural areas, or those physicians who choose rural medical practice as a result of normal career decision making processes within their own control) deserves further investigation and description in order to inform educational interventions and government policies in this regard.
- The impact of the forthcoming NHI and sections 36 to 40 of the National Health Act (South Africa, 2004) which contain provisions that intend to regulate the location of medical practices, among others, deserve special attention in terms of career planning. The researcher could not locate peer reviewed research that explored the

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current perceptions of South African medical students regarding their future career prospects, particularly with imminent changes due to the planned implementation of the NHI system. This area calls for further investigation.

- Although the researcher established that students from the University of Pretoria had some exposure and information about medical practice in rural environments, there were enough evidence to suggest that not all students had access to the same amount of information or opportunities in this regard at the time the researcher collected data for this study. Couper *et al*. (2007:1082-1086) also found that the undergraduate training and education of medical professionals do not support rural career choices in general. Throughout the data collection process, the researcher found that participants in the study implied that a reasonable number of lecturers at health sciences faculties promote the idea of further specialisation in an urban private sector health environment, however it is deemed as somewhat of an unspoken matter. This belief, which was clarified by one of the professionally qualified participants, suggested that the specialisation focus of the United States and Europe influences local medical training and many health sciences lecturers are strong proponents of specialisation. In light of current debates in South Africa pertaining to whether university curricula sufficiently address matters that are relevant to the country and the African content versus European or American contexts, the researcher is of the view that this aspect deserves further investigation.
- The impact of employment equity practices on medical career decision making deserves more attention. The researcher found that the large majority of professionals in training in her sample intend to specialise, rather than practicing medicine in a general practice upon completion of the compulsory community service period. Many of these professionals in training, who are mostly white and female, seem to have enjoyed their experience in a rural setting and are very positive in general about rural practice however stated outright that they do not intend working in rural areas because they wish to specialise. Du Plessis and Andronikou (2007:18-23) postulate that the high demand for specialisation is an international trend and locally there is strong competition for limited registrar posts, implying that many physicians who wish to specialise may not be selected for specialty programmes. The researcher observed that entry into registrarships are becoming challenging for white candidates, particularly because of employment equity requirements by

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provincial governments who employ registrars and are thus leading the appointment and selection processes in this regard. This gives rise to the question whether more young physicians, particularly white candidates, may choose rural practice as an alternative career option, rather than emigration, because they believe their chances of securing employment are higher and the opportunities of career development to prepare them for careers elsewhere in the world increase with rural exposure.

- Although the researcher did not give specific attention to the plans of the Department of Health (2011c:123) to address access to health professionals in rural areas by the recent introduction of mid-level health workers such as clinical associates, she is of the view that in the long run this approach may pose challenges for the quality and level of health care available to rural patients, especially if clinical associates are no longer available for rural placements alone but pursue their own career aspirations and desire for higher income by taking up positions in management and administration of healthcare. This matter deserves further investigation.
- The researcher established that moral obligation as an extended variable of the TPB influences intentions to perform a certain behaviour among physicians, noting that moral norm considers the ethical aspects associated with health professional behaviour. The researcher feels that the context of moral obligation as it impacts on career decision making in settings outside of Westernised environments, requires deeper investigation.
- It should be noted that the researcher did not specifically pursue the area of intentions to stay in South Africa or pursue a career abroad as the topic falls outside the scope of this research project, however, it could be an area for further exploration in future.

As far as further research possibilities for the *TPB* is concerned, the researcher identified the following areas:

- For the purposes of this study, the researcher limited the analysis of collected data in terms of background factors, however, future studies may be expanded to explore the effect of emotions, personality traits, value systems, intelligence, media exposure, including the impact of social media within the context of the TPB as a career decision-making model.

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- The researcher tried to assess the impact of a “privileged upbringing” in a career decision making context, however limited information lead to a decision that this is an area for further and deeper investigation. Social class, complicated by racial categories reflecting South Africa's history, was thus not tested in this study, but the findings in this particular study pertaining to whether demographic variables account for differences in career intentions, suggest significant avenues for future research.
- The “typical” characteristics of a rural physician, including an optimal personality profile may be investigated in future. Personality is a key background factor of the TPB and may influence the self-efficacy beliefs of an individual. The researcher suspects there may be a link if TPB is used to predict career choice. In an attempt to build on the work of Mount, Barrick, Scullen and Rounds (2005:447-478) and Woods, Lievens, De Fruyt and Wille (2013:S7-S25), the researcher recorded her impressions of the participants based on their behaviour and contribution to the discussions. She considered using the input to enhance the analysis of responses, particularly to enhance background factors that impact on intentions or decisions to choose a rural physician career, however, decided to exclude the input in the data analysis phase as this may have brought too much biased views into the eventual results.
- Overall the researcher established that prior rural exposure and experience, physician friends working in rural facilities and to a lesser extent race and gender profiles seem to have a stronger impact on accounting for differences between different groups than other demographic variables that were tested. The researcher also observed variances in the strength of normative and control beliefs between various race and gender groups as discussed in this study, however feel that these findings, warrant much deeper investigation in future research studies.
- The researcher established that physician role models have a strong influence in shaping the beliefs of young physicians. She observed that registrars, who supervise and guide undergraduate medical students, often interact with them socially as well, and share their stories which are often negative and which may further enhance negative beliefs about rural careers. In this regard, the researcher is of the view that the impact of “negative campaigning” important influencers (described by David, 2009:4), deserves further investigation, particularly to understand how salient beliefs are formed around those stories.

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- The researcher's proposal to introduce the "groundedness" concept of ATLAS.ti as a mechanism to establish the relative value and importance of background factors and behavioural, normative and control beliefs held by study participants seems to be a unique and new feature of qualitative investigation associated with TPB research to date. The researcher's methodology to organise open codes which represent positive and/ or negative beliefs and that are used most frequently (i.e. assigned to participant respon ses), in descending order of "groundedness" to reflect the strength of the subjective value of these beliefs, deserve further testing in other contexts to refine the methodology in future.

6.6 FINAL CONCLUSION

This research study tested the application of the TPB in a South African career decision making context and it introduced a qualitative research design for TPB studies. The researcher tested the capacity of an extended version of the TPB to account for intentions to choose a career as a rural physician in the South African public service amongst two research groups, namely final year medical students of the University of Pretoria and registrars who are specialising further through postgraduate medical studies at the University of Pretoria.

The findings of the study confirmed that it is possible to use the TPB in a qualitative context, however the development of such methodology is ongoing. In addition, the development of the theory to connect background factors and core variables of the TPB also deserves ongoing investigation. The study contributes to expand the body of knowledge in career theory, health management and the utilisation of the TPB in more contexts.

"*After climbing a great hill, one only finds that there are many more hills to climb. I have taken a moment here to rest, to steal a view of the glorious vista that surrounds me, to look back on the distance I have come. But I can rest only for a moment, for with freedom comes responsibilities, and I dare not linger, for my long walk is not yet ended*." (Nelson Mandela, 1995).

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APPENDIX A

Information leaflet and informed consent

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Faculty of Economic and

Management Sciences

Department of Human Resources

PARTICIPANT INFORMATION LEAFLET AND INFORMED CONSENT FOR PARTICIPATION IN A NON-CLINICAL ACADEMIC RESEARCH STUDY

Department of Human Resources Management

Title of the study:

THE APPLICABILITY OF THE THEORY OF PLANNED BEHAVIOUR TO CHOOSING A CAREER AS A RURAL PHYSICIAN IN SOUTH AFRICA

Dear Participant

1. INTRODUCTION

You are hereby invited to participate in a non-clinical academic research study conducted by Elsje Greyling, a Doctoral student from the Department Human Resources Management at the University of Pretoria. This information leaflet will assist you to decide if you wish to participate in such study. Before you agree to take part you should fully understand what is involved. Should you have any questions that are not fully explained

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in this leaflet, please do not hesitate to ask the investigator, Ms Greyling to provide further clarity.

2. THE NATURE AND PURPOSE OF THIS STUDY

The purpose of the study is to test the Theory of Planned Behaviour (TPB), to account for career intentions by final year undergraduate medical students as well as registrars who are already qualified medical doctors, but chose to specialise further, to choose a career as a rural medical practitioner in South Africa.

The TPB is a social psychology theory and explains the link between a person's attitude towards certain behaviour or action and his/ her eventual implementation of such behaviour or action. It has been applied in various fields and discipline, including medicine, and found to be an effective predictor of behaviour. In this study the TPB will be tested to account for career decision making that favours rural medical practice.

You, as a participant, are a very important source of information on the factors that influence the decisions of medical doctors to practice in a rural hospital and what your attitudes towards such career would be.

3. EXPLANATION OF PROCEDURES TO BE FOLLOWED

This study involves the selection and invitation of participants who represent the diversity of current final year medical students and registrars at the Faculty of Health Sciences of the University of Pretoria/ Steve Biko Academic Hospital in terms of race, gender and hometown to participate in one focus group discussion to be facilitated by Ms Greyling.

The discussions will be audio recorded and ± 10 students/ registrars are expected to participate in one session.

During the focus group session, participants will be asked to share their views, opinions and experiences on the following matters, among others:

- Exploring the concept of "rural medical practice";
- Perceived and real positive and negative outcomes of practicing medicine in a rural hospital in the public service.
- Impact of health policy towards choosing a career in rural medial practice;

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- Attitudes towards urban and rural work;
- Perceptions about rural people and their needs;
- Attitudes towards working with traditional healers;
- Rural and community connection;
- Values associated with medical practice and rural practice in particular;
- Influence of role models to practice in rural/ urban areas;
- Career guidance experience;
- Exposure to rural practice;
- Financial aspirations;
- Family needs and availability of a support teams;
- Impact of relationships on career decisions;
- Workload issues;
- Physical environment issues;
- Workplace health risk issues;
- Autonomy of decision making in the work environment;
- Available technology, including communication tools in the work place;
- Availability of training opportunities in the work place;
- Impact of corruption and unethical behaviour in the workplace;
- Competencies of rural doctors vs. urban doctors; and
- Working in multi-disciplinary teams.

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In addition, the chosen respondents will be requested to supply the following information to enable Ms Greyling to ascertain their demographic characteristics (please refer Appendix B for the form to be completed):

- Race and gender;
- Age;
- Origin (country and city/ town/ village);
- Home language;
- Marital status;
- Dependant family (children, parents, other);
- Previous work experience in the public health sector and rural hospitals;
- Family or friends working in the profession;
- Indication whether you are undergraduate or post graduate students and area of study/ specialisation.

4. RISK AND DISCOMFORT INVOLVED

There are no risks in participating in this study.

Some of the questions may make you feel uncomfortable; however, you need not answer them if you do not wish to do so.

The focus group discussion will take no more than 90 minutes of your time and will be arranged at a site and time that is convenient for you and other students/ registrars who will join you in the session.

5. POSSIBLE BENEFITS OF THIS STUDY

Although you will not benefit directly from the study, the results of the study could impact on the following:

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- Establishment of an informed policy framework for rural medical practice in South Africa and other African countries;
- Guidance regarding the type of career counselling to be given to undergraduate medical students whilst still at university to prepare them for the world of work and clarify expectations of medical practice in various settings, including rural practice;
- Assist to expand academic knowledge in terms of career decision making systems and application of the Theory of Planned Behaviour.

6. WHAT ARE YOUR RIGHTS AS A PARTICIPANT?

Your participation in this study is entirely voluntary. You can refuse to participate or stop at any time during the focus group discussion without giving any reason.

7. HAS THE STUDY RECEIVED ETHICAL APPROVAL?

This study has received written approval from the Research Ethics Committee of the Faculties of Health Sciences and Economic and Management Sciences at the University of Pretoria. Copies of the relevant approval letters are available if you wish to have one.

8. INFORMATION AND CONTACT PERSON

The contact person for the study is Mrs. E Greyling. Should you have any questions about the study, please contact her at cell nr. 078 460 8686 or e-mail: elsjegre@telkomsa.net. Alternatively, you may contact her supervisor, Prof Hein E. Brand at e-mail: hein.brand@up.ac.za.

9. COMPENSATION

Your participation is voluntary. No compensation will be given for your participation.

10. CONFIDENTIALITY

All information that you give will be kept strictly confidential. Once we have analysed the information no one will be able to identify you. Research reports and articles in scientific journals will not include any information that may identify you.

11. CONSENT TO PARTICIPATE IN THIS STUDY

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I confirm that the person asking my consent to take part in this study has told me about nature, process, risks, discomforts and benefits of the study. I have also received, read and understood the above written information (Information Leaflet and Informed Consent) regarding the study. I am aware that the results of the study, including personal details, will be anonymously processed into research reports. I am participating willingly. I have had time to ask questions and have no objection to participate in the study. I understand that there is no penalty should I wish to discontinue with the study and my withdrawal will not have any negative consequences.

I have received a signed copy of this informed consent agreement.

Participant's name …….....(Please print)

Participant's signature: .....…… Date:.....

Investigator's name .....……...(Please print)

Investigator's signature .....…… Date:…….....

Witness's Name .....…….....(Please print)

Witness's signature .....… …….... Date:…….....

12. VERBAL INFORMED CONSENT

I, the undersigned, have read and have fully explained the participant information leaflet, which explains the nature, process, risks, discomforts and benefits of the study to the participant whom I have asked to participate in the study.

The participant indicates that s/he understands that the results of the study, including personal details regarding the focus group discussion will be anonymously processed into a research report. The participant indicates that s/he has had time to ask questions and has no objection to participate in the discussion. S/he understands that there is no penalty should s/he wish to discontinue with the study and his/her withdrawal will not affect him/ her negatively in any way. I hereby certify that the participant has agreed to participate in this study.

Participant's Name .....……...(Please print)

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Person seeking consent .....….....(Please print)

Signature .....…….....Date:.....

Witness's name .....…….…..(Please print)

Signature .....…… Date:.….....

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APPENDIX B

Self-administered questionnaire

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Dear Participant

Thank you for agreeing to participate in this research process and completing the informed consent form, which I received.

Thank you for taking the effort to complete this questionnaire and helping me to complete this part of my study.

PURPOSE OF THE QUESTIONNAIRE

This questionnaire is intended to obtain demographic from participants in the focus group discussions.

INSTRUCTIONS FOR THE COMPLETION OF THE QUESTIONNAIRE

Please answer all the questions as accurately and truthfully as you can.

Kindly note that your responses will be used **solely** to assist the researcher to differentiate between groups and categories of respondents and **not** to identify you in person.

Please supply the following information about yourself. Kindly place an **"X"** in the appropriate blocks or write the answer if there are no response options to choose from.

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Nr	Question	Response options				
1.	**What course are you currently enrolled for at the Health Sciences Faculty?**	6th Year Medical Student	Registrar ("Clinical Assistant")			
2.	**If you have selected "6th Year Medical Student" in question 1, please answer the following questions:**					
2a.	**Have you been exposed to working in a public rural hospital at any time during your undergraduate studies up to now?** (Please note: rural refers to geographical areas outside of major metropolitan areas, large cities and provincial capitals.)	Yes	No			
2b.	**Do you plan to specialise further in future?**	Yes	No	Not sure		
3.	**If you have selected "Registrar" in question 1, please answer the following questions:**					
3a.	**What is your area of specialty?**					
3b.	**Have you worked in a public rural hospital during your period of internship and/ or community service? ((Please note: rural refers to geographical areas outside of major metropolitan areas, large cities and provincial capitals.)**	Yes	No			
4.	**What gender are you?**	Male	Female			
5.	**What is your race? (Please note the race categories as listed in the Employment Equity Act, Act 55 of 1998 are used for purposes of this question).**	African	Indian	Coloured	White	Foreign National/ Other
6.	**How old are you?**					
7.	**In which town or city did you grow up during the majority of your school years? (Please also state country if not South Africa)**					
7a.	**Referring to the previous question, would you regard the town/ city where you grew up as rural or urban? (Please note: rural refers to geographical areas outside**	Rural	Urban			

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Nr	Question	Response options				
	of major metropolitan areas, large cities and provincial capitals.)					
8.	**Which language do you speak mostly at home?**					
9.	**What is your marital status?**	Married	Single	Co-habituating		
10.	**Do you have dependent children living with you?**	Yes	No			
11.	**Do you have dependent parents or other adults (apart from your spouse/ life partner) living with you?**	Yes	No			
12.	**Does any member of your close family currently work as a doctor in a public rural hospital in South Africa?**	Yes	No			
13.	**Do you have a friend that is currently practising in a public rural hospital in South Africa?**	Yes	No			
13a.	**Referring to the previous question, please indicate whether your friend:**	Is currently busy with internship/ compulsory community service	Is a medical practitioner in a rural hospital?	Not applicable		
14.	**Are you currently employed by a provincial department of Health?**	Yes	No			
14a.	**If you have selected "Yes" in the previous question, please indicate how many years have you been working for one or more provincial department/s of Health?**	Less than 1 year	1 to 3 years	3 to 5 years	Between 5 and 10 years	More than 10 years

PRIVACY

Kindly note: all information provided by you will be treated with utmost confidentiality and sensitivity.

Thank you!

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APPENDIX C

Researcher reflexivity:

excerpts from research journal

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Examples of mental models during data collection

Reflection	Excerpt from research journal
The researcher's impressions of the interviews and participants.	[11 April 2013] *These people are highly intelligent and dedicated to their cause - which is sometimes quite intimidating. My feeling on all the girls [registrars] was that they are gentle, not driven by money, caring and in this field for the right reason.*
	[12 December 2012] *I did the interview in the doctor's rest room at the labour ward at Steve Biko Academic in Pretoria. It was small room with no windows and a noisy aircon. You will hear people coming in and out of the room which was quite annoying. The doctors were all on call at the time of the interview, so I knew that the session could stop quite abruptly – Dr X even had to leave at some stage because her patient was in labour and bleeding heavily. She did not come back. The participants were very engaged in the interview and got quite emotional at some stages, however I thought their contributions were honest and reflected real experiences. They were interested to know what will happen with the process and where it will be leading to. Golly - their working circumstances are very tough!*
The researcher's reflection on how she conducted the data collection process	[16 May 2016] *I am very sensitive for body language and other signs of irritation or boredom and because I tend to be very "langdradig" [long-winded] in my explanations (unfortunately the result of years working in a public sector environment where I always had to explain something five times over before it was taken seriously or reacted upon), I sometimes cut a discussion short even though I could have explored it further. Especially if I see the participant gets irritated that we spend too much time on one topic*.

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Mental models during data coding, analysis and interpretation

Reflection	Excerpt from research journal
The researcher experienced typical challenges associated with data coding, particularly coping with the sheer and complex amount of data which was overwhelming at times.	[15 August 2013] *I have nightmares of chucking all these codes in a big black cauldron – hoping to generate the magic potion as per Asterix and Obelix (since childhood my favourite cartoon characters).*
	[30 September 2013] *All TpB studies used to inform my areas of exploration were quantitative, so I find it difficult to convert the scales to quantitative statements and to analyse and interpret my results when comparing with the qualitative data.*
	[2 October 2013] *Whilst struggling to write my codes in my perception of TPB language I realise that I am just beginning to scratch the surface of this powerful model and that I know and understand so little as I try to make sense of the stuff. I realise that this is what I am supposed to learn along the PhD journey…. I always had preconceived ideas that I would test two opposites – students and registrars and that they would have different opinions on most things and that it would be fairly simple – how wrong was I – they are so similar yet so different and the differences le in the nuances – which I still to conceptualise and describe and figure out at this stage.*
	[14 November 2013] *It took me more than a month of struggling to come up with a useful and relevant coding list to realise that probably 80% of the beliefs and views and intentions of 6th years and registrars might be exactly the same, however the "soul" and meaningful contribution of my study will be to identify those few factors that are indeed different as this will be closer to the answer to the question I am trying to address – i.e. what kind of animal will choose a career as rural physician and why.*
Researcher's approach towards the "profiling" a rural physician	[23 October 2013] *I think I should also expand quite a bit in the career development chapter on creating the impression that this medical doctor that we so desperately need in the rural areas…without forcing him [to choose a rural career] through policy. These youngsters have plenty of career choices, because they are generally the brightest? I need to make this person "human" and not just a commodity as is currently the case.*
The researcher continuously refined the links between the literature review and data analysis phases of the research:	[18 October 2013] *People often ask me why I am doing this research as we already know what the answer is! I tell them that I am curious to understand how and why people make their career choices. I am curious to know if personality and other exposure (context and whether good or bad) plays a role in making such a decision. How big is the role of perception, self-efficacy and controllability in deciding to choose a career as rural physician? I think my theme and angle is unusual and should give us more insights into the WHY of the career decisions of medical doctors*
	[23 October 2013] *More thoughts… (wow – I am on a roll!!) In the literature study I need to create a "day in the life of the rural doctor" to support my choices of codes to be explored in the study. Every code must be anchored to a piece of literature.*
	[20 November 2013] *In the back of my mind I am thinking about the research questions: can the TPB be applied using a qualitative research methodology? This question goes right against the developer of the theory's conclusions. He included qualitative portion to identify items for quantitative study, but does not seem to support a complete qualitative study which boggles me, because I think you can indeed. My argument (which I need to test further) is that if you can do a qualitative study with the social cognitive career theory (Lent, Hacket Brown – I think), you can probably do it with TPB. I must write something more in this regard in the career theory portion of the study.*

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Reflection	Excerpt from research journal
The researcher's reflections on the relationship between TPB variables and the open coding process:	[18 October 2013] *The kind of people I have interviewed in sessions 1 to 3 and coded up to now are all brilliant and could have chosen any career they wanted to. They obviously have perceived control over what they want to do as they had already chosen to specialise and seem pretty sure about where they are heading. They don't seem influenced by government policy to go and work in the rural and/ or public sector and even though some of them seem to believe that a rural career can be an enjoyable experience, their experiences of a potential rural career (under and post graduate) have all been horrible – mainly as a result of the poor health system management, governance issues and lack of professional support. It is a lost opportunity for government by not fixing the basic stuff and getting it right on the admin and support side. I suspect many of these doctors may have stayed on as they do exhibit positive attitudes and sometime perceived behavioural control, but the mountain (of hopelessness in the health system) chase them away even before they have considered staying longer.*
	[7 December 2013] *Government will have to deploy people to rural that they can control. These would typically be bursary holders, Cuban trained people, clinical associates. They would have to find a way to "control" specialists if they want to have flexibility to deploy them in rural. They would also need to educate various stakeholders about the quality and standard and competencies of these controlled health professionals. They have no choice but to fix the management and admin - no doctor, no matter how good or bad will be able to function in such a mess. The Zithulele of this world is an example of what can be achieved by people with positive attitudes, strong social norm, moral norm, perceived control and self-efficacy. It is not the "normal" based on feedback from the interviews".*
Using the "groundedness" concept of ATLAS.ti as a proxy to determine the subjective value of salient beliefs.	[15 October 2013] *Brain wave…the groundedness of a variable could probably be equated to the strength of the quantitative measurement in analysis of the results??? Explore this later… is it scientific or thumb suck?"*
The researcher's reflections on how to incorporate new government policy that did not exist at the time of generating the research questions, but which have an impact on the outcome of the research are shown in the next example	[2 October 2013] *I have been struggling with how to deal with the impact of the DCST policy on the relevance of studies for the last two years. Today (2/10/13) I realised that the title of my study is "physician" which includes specialists who could also choose a rural career. I included registrars as a unit of analysis initially because specialists hardly ever work in rural and this was confirmed by literature – it was anticipated that registrars will work in urban upon qualification. The DCST policy threw me a bit as suddenly there is a much bigger opportunity for specialists to work in rural districts. I thus included registrars who are specialising in DCST roles (paediatrician, family physician, etc.) in my sample to see if they are likely to work in rural and at this stage the results are unknown, but my gut feel, based on the interviews, is no – they are not likely to work there unless many conditions including management, governance, lifestyle stuff can be addressed for them. Also – they are likely to go there when they first qualify or when they are close to retirement. I suspect I did not fully explore the concept as I could have, but this is useful for future research."*
Throughout the research process, the	[22 October 2013] *"Career" is not about making a decision for something "permanent", so one might spend some time in rural as part of career development, but it is not necessarily the end. This concept should be described further - perhaps*

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Reflection	Excerpt from research journal
researcher tried to define and unpack key concepts to ensure that findings are interpreted against these concepts and previous literature. These examples demonstrate her reflections in this regard:	*in the sense of generational theory which suggests that today's kids don't see career as a lifetime thing where you work for one company your whole life. This aspect is relevant for rural practice as kids may see it as a stepping stone towards bigger things. It may be worthwhile to create a "subjective norm" in the form of policy that requires doctors to have worked in rural/ primary care for at least 3 to 5 years before they may be considered for clinical management positions or private doctors who contract for public work (they should show that they are serious about serving the community and not just wanting to make money out of vulnerable people). This will create more focused career paths for career GP's and even specialists who want to do DCST work. (Whether this is practical…. I don't know what the current requirements are – need to check on AHP's website if I can see anything about requirements for rural doctors). I might also have to look at selection criteria used to select current medical students and how this has changed from 10 years ago…*
	[16 October 2013] *I have searched the internet again to see if I can find stories of what it means to live in rural South Africa as I am grappling with the concept which is very diverse and too wide to define properly in my view. I am also more convinced that whatever is wrong in the township society is just so much more wrong in the remote rural environment, i.e. poor, helplessness, violence, non-service delivery, drugs, orphaned children, "vrot" education, fear, unsafe environment, rape, molestation, disability, people living with HIV, disrupted family units (i.e. dad and mom does not live together due to work), no food or the wrong food (not nutritious), pregnant teenage girls who prefer to spend money on cell phones rather than children and leave them with others, suicide, no hope, political instability, dirt and mess. AND I ASK MYSELF – WHO WOULD WANT TO GO AN WORK AND HAVE A CAREER IN AN ENVIRONMENT LIKE THAT, ESPECIALLY AFTER STUDYING FOR SO MANY YEARS, MAKING SO MANY SACRIFICES AND WITH NO PROSPECTS OF PROGRESS. I then think that perhaps there are youngsters who see it as a challenge, but they will definitely run after having comm service in a non/ dysfunctional hospital in a rural environment which then adds to the above list. "*
The researcher engaged in comparing the various categories of axial and open codes and conceptualised how they should be ordered on a continuous basis during data analysis and writing up the results. The development of the results involved several rounds of "sorting" which enabled generating and enhancing theoretical links and combining categories on a	[30 October 2013] *"Something else that came to my mind with the interview with RS5 WM1 – what impact does exhaustion / "gatvol" factor have on decision making process. I would classify it as a personal or information background factor (not sure why/ how yet), but this is very relevant for final year students and registrars who are under enormous pressure and cannot think straight. Does this have an impact on their decision to practice in rural/ specialise/ etc. I am thinking that Prof Ajzen will probably have a coronary about my reasoning which is completely unscientific and purely based on "touchy feely" stuff. But I think I am right – often in recent times if my child did not sleep well at night I am a terrible person and not able to think straight let alone make important decisions. I often take decisions on emotion (at the time) and nothing else. I don't think I am crazy – just a normal person. I am wondering if my subjects are more rational – the 6th years struck me as emotional and immature still. Some of the registrars also... however most of them have experienced life a bit, so are more mature and realistic. However – still – if they are angry about something that happened in the public hospital that could have been managed better – does that influence them for the rest of their lives or do they bounce back with can do attitude (just to fall again and again and eventually lose hope and run?*
	[31 October 2013] *Emerging theme: coding the registrar interview with pathology registrars made me think about the "cross pollination" that is taking place with registrars that have studied at other medical schools as undergrads and their collective experiences on the current registrars and lower levels in the food chain. I am not sure whether this has anything to do with my topic, but I have included a code "registrar stories" and perhaps it is significant as they seemingly have a strong*

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Reflection	Excerpt from research journal
continuous basis.	*influence on the undergrads and even more so the interns and community service doctors as to what they what to do with their medical degrees.* *Another emerging theme: I am seeing more and more negative reporting about social issues which have a HUGE impact on what healthcare can be offered. The teenage pregnancy thing is something we have known about for a long time, but choose to turn the other way. It is actually costing our health system a fortune because abortions or complications of abortions place a burden on the system. I would assume that rural doctors would have to deal with this even more than urban doctors (check stats of abortions per province). These kinds of social issues are not listed in the "rural attraction and retention" type literature that I have seen so far. The literature is rather more "romantic" about working in a rural area – it is beautiful – you have exposure to interesting cases – you are respected by the community. I suspect this may be true for many rural areas, but also problematic for many other rural areas. TO BE DISCUSSED IN MY RESULTS"*

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Mental models during findings and recommendations

Reflection	Excerpt from research journal
The following excerpts reflect the researcher's thoughts and insights towards the conclusion of the study and continuous focus to refrain from detracting to responding to the research questions.	[9 December 2013] *Major milestone achieved – I have completed the extraction of reports I wish to use for presentation of results and findings from Atlas – it is such an anti-climax that I am not sure what to do next ☺*
	[12 December 2013] *Whilst refining I realise that my axial codes for my attitude items are still too wide. I have decided to use themes as they come up under my axial coding and then I can possible move things around later on to create a more logical presentation*
	[23 January 2014] *I am also struggling with how best to present the sort of "general" physician outcomes as a background to the specific rural beliefs. It could be in a single section – general stuff and explained that no matter what the setting, these beliefs will probably be applicable on physicians in general – even if they are in rural – these are actually background beliefs. I know I am going to struggle to split the background stuff from the rural career stuff…*
	[5 June 2014] *I think a key message that is coming through now that I am almost done with QA-íng the results – lots of people identify with a career as rural physician (due to moral norm) but very few intend to actually take up such career. The reasons are found in the 3 sets of beliefs – normative, control and outcomes and has mostly to do with health system issues. Most believe that they are free and have control over the decision to take up such career (at the moment) and does not feel pressurised by government of policy makers to do so. This may off course change if government starts controlling placement of practices – I need to list this as an issue, but not refocus. Also if government implement more stringent measures to get value for their financial investment in the development of physicians – this is already happening with Cuban trained doctors who are obliged to go back to rural areas where they were recruited from.*
	[13 February 2015] *Coming back to how this negativity relate to my studies: I realised that having conducted the research within the TPB framework forced me to look at both positive and negative sides of issues. I think I would had way more negative reporting if I did not work within a framework that is designed to investigate both coins.*
	[30 June 2014] *Another issue to COMMENT whether I am robust – I have to remind myself constantly what is that I am trying to achieve? Am I looking at factors influencing decisions to choose rural careers or am I using the theme to test an existing social psychology theory for utility as a career decision making theory in the first instance and secondly its application in the qualitative research arena.*

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Other reflections – life outside the PhD

Reflection	Excerpt from research journal
Daily life and impact on researcher's emotions and focus.	[7 December 2013] *A lot has happened in the last few days – I woke up with the news yesterday that Nelson Mandela passed away the previous evening (5 December) and what an emotionally loaded 24 hours it has been with tributes pouring in on every radio station and literally every TV station across the world dedicated tributes to the great man and father of our country. I literally broke down in the car yesterday and because I am so exhausted from working long hours I am off course very vulnerable at this stage and thus the tears were ready to roll.* *I feel much better this morning and have renewed energy to push through with this study – Nelson Mandela's passing reminded me again that* • *"It always seems impossible until it's done".* • *"A winner is a dreamer who never gives up"* • *"After climbing a great hill, one only finds that there are many more hills to climb. I have taken a moment here to rest, to steal a view of the glorious vista that surrounds me, to look back on the distance I have come. But I can rest only for a moment, for with freedom comes responsibilities, and I dare not linger, for my long walk is not yet ended."*
	[9 December 2013] *Elizabeth has tonsillitis again and we have just returned from the doctor's rooms with antibiotics and stuff again – I feel a bit frustrated because it she has not been 100% well the last 2 weeks or so and I had hoped I could home cure her – not so. Thus – we are anticipating a bad night again and I desperately need sleep and time to work on this document. Eish! Anyway – I am going to do my damnest to get the results transferred in the next few days and to prepare the journey and methodology chapters – even if in rough so that I can spend time after my leave on cleaning it all up. I am disappointed that I will probably not be where I had hoped to be by the holidays, but this is life and I HAVE TO PERSEVERE!! My children are NOT happy about not spending time with them in the holidays and it is just breaking my heart, making things even worse – this IS tough, no matter what people tell you….*
	[13 May 2014] *Shock, horror – my computer crashed on 11 April. I tried for 3 days to revive it. I have made regular back-ups, but still having to buy a new computer, set it up, and reload all my software packages, load all my backups and checking that all my referring information (Zotero) and analysis info (Atlas) transferred and updated correctly took me 2 weeks of otherwise productive time. I felt like there was death in my family – incredibly frustrated and threw off my course quite a bit.*
	[13 February 2015] *So much is happening in our SA lives – load-shedding started again in December after an absence of 6 years. I feel as though I have come full circle with this research which started when load shedding was with us in 2008. We have a complete breakdown of our democracy as is evident from the 2015 SONA circus in parliament last night. I don't know what to feel or think anymore, but I think I should finish this darn thing. It is however very difficult to focus on solutions and proposed changes knowing full well that our public sector and broader social system is more threatened than ever before.*