Factors that influence the transition from high school to higher education: a case of the JuniorTukkie programme

by

Petrus Johannes Phillipus Lombard (BSc, HED, BEd, MEd)

Submitted in fulfilment of the requirements for the degree

DOCTOR OF PHILOSOPHY

in the Department of Education Management and Policy Studies in the

Faculty of Education

at the

UNIVERSITY OF PRETORIA

Supervisor: Prof Chika Sehoole

May 2018

Declaration

"I declare that the thesis, which I hereby submit for the degree Doctor of Philosophy in the Department of Education Management and Policy Studies at the University of Pretoria, is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution."

.....

PJP Lombard

1 May 2018

Dedication

I dedicate this research to:

- All prospective students of higher education, whose transitioning from high school to higher education I aim to ease;
- My wife and children.

Acknowledgements

In reaching this academic milestone, I would like to express my sincere gratitude to the following people:

- My Lord, Jesus Christ, for His grace in leading me on this PhD journey, and granting me the privilege to manage the JuniorTukkie initiative, thereby effecting a positive change in young people's lives;
- Prof Chika Sehoole, my research supervisor, for his invaluable advice, guidance and inspiring motivation during challenging stages of this research;
- My late parents, for their unwavering support over the course of my academic career – regrettably, they are unable to experience my completion of this degree;
- My late father-in-law, for setting the example of earning his PhD before reaching the age of 60 years;
- Dr Karen Lazenby, my previous director at the University of Pretoria's Client Service Centre, for her financial support and motivation;
- Dr Pieter Clase, my friend and colleague, for always listening to me and motivating me during trying times;
- Martie Kilian, for her exceptional support in editing and finalising the layout of tables and figures;
- Jaco Wium, language editor, for final editing of this document;
- My JuniorTukkie participants, whose efforts in supporting this research are worthy of a special mention – their honesty and suggestions prompted me to improve the JuniorTukkie initiative and hence provide support for more South African learners;
- My family (wife Christa, and children Tanya, Corné and Hanno), for their vital support and patience throughout my academic pursuits.

Abstract

The study investigated the factors that influence new students' transition from high school to higher education. The research activities involved a case study of members of the JuniorTukkie Empowerment initiative (between 2009 and 2013). The study's main objective was to identify the factors (academic and non-academic) and attributes (such as family background, socio-ecnomics status, prior higher education experience skills, abilities, etc.) that enabled new students to transit successfully and complete their first-year courses in one academic year. Accurate identification of such factors will in future benefit the JuniorTukkie initiative, whose programmes are designed to facilitate successful transitions from high school to tertiary education for prospective students.

The study's theoretical framework prescribed the collection of quantitative (online questionnaire) and qualitative (focus-group interviews) data. The quantitative research phase involved 256 respondents, of which 47 members participated in the following qualitative research phase. A case study research design, focusing on the possible influential factors and students' attributes during the transitional stage, allowed the researcher to gain a comprehensive understanding of nearly all aspects of the JuniorTukkie initiative's programmes.

Almost all research participants had successfully completed their first-year studies in one year, securing the validity of obtained data. The findings revealed which factors significantly contributed to successful transitions and completion of first-year courses, and which factors were less influential.

This research revealed that the specific challenges associated with new students' transitional experiences from high school to higher education necessitate the strategic intervention of initiatives (such as JuniorTukkies), whose responsibility it will be to implement a variety of programmes to address all academic and non-academic transitional factors.

Keywords:

Access, transition, academic factors, non-academic factors, high school, higher education, qualitative assessment, quantitative assessment, combined approach.

Declaration by editor

This is to testify that I, JS Wium (B.A. Hons Linguistics, UP, and Certificate: Editing Practices), edited the following thesis paying close attention to all linguistic components of the original text. No edits were made to change the meaning of any sentences or passages written by the author.

Factors that influence the transition from high school to higher education: a case of the JuniorTukkie programme.

By Petrus Johannes Phillipus Lombard

Submitted in fulfilment of the requirements for the degree:
Philosophiae Doctor in the Department of Education Management and Policy

Studies in the Faculty of Education

University of Pretoria

Signed 
……

Date 2 MAY 2018
……

List of abbreviations

CAPS	Curriculum and Assessment Policy Statement
CIP	Career Interest Profile
DBE	Department: Basic Education
DHET	Department: Higher Education and Training
DoE	Department of Education
IE/EQ	Emotional intelligence
JT	JuniorTukkie
LectorSA	LectorSA reading development programme
NCS	National Curriculum Statement
NSFAS	National Student Financial Aid Scheme
OBE	Outcome-based education
PDP	Personal Development Programme
RNCS	Revised National Curriculum Statement
SACE	South African Council for Educators
UP	University of Pretoria

TABLE OF CONTENTS

List of figures

List of tables

CHAPTER 1: Introduction

1.1 Overview

The study investigates the factors (academic as well as non-academic) that account for a student's successful transition from high school to higher education. By incorporating the programmes that are included in the JuniorTukkie initiative at the University of Pretoria, the study is able to examine each factor's influence on the students' transitioning experiences.

The matter of low retention rates among students in higher education is a universal concern (Crosling, Heagney & Thomas, 2009). In South Africa, the annual dropout rate of students in South African institutions is 35% (Department: Higher Education and Training, 2013). Ndebele (as cited in Maree, 2015, p. 2) highlights students' inadequate achievement in higher education in South Africa: approximately 25% of students at residential universities graduate within the minimum time allowed, and only 35% of the total number of students enrolling in any given year obtain their degrees within five years. The Department of Higher Education and Training (DHET) lists in its White Paper report of 2013 these possible reasons for the inadequate success rate: insufficient student support, inadequate facilities and deficient student accommodation. These services do not currently meet the higher demands of higher education. Other contributing factors to poor performances by students include inequalities in our schooling system, inadequate funding, high student-staff ratios, and insufficient support for both academic and social adjustments to university life. School leavers generally tend to be unprepared for the demands of tertiary studies due to poor academic standards prevailing at school level. Although universities provide several kinds of intervention, the high dropout rate remains a major concern for South Africa's government and universities (Maree, 2015). Financial constraints often exclude students – even when they have obtained good marks – from further academic pursuits, exacerbating this dire situation (Steyn, Harris & Hartell, 2014; Strydom, Kuh & Mentz, 2010).

Most learning institutions, unfortunately, attempt to address this problem once students have already entered higher education. Only a few institutions intervene proactively by attending to this problem while prospective students are still

in high school (Bangser, 2008). During the apartheid era (pre-1994), South Africa's secondary- and higher education systems implemented a policy of separation amongst the different cultural groups that benefited only one minority group, hence establishing a situation of inequality in education. After the first democratic elections in 1994, those education systems implemented several policy changes. This required universities to employ innovative ways in helping students to successfully transition from high school to higher education (DHET, 2013b). Numerous reasons have been issued to explain why a relatively low Grade 12 pass rate of 74%, and a graduation rate of only 15% in higher education, were achieved in 2011 (DHET, 2013b). Although the Grade 12 pass rate has since increased to exceed 82% in 2016, a corresponding decrease in the dropout rate of higher education students has yet to manifest itself. Due to the concerns of the South African government and educating institutions in this matter, several research projects provided recommendations towards effective and successful retention of students in higher education. However, an integrated system of post-school education and training, with all the role players contributing to a coherent but differentiated whole, has become a necessity (DHET, 2013b). Higher education institutions need to accommodate the adjustments experienced by students who enter the realm of higher education.

Jansen (2008) states that there is considerable evidence that school preparation is inadequate in securing a successful transition from high school to higher education. Most students find the transition difficult, lacking the necessary skills and motivation to succeed in higher education. Coaching (intervention) programmes should target learners early in their high school careers, and inform them about higher education enrolment (Klasik, 2012). Despite the high dropout rates during the first academic year and the dearth of helpful information provided to high school learners, many students are still able to make a successful transition from high school to higher education. This study aimed to analyse the various factors that account for a successful transitioning experience. It used the JuniorTukkie initiative as a case study to investigate the phenomenon of a transition from high school to university.

1.1.1 The JuniorTukkie initiative

The JuniorTukkie (JT) initiative was launched in 2004 with the vision of developing academic achievers from disadvantaged backgrounds (regardless of whether they eventually applied to study at the University of Pretoria), and generically increasing the number of new first-year applicants from previously disadvantaged communities. The name is derived from "Tuks", which is an informal moniker of the University of Pretoria (UP). The JuniorTukkie initiative began when two school learners were sent to the National Aeronautics and Space Administration (NASA) Agency in Houston, Texas, and has grown to a membership of 7 000 learners in Southern Africa (Grade 10–12) in 2014. Since the beginning of 2016, Grade 9 learners are included in the JuniorTukkie initiative and assisted in their selection of career options for Grade 10.

On average, 60% of the JuniorTukkie learners become students at the University of Pretoria. Some learners do not proceed to study at UP owing to various factors, which include: exclusion from selection for their chosen courses (even when they qualify for selection); a preference to study closer to home; financial considerations; or being awarded attractive bursaries and scholarships from other institutions.

Preferred candidates for the JuniorTukkie initiative are identified in Grade 10. They have to maintain their academic standards to remain members of the programme, and they must re-register annually to update their personal information. The system is fair and transparent, and any learner can access the programme via the JuniorTukkie website or mobile application, where they can apply for membership and gain access to the JT magazine. In summary, the JuniorTukkie initiative adopts a holistic approach to empower and prepare prospective students for the challenges that await them in the tertiary environment – on academic, emotional and social levels.

The JuniorTukkie initiative prioritises the tasks of providing members with relevant information and streamlining the administrative processes to facilitate registration. Grade 10–12 learners benefit from several empowerment projects that aim to equip learners for a smooth transition to life at a university. These courses provide guidance regarding career options, emotional intelligence (Clarke, 2005;

Norton, 2010; Zepke & Leach, 2010), mathematical reasoning (Pasensie, 2012), computer skills, and reading and comprehension skills (including a free eye test and prescription glasses). These learners become eligible for bursaries once they register at the university.

University student members receive various kinds of assistance during the course of their study careers. External companies sponsor empowerment courses on campus for selected equity learners. The initiative also provides social activities designed to foster networking and relationship building (Carter, Swedeen & Kurkowski, 2008).

1.1.2 The JuniorTukkie Empowerment Programme

As an element of a UP initiative to recruit equity learners from disadvantaged communities, JuniorTukkie developed the Empowerment Programme for the recruitment of prospective students in Grade 11 within South Africa, as well as from Southern African Development Community (SADC) countries. Learners must obtain a minimum mark of 60% in English, Mathematics and Physical Science in their Grade 10 final examination to be considered for participation in the JT Empowerment Programme. To align this programme with the University's strategic vision the following specific objectives and expectations were formulated, to:

- generically increase the number of new first-year applicants from previously disadvantaged communities for studies in 2008 and beyond;
- give hope to learners from previously disadvantaged communities for a successful study and career future;
- ensure that quality students are empowered and attracted according to the strategic objectives of the University, i.e. "Attracting and retaining talented students, inter alia, through using both merit and potential as selection criteria, eliminating financial barriers preventing access by gifted students, and ensuring the quality of student life on campus";
- increase the reading speed of new first-year applicants for studies and beyond, based on the high correlation between reading speed and academic success;
- fulfil the need to disseminate general and specialised information on the University to all attendees;

- use the JuniorTukkie Empowerment Programme for Grade 11 learners as an opportunity to establish a long-term, client-centred approach in the recruitment process;
- embark on a holistic approach to develop and prepare prospective students for the challenges that await them in a tertiary environment on academic, emotional and social levels (Wood & Olivier, 2004).

As a research focus, I investigated the interventions implemented to support these learners in their transition from high school to higher education.

During 2009 to 2013, certain factors that influence successful transitions were researched and included in the JT programme for Grade 11 learners. This five-year project led to a higher success rate in learners' transitioning from high school to higher education. During this period, more than 73% of students managed to successfully transition from their high schools to the University of Pretoria, having also completed their first academic year successfully within one year. These factors can now be studied to assist the development of a "School-level Transition Model for Higher Education Intervention".

My participation in the JT Programme convinced me that the traditional method of student recruitment, when the university only tends to students' transition from high school when they start their first academic year, should be reviewed. For many students, it might be a case of "too little too late" in relation to the important attention and support that new first-year students really need. Thorough research of the possible factors influencing the phenomenon of a successful transition is, therefore, necessary to address the current shortcomings. South African as well as international learning institutions may benefit if these factors receive attention at the high school level, instead of at university only.

Additionally, this research will confirm whether the JT initiative is being successfully implemented at the University of Pretoria. The study findings may further suggest valuable improvements to the programme. The initiative initially focused on a small number of learners per year, due to high costs involved. The initiative has since expanded to include all South African provinces, based on our

substantial experience and success. The number of learners who could benefit from the programme, therefore, multiplies each year.

1.2 Orientation

Researchers differ in opinion regarding the kinds of intervention tailored for successful transitioning from high school to higher education. Higher education life entails hard work and perseverance, and requires various adjustments. The transition from high school to higher education is challenging, while academic as well as non-academic factors affect individual performances. Students need to acknowledge their own limitations and utilise their abilities to adapt and meet new demands. The JT initiative attempts to address any individual lack of such adaptive skills, in order to empower those participants to transition successfully from high school to higher education.

Tinto's longitudinal model of student departure (1993) provided a conceptual framework for this research. The information above serves as background to this research project's utilisation of Tinto's (1975) student integration model. This model suggested that a match between a) the academic abilities and motivations of students, and b) the social and academic qualities of an institution, would strengthen the academic and social integration of students into the university system. The model was adapted and used in the cases of JuniorTukkie students who have made successful transitions from high school to higher education.

While Tinto's model is popular and many researchers have cited his studies, some researchers like Braxton, Sullivan and Johnson (1997) provide evidence of its shortcomings. A high first-year dropout rate is a global phenomenon, and numerous studies have attempted to explain this issue's complexities and dilemmas in relation to major traditional theories and historical perspectives (Bean 1980; Bean & Metzner, 1985; Murray, 2014; Tinto, 1975; Tinto, 1993).

Researchers in the field of student retention such as Demetriou and Schmitz-Scibarski (2011) made use of Tinto's theory and acknowledge his contribution to current studies on student retention. Some theorists have "tested and validated" Tinto's (1975, 1993) theory of students' social and academic integration

into the tertiary environment (Rendón, Jalomo & Nora, 2000). Other theorists (Nora 1987; Pascarella & Terenzini, 2005; Terenzini & Reason, 2005) revisited and attempted to modify Tinto's model of students who drop out of higher education before the completion of their courses. Some researchers (Demetriou & Schmitz-Scibarski, 2011; Edwards & Minton, 2009; Rendón et al., 2000) assessed traditional theories as too limited in addressing diversities and higher education differences. As an alternative, they advocated the use of different approaches considering the complexities and the range of challenges involved.

Although most researchers who employed Tinto's model contributed to a higher retention rate of students, they focused exclusively on students already at higher education. Certain mechanisms need to be developed and implemented to decrease the high failure and dropout rates in higher education, and to increase the number of participants – particularly in the equity groups (Department of Education (DoE), 1997; DHET, 2012). These strategies embrace the view that intervention must happen at an early stage, instead of delaying action until students arrive at university (Jansen & Suhre, 2010; Nel, Troskie-de Bruin & Bitzer, 2009).

Researchers generally conduct their studies according to higher education perspectives (Bowles, Fischer, McPhail & Rosentreich, 2013; Goldrick-Rab, Carter & Wagner, 2017), proposing certain solutions designed to decrease the high dropout rates at the university level. Fewer researchers utilise any high school perspectives (Bangser, 2008). Not many researchers focused on combinations of factors either, resulting in a lack of evidence related to high school interventions, and a dearth of insights into possible combinations of factors that may stimulate the successful transition of students from high school to higher education.

1.3 Purpose (aim) of the study

The purpose of my research was to investigate the factors that influence the successful transition of students from high school to higher education. The study focused on the JuniorTukkie students who were members of the JT initiative (at UP and other universities) who managed to successfully transition from high school to higher education. A central strategy of the study was to measure the degrees of

transitional success of those students who participated in the JT initiative, particularly in their first year of study.

1.4 Research question

The primary research question is: What factors determine the successful transitions from high school to higher education of JuniorTukkie participants at the University of Pretoria?

1.5 Sub-questions

- What criteria are used to identify and select learners to participate in the JT programme?
- What attributes do learners bring to the programme that contribute to their success?
- What mechanisms are utilised to support these learners in their transitions from high school to higher education?
- What factors positively influence or account for a successful transition from high school to higher education in South Africa?

1.6 Concept clarification (definitions of terms)

To research the factors that may influence the successful transition from high school to higher education, the following concepts must first be clarified:

1.6.1 Successful transition

A successful transition from high school to higher education refers to the goal of high school reform to ensure that all students will be "college- and career ready", possessing the necessary skills related to English, mathematics, reading, writing, communications, teamwork, critical thinking, and problem solving. The concept of 'successful transition' involves learners who have passed Grade 12 at school with a Bachelors pass/university endorsement, hence meeting the requirements for entries to university courses, and who have registered for a degree or diploma programme (Department of Education, 2009b).

For the purpose of my study, successful transition from high school to higher education can be defined as a state where students possess adequate

academic knowledge as well as the non-academic skills to maintain a successful higher education career (Parker, Hogan, Eastabrook, Oke & Wood, 2006).

1.6.2 High school

The *American Heritage Dictionary of the English Language* (AHDEL) defines a high school as “a secondary school that usually includes Grades 9 or 10 through to 12” (2000), while the *Collins English Dictionary* (2003) refers to a high school as “a school attended after elementary school or junior high school, and consisting of Grade 9 or 10 through to12”.

For the purpose of my study, 'school' is described as the predominant learning environment where learners are afforded opportunities to develop their academic and social skills, conduct and understandings from early childhood to Grade 12 (Eccles & Roeser, as cited in Schall, Wallace & Chhuon, 2014, p. 463). Learners in South Africa attend high school (or secondary school) from Grade 8 to Grade 12.

1.6.3 Higher education

Higher education refers to post-school institutions that include traditional universities and universities of technology (DHET, 2013a). In South Africa, 'higher education' denotes the university (college) level of learning. Note that some literature sources refer to colleges, while others mention universities as representative of higher education.

For the purpose of my study, the term higher education refers to all post-school courses, training and research at educational institutions such as universities that are authorised as institutions of higher education by the state authorities. The institutions of higher learning (for tertiary education) offer courses designed to award successful students with certificates, diplomas, degrees and postgraduate qualifications (Haus, 2006).

1.6.4 Academic factors

Academic factors are factors “related to studies that are liberal or classical rather than technical or vocational, and relate to a student’s academic average which is

based on formal education" (AHDEL, 2000). Wormeli (2006) defines academic factors as those factors that are relevant to the grading of a student's learning practices and performances that reveal their mastering of course content. Therefore, academic factors indicate those factors that relate to a scholarly performance (a student's academic performance), intellectual prowess and an academic mindset.

1.6.5 Non-academic factors

"Non-academic factors comprise of all individual psychosocial factors that have a positive correlation with successful transition; these include academic discipline, academic self-confidence, social connection, general determination, communication skills, social activity, goal striving, study skills, commitment to college, and emotional control" (ACT, 2007, p. 2). Brookhart (2009) describe non-academic factors as factors that relate to student behaviours, work habits and general attitudes.

Non-academic factors which will be research in this study include financial factors, differences between first- and second-generation learners, culture shock, co-curricular experiences, emotional intelligence, life skills, time management, interpersonal relationships, computer literacy, social skills, and peer pressure

1.7 Paradigmatic perspective

Mertens (1998, p. 451) states that "a paradigm is a way of looking at the world which includes certain assumptions about the nature of ethics, reality, knowledge and systematic enquiries. It is composed of certain philosophical assumptions that guide direct thinking and action. Paradigms help to determine the particular questions that researchers ask about constructs." I used the explanatory mixed method design in my research, where the sequential research plan comprised a quantitative approach (online questionnaire) followed by a qualitative approach (focus group interviews) (Driscoll, Appiah-Yeboah, Salib & Rupert, 2007).

Although four generally recognised paradigms (worldviews) existed – post-positivism, constructivism, transformative and pragmatism – it is important to know that no evidence proves that all four paradigms function together, or that one paradigm is more appropriate than any other paradigm. Harris (as cited in Hall,

2012, p. 2) promotes the assumption that transformative and pragmatic views are compatible with mixed method research.

My research method avoided generalised descriptions of participants' perspectives, but instead described their own unique experiences (Terre Blanche & Durrheim, 1999). I endeavour to described and interpret participants' feelings and experiences in human terms, and not through quantification and measurement. Researchers who follow the mixed method tradition may arrive at answers to questions by extending the influence of the quantitative method, and following that up with the qualitative method. Throughout this research, I attempted to make sense of the meanings that the participants have offered, and I carefully evaluate their points of view, their experiences, and their understandings of their transitioning from high school to higher education.

Guba and Lincoln (1994) classify the differences between the research paradigms in terms of their respective ontologies, epistemologies and methodologies. It is in an ontological pursuit where I aimed to gain a comprehensive understanding of the ways that the participants collated their personal experiences, ideas and feelings during their transitional periods. I also considered their varieties of backgrounds and circumstances in the process.

In harnessing an epistemological approach, I attempted to grasp the various ways in which the participants arrived at their own knowledge and understanding of their experiences. I tried to achieve this through interacting and by paying close attention to their responses in the interviews. Importantly, I regarded the participants as individuals from different backgrounds during the interviews. Since the online questionnaire (quantitative approach) was expected to only partially describe and explain the factors that contribute to successful transitions, I thereafter conducted group interviews (qualitative approach) to gather more vital data for analysis and interpretation. I trust that this method will prove to be adequate in understanding why certain contributing factors were viewed as positive, and why others were deemed negative, in the students' transition from high school to higher education.

1.8 Research site and sampling

Quantitative data was first collected using a survey questionnaire and then processed to determine specific attributes that account for the success (or lack thereof) of students' transitions to higher education. The five-point Likert scale was utilised for this purpose. It was reduced to a four-point scale to increase clarity and data reliability where necessary.

I investigated combinations of academic and non-academic factors that may determine rates of successful transitions. This kind of information will assist schools, universities and other tertiary institutions to address future challenges in this regard.

In total, 642 students who are currently studying at the University of Pretoria, and others who were formerly included in the JT initiative, were invited to complete an online survey questionnaire (quantitative research). Seventy students (group sizes of 8-10) were invited to participate in the group interviews (qualitative research). The aim was to separate positive and negative influences on transitions from high school to higher education. The collected data was analysed to establish the level of success of the JuniorTukkie initiative, and to measure the efficiency of the existing JT Empowerment Programme implemented by the University of Pretoria to assist new first-year students in transitioning from high school to higher education.

1.9 Research design

My research methodology was based on the explanatory sequential mixed method of research. According to Fischler (2014), the mixed method research "designs a procedure for collecting, analysing and 'mixing' both quantitative and qualitative research methods in a single study to understand a research problem". Mixed method research, or multimethodology, hence incorporates elements of both quantitative and qualitative methods in a single or multiphase study at all or many research stages (Tashakkori & Teddlie, 1998). Creswell (1994) includes the procedures of devising sampling strategies, collecting data, analysing data, finding synthesis, integrating and reporting in the mixed method research strategy.

The goal of my research was to determine why some variables prompt successful transitions from high school to higher education, and why others fail. The research consisted of qualitative (focus group interviews) as well as quantitative data (online questionnaire) data collection – the mixed method. This strategy adheres to the principle of locating the research within a particular social, cultural and historical context. As the researcher, I understand the need to remain aware of the social constructs within these contexts, and of the particular identities of each participant.

1.10 DATA COLLECTION AND ANALYSIS

The study was based on a sequential mixed method research. First, quantitative data was collected through a survey questionnaire that focuses on attributes that may account for students' success (or lack thereof) in transitioning from high school to higher education. Group interviews were then conducted to understand why some factors, according to the survey questionnaire, appeared to be more influential than other factors (Ivankova, Creswell & Stick, 2006).

The online questionnaire (phase 1) required 15 to 20 minutes to be completed. I analysed the resulting quantitative data and identified the significant factors that warranted further investigation. I then selected 70 participants, sorted them into focus groups, and interviewed each group. The qualitative data gathered in this way was used to supplement the quantitative data sets.

I had planned this focus group interview population to be divided into seven groups, with each group ideally consisting of eight to ten participants, although each group size would ultimately depend on the eventual number of students who arrive for participation. The different interviews lasted between 40 and 60 minutes. This qualitative data was collected and analysed. I then explained how the qualitative data influenced the quantitative results.

The survey questionnaire was the instrument that measured participants' attitudes and convictions regarding the factors that assisted their successful transitions from high school to higher education. To ensure high research standards, I developed a structured observation protocol to facilitate the analysis of data

obtained from the surveys. I also developed an interview protocol to guide the focus group interviews. I documented and included all relevant aspects of the focus group interviews in the qualitative data set derived from the interviews. The students' answers were analysed to account for factors that influenced their success (or lack thereof) in managing the transition from high school to higher education. I then compared information from the literature review (detailing factors that influence successful transitions) to my own quantitative and qualitative research findings. This established the degrees of correlations or differences in the respective findings.

Results and findings from this research may benefit the various initiatives employed at higher education institutions that are all concerned with their new students' transitioning experiences from high school, once the first-year students arrive at their universities and colleges. In terms of my personal research programme, I am grateful to have this opportunity to implement new initiatives in the JuniorTukkie programme, expanding the existing model designed to assist prospective students countrywide.

1.11 Rigour of the study

Due to large sample numbers, I was careful not to generalise any findings. I also understand the need for transparency and transferability during all stages of the research. Accordingly, I strived to include detailed descriptions of the research context, and to keep detailed records of each participant's perceptions and experiences.

The research needs to be conducted in a socially constructive way if it is to add value to the lives of community members. It was accepted that participants will respond in different ways to questions, and will hold different opinions. Audio recordings were made of the interviews, which were carefully transcribed to ensure data accuracy. This research could only be successful if comprehensive descriptions of each participant's experiences were made, and if the unique attributes that individual participants contributed to the JT initiative received due respect.

1.12 Ethical Considerations

Behi and Nolan (1995) states that ethical considerations influence and relate to many aspects of a research process, and that those considerations guide researchers in deciding whether their research activities are ethically acceptable. Cohen and McLeod (as cited in Hearne, 2013, p. 9) posit that the ethical issues that arise in research are the same as those that occur in the contexts of guidance, counselling and educational practices. In research, the welfare and rights of participants must be protected. Participants' right to autonomy needs to be integral to the research. Autonomy refers to the research participant's freedom of action and freedom of choice to take part in a study without coercion (McLeod, 2008). When the research process includes interviews, the researcher has to establish interview schedules that will suit all involved individuals. The researcher also has to respect participants' rights to discontinue their participation at any time.

Confidentiality and anonymity are requisites for ethical research. The identities of participants and all related information need to be handled with the utmost discretion. It is the researcher's responsibility not to attach any uniquely identifying information to data sets, to ensure that no one (not even the researcher) could trace data back to any participant. The confidentiality requirement stipulates that the privacy of individuals will be protected through careful techniques in data collecting and processing procedures, and when reporting is executed in such a way that participants cannot possibly be identified as being associated with the research (Mertens, 2010, p. 432).

For the purpose of this research, some members of the JuniorTukkie initiative participated by completing an online survey, while some amongst that sample group participated later in focus group interviews. The focus group participants discussed the possible factors that may have influenced their successful transitions from high school to higher education. To overcome the potential problem of researcher bias, the Market Research Office in the Department of Institutional Planning at the University of Pretoria oversaw and handled the questionnaires.

Similarly, a professional moderator selected by the same Market Research Office I conducted all the focus group interviews. This moderator could

lead the groups in any of three languages used at the University of Pretoria: Afrikaans, English or Sepedi. The moderator received the necessary background information regarding the study topic and target groups, and led the focus groups in accordance with a formal discussion guide. This guide was designed to ensure that all relevant themes were discussed during interview sessions. The selected moderator was not affiliated with the JuniorTukkie initiative.

The participants were informed that they may opt out of the study at any time. The challenges of confidentiality, anonymity, right of privacy and voluntary participation were addressed throughout the research. No participant names were used during data analysis procedures. Other researchers reviewed the wording of the interview questions, further enhancing the objective nature of this research. It was equally important though that I, as the researcher, remained cognizant of every participant's personal experiences, backgrounds, opinions and attitudes.

Potential threats to the study's integrity included possibly dishonest feedback from participants, and researcher bias (due to my personal affiliation with the JuniorTukkie projects). As explained, measures were introduced to prevent the researcher's personal views, reflections and conclusions to become research elements.

The research was conducted in a manner that ensures that it will be beneficial to future members of the JT initiative, other researchers, and other institutions of higher education. The findings faithfully reflected the strong ethics applied to this research. No manipulation of data was tolerated, so that the resultant findings and conclusions truly represented all the actions and analytical processes that constituted this research project.

1.13 Possible limitations and challenges

A potentially limiting factor of this study may have been an eventual low number of JT members who would be willing to participate in the completion of the questionnaire. Finding enough eligible participants could have proven to be a logistical challenge, because not all members of the Empowerment Programme study at the University of Pretoria. Furthermore, students who did not manage to

successfully transition to higher education might be unwilling to participate in such a research project.

The time-consuming nature of the fieldwork and especially the interviews may have presented another limitation. This could potentially cause or introduce discrepancies between the different types of data, resulting in unequal standards of analysis and evidence. I, therefore, developed and used a test instrument to overcome such limitations.

Research questions, including the study's theoretical perspective, need to be assessed at different levels. Any related limitations can be addressed by identifying various potential problems beforehand or in the early stages, and to plan accordingly and carefully.

1.14 Layout of chapters

The chapters of the thesis will be organised as follows:

1.14.1 Chapter 1: General orientation

Chapter 1 provides an introduction, background, overview and rationale to the study. It further explains the research problem, and poses the main research question and sub-questions alongside a few definitions of certain relevant research concepts. It also contains a short discussion of the research design and methodology.

1.14.2 Chapter 2: Literature review

This chapter reviews the literature on the possible academic and non-academic factors that may influence students' transition from high school to higher education.

1.14.3 Chapter 3: Research methodology

This chapter discusses the research design and the methods employed in the study.

1.14.4 Chapter 4: Academic factors and participation in interventions that influence the transition from high school to higher education

Chapter 4 presents the quantitative (online questionnaire) data, and discussions of the data formats and analysis, in relation to the academic factors that influence new students' transition from high school to higher education.

1.14.5 Chapter 5: Emotional dimensions that influence the transition from high school to higher education

Chapter 5 presents the findings from the quantitative research in terms of positive and negative emotions that respondents experienced during their first year of study at their tertiary institutions.

1.14.6 Chapter 6: Academic factors that influence the transition from high school to higher education

This chapter presents the findings from the qualitative research (focus group interviews) relating to the prior analysis of academic factors that influenced participants' transition from high school to higher education.

1.14.7 Chapter 7: Non-academic factors that influence the transition from high school to higher education

This chapter presents the findings from the qualitative research relating to the analysis of non-academic factors that influenced participants' transition from high school to higher education.

1.14.8 Chapter 8: Findings and recommendations

This chapter presents the synthesis and conclusion of my research, as well as the limitations, implications and recommendations for further research.

CHAPTER 2: Literature review

This chapter contains the study's conceptual framework and a comprehensive study of relevant literature. The literature review focuses on relevant scholarly publications, both theoretical and practical, that support or challenge the specific focus of this research. All possible factors that influence the transition from high school to higher education will then be describe and discuss.

2.1 Background: An overview of the successful transition to higher education

Successful transition from high school to higher education is a significant problem, not only in South Africa but worldwide. The dropout rate in the first year of higher education is a further concern (Wingate, 2007). Research on the transition from high school to higher education focuses on two main areas: entry into higher education and completion of studies at higher education (Bowles et al., 2013). Goldrick-Rab et al. (2007) argue that other facets of the transition to higher education, such as the preparation for higher education, postsecondary pathways and higher education outcomes are hardly ever discussed in higher education literature. Researchers have extensively examined theoretical and methodological defiance in literature, though the elements of race, gender and class inequalities were only included in studies during the last decade. Successful transition from high school to higher education must be seen as a life-course experience – where the learner begins with the preparation for higher education at school level, followed by access (entry) to higher education pathways, moving on to successful completion and finally the rewards of higher education attendance (Goldrick-Rab et al., 2007; Morrison & Cowley, 2017).

Transitions in life naturally involve adjustment processes in the lives of individuals. This view is supported by Sevinç and Gizir (2014) who point out that the movement from high school to higher education is a major life transition for learners (young adults). These transition periods of change and adjustment are accompanied by significant challenges and stresses for young adults, having to meet the demands of their new academic and social environments. The learners who transition to higher education must learn to cope with various new challenges and take action to

integrate into higher education academic demands, establish new friendship networks, become more independent, and take responsibility for their personal lives and career choices. Related literature considers higher education adjustment as a multilayered and complex phenomenon (Baker, McNeil & Siryk, 1985).

Academic adjustment involves students' perceived ability to achieve in their schoolwork, and their acceptance of the academic environment. Social adjustment refers to dealing with a new social environment effectively by establishing and accepting positive friendships, and being involved in social activities on campus. Personal/emotional adjustment involves the well-being of students. Institutional attachment refers to students' feelings of commitment to the university, and their satisfaction with attending a particular higher education institution (Baker & Siryk, 1986).

Numerous researchers investigate only one or two factors that influence the successful transition from high school to higher education (Bangser, 2008; Jones, Coetzee, Bailey & Wickham, 2008; Smith & Zhang, 2010). Most researchers focus on the factors that influence successful transition only when learners have already arrived at higher education (Latief, 2005; Price, 2008). Few studies, yet, focus on combinations of factors that influence the transition from high school to higher education – which is the focus of this study.

The aim of this literature review is to analyse the factors that influence successful access to pathways and transition from high school to higher education, and how these factors can be addressed proactively at the high school level to assist a learner's transition.

2.2 Potential factors that influence the transition from high school to higher education

Although Dunlop and Fabian (2007) argue that there is no single definition of transition, a transition can be defined in educational terms as the process of moving from one life-changing situation to another. In education, transition refers to three major stages in a student's life: when students move from elementary school to middle school, from middle school to high school, and from high school to higher education.

Research studies have identified important factors related to the transition from high school to higher education. These factors manifest themselves in what Tinto called "attributes", which are personal characteristics of a learner when he/she considers a career in higher education (DiRamio & Jarvis, 2011). These attributes, such as family background, socio-economic status, prior higher education experience, skills and abilities all influence the learner's intention before entering higher education. It is therefore important to evaluate both the academic and social skills of prospective students. A critical component of the Tinto model indicates that higher education institutions play a key role in the integration and development of new students.

Bean's student attrition model (Bean & Metzner, 1985) provides another relevant theory; he initially developed his theory based on models of organisational turnover as applied to higher education. He identified external attitudinal factors such as family approval, financial attitudes, and encouragement from friends as possible influences on transition. His research indicated that there are complex external factors involved that relate to persistence (Cabrera, Castañeda, Nora & Hengstler, 1992). In his 1985 model, Bean examined interaction effects based on exogenous variables (academic, social-psychological and environmental factors), endogenous variables (socialization selection factors such as grades and commitment) and their relationship to 'dropout syndrome'.

Bean and Metzner's (1985) study of nontraditional student attrition rates, however, resulted in a conceptual model reflecting the external environment that affected their group of students. The model focused on the backgrounds of students, which included their ages, enrolment statuses, residences, educational goals, high school performances, ethnicity and genders. The model incorporated other variables that influence steps in the process, including academic variables (like study habits) and environment variables (like employment and family responsibilities). These attributes – such as family background (where one or both parents may have studied at a higher education), socio-economic status, prior higher education experience and personal skills and abilities – may influence a new student's intentions before entering higher education.

It is therefore important to investigate both academic and non-academic factors that contribute to successful transitions from high school to higher education.

2.2.1 Academic factors

Academic factors are the factors "related to studies that are liberal or classical rather than technical or vocational and relate to a student's academic average which are based on formal education" (AHDEL, 2000). Hence, academic factors are here defined as those factors relating to a scholarly performance (a student's academic performance), intellectual matters and academic viewpoints. These will be discussed briefly in the following sections.

2.2.1.1 High school curriculum

Curriculum refers to "the means and material with which students will interact for the purpose of achieving identified educational outcomes. Some educators would say that the curriculum consists of all the planned experiences that the schools offer as part of its educational responsibility" (Ebert II, Ebert & Bentley, 2011). The concept of a curriculum includes:

- goals for student learning skills (knowledge and attitudes),
- content (the subject matter in which learning experiences are embedded),
- sequence (the order in which concepts are presented),
- learners,
- instructional methods and activities,
- instructional resources (materials and settings),
- evaluation (methods used to assess student learning as a result of these experiences),
- adjustments to teaching and learning processes, based on experience and evaluation.

According to Smith (2010), a curriculum should be designed to be consistent and explicit in assisting students' transitions from their previous educational experience to the nature of learning in higher education institutions. It should also enable successful transitions throughout higher education: from the first

year through later years and ultimately into the arena of employment, professional practice and career attainment.

Jansen and Taylor (2003) collaborated since 1994 on a curriculum reform programme called 'Curriculum 2005', which is a progressive model of education based on the principles of outcome-based education. Outcome-based education refers to a form of learner-centred education where the teacher assumes the role of a facilitator. The model's complexities, bearing little relevance to teachers' actual working conditions, meant that it failed to alter the dominant curriculum and classroom organisations. One criticism was that the "new basics" it was supposed to teach was not about reading, writing and arithmetic, but instead about OBE attitudes and outcomes. Teachers spent too much time doing administrative tasks, while group tasks often created situations where only a few members actively participated in projects (Armstrong, 1999).

Jansen (2010) argues that OBE failed because of the financial costs incurred in its implementation, as well as opportunity costs in terms of neglected options in designing a strong curriculum of reading, writing and thinking. OBE's administrative burdens demotivated teachers, and its highbrow constructivist theories failed to assist disadvantaged learners in obtaining the necessary skills to successfully transition to higher education. Onwu and Sehoole (2014) argue that this new curriculum arrived at the worst possible time for the teaching profession.

Due to the difficulties experienced in the implementation of Curriculum 2005, it was reviewed and a Revised National Curriculum Statement (RNCS) was introduced from 2007-2009. The RNCS's model of Outcome-based education (OBE) is an educational strategy that converges the traditional focus on what a school provides (means and ends), towards a method of assisting learners to demonstrate that they "can and are able to achieve" the outcomes. A new curriculum was instituted again in 2013 due to flaws in Curriculum 2005, while inadequate learning materials, inexperienced teachers and officials, the lack of baseline studies and the maintenance of national evaluation data discouraged in-process curriculum notifications (Tshiredo, 2013).

The Revised National Curriculum Statement (RNCS) differs from Curriculum 2005 (Hofmeyr, 2010) in the following aspects: Curriculum 2005 consists of "transformational" outcomes, and because of its strong emphasis on skills and learning processes, it lacked sufficient specification of content and knowledge. The introduction of a new curriculum creates the need for training and retraining of teachers, development of new materials, and importantly, the monitoring and evaluation of its implementation processes.

In 2012 again, the RNCS was revised and South Africa adopted a policy to implement the Curriculum and Assessment Policy Statement (CAPS) in the Foundation Phase and Grade 10. In 2013, CAPS was implemented in the Intermediate Phase (Grades 4 to 6) and Grade 11. CAPS does not constitute a new curriculum; it is an amendment to the National Curriculum Statement (NCS) Grades R-12, and is more accessible to teachers. A national Curriculum and Assessment Policy Statement is a single, comprehensive and concise policy document that replaced the former subject and learning statements, learning programmes guidelines and subject assessment guidelines for all subjects in the NCS Grades R-12 (Schlafly, 1993). Criticisms of OBE had been published in some countries – including South Africa – that adopted the OBE approach (Jansen, 2010). Critics already objected in 1993 to the way OBE was presented in deceptive language that appeared to have misled parents.

A high percentage of OBE "outcomes" relates to values, attitudes, opinions and relationships rather than objective information. OBE goals incorporate affective (emotions and feeling) rather than academic (knowledge and skills) concerns. Although OBE’s intentions were laudable, several flaws hampered its outcomes. Time devoted to administrative chores exceeded time devoted to actual teaching; teachers needed to prepare each lesson by themselves, then archive, record or provide some account of what they managed to achieve in their teaching endeavours (Olivier, 2009).

According to Coetzee (2012), teachers lacked the required experience and knowledge regarding rubrics, grids and continuous assessment. Four main concerns relating to the NCS motivated a policy change. These concerns are the number of complaints about NCS implementation, teachers being burdened with too

many administrative duties, differing interpretations of curriculum requirements, and learners' underperformance (Du Plessis, 2013).

The challenges faced by learners in many township schools negatively affected their abilities to excel. Even though the NCS provided clear outcomes, their teachers could still decide (based on those outcomes) *what*, *when* and *how* they would teach in their classrooms. Gaps in learning appeared when learners moved from one school to another as teaching sequences would not always align from one school to another. Too few teachers could skilfully lead the learners to understand content, or help them to access the learning material of a particular knowledge item.

Learners with secondary schooling in OBE began to enrol for tertiary studies at higher education institutions in 2009. Institutions modified their curricula to accommodate the constructive learning styles that their new learners were familiar with. Academic institutions and facilitators were wary of problem-based learning, since the following effects could affect higher education: poor leadership, lack of competency, low confidence and motivation, poor training, defective skills, time management problems, negative attitudes and emotions, excessive administrative burdens, insufficient support from institutional management structures, lack of readiness and low comprehension standards (Veldman, De Wet, Mokhele & Bouwer, 2012).

Inadequate teacher training and a lack of funds to institute training programmes for changing curricula (since 1994) potentially harm learners' transitions from high school to higher education. Since insufficient school preparations may hinder successful transitions in education (Botha et al., 2005), Bone and Reid (2011) concluded that the problem of inadequate learning in subjects needs to be addressed through prior learning at high school. Research done by Dlomo, Jansen, Moses and Yu (2011) indicates that learners who had poorly trained teachers and resources could spend less time than required on their learning, and were therefore inadequately prepared for their tertiary studies.

Bangser's study (2008) indicates that students' high school experiences often do not prepare them well enough for successful transitions to higher education. This emphasises the need to increase the relevance and engagement of high school

curricula for learners from communities who have traditionally faced obstacles in transitioning to higher education. Bangser (2008) suggests that an effective curriculum approach must be developed to align high school standards with postsecondary expectations. Other recommendations include the upgrading of high school curriculum requirements, and streamlining of assessment systems in the curricula so that they may serve as readiness tests for higher education. He also emphasises the importance of sustained financial support, as well as investments in technical assistance and professional development of students.

Studies have revealed differences in approaches towards teaching and learning, from high school to higher education. Not only do methods of instruction between classrooms and lecture halls differ, but also no evident aligning of content between school and tertiary systems occurs. High schools need to prepare learners for transition, while higher education institutions bear the responsibility of integrating and supporting these new students (Bangser, 2008). Hultberg et al. (as cited in Coertjens, Brahm, Trautwein & Lindblom-Ylänne, 2016) and Kjellgren et al. (as cited in Coertjens, Donche, De Maeyer & Van Petegem, 2017) state that different initiatives had been created to facilitate transitions from schools to universities and colleges, ranging from introductory courses on global approaches to learning.

In South Africa, some institutions embarked on initiatives to facilitate access and support learners to successfully transition to higher education. Initiatives such as extended programmes were introduced to assist students to acquire academic literacy and competency skills in the first year (Dhunpath & Vithal, 2014). The initial aim was to provide entrance to students who exhibit a lower level of academic ability as measured by their performances in the Senior Certificate examination, and who have social-economic disadvantaged backgrounds. This purpose evolved over time to a situation where all students (from all culture groups) who have received lower marks have the opportunity to enrol in the extended programmes at their universities.

The extended programmes' study duration is extended by one academic year to accommodate the provision of foundation and augmented modules. The aim of these modules is to develop students' understanding of discourses on economic and mathematic topics. This is achieved through student engagement and

intensively structured learning programmes and assessments. These students write the same tests and examinations as other regular students. The difference is the extended year as mentioned, yet the degrees in the extended programmes are the same standard as the mainstream degrees (Zikhali & Bokana, 2014). These programmes afford students of all cultural groups, who otherwise would never have studied at tertiary levels, the opportunity to enrol at a higher education institution (Scott, 2014).

The fact that little collaboration between high school and higher education institutions exists regarding curricula, is concerning. Unclear standards and poorly developed curricula further deprive students of the academic foundation they need (Bragg, 2011). Since Mathematics and Physical Science feature in several selection criteria for tertiary courses, their curricula deserve special attention in the effort to ease transitions from high school. By collaborating, high school departments and higher education institutions can align these subjects and hence ease adjustments for prospective students. Therefore, collaboration and alignment of curricula are regarded as key activities in preparing learners for successful transitions from high school to higher education. Most importantly, schools must teach learners how to learn and study effectively, access information, and read with insight (Bangser, 2008).

Another concern that emerged during this research is that, while the NCS generally acts as a useful predictor of success in a range of programs, entry levels to bachelor's courses are not adequately determined. The high dropout rates from higher education programmes suggest that an approved entry to a bachelor course does not reliably signal whether a student is able to cope with the demands of his/her university studies. Those high dropout rates indicate that too many students lack the necessary skills to succeed in higher education (Department: Basic Education (DBE), 2014).

2.2.1.2 Poor selection of study fields

Life Orientation (LO) can be described as a learning area within the educational context that not only promotes the holistic development of a child; it also refers to all processes at school level involved in the training of children's minds and

enhancing of their abilities, assisting them to acquire knowledge and develop skills they need to succeed in life (Gama, 2015). According to Pillay (2012) and Van Deventer (2009), LO integrates subjects such as life skills, career guidance, health education, physical education, human rights studies and religious studies.

Sathege (as cited in Pedro, 2017, p. 66) argues that LO, as a subject, can be instrumental in facilitating high school learners with information on different careers and fields of study. It will enable learners to make informed decisions about their careers and assist them in making a successful transition to higher education. Kennedy and Tuckman's research (2013) indicates that high school counsellors are important assistants to learners who are selecting their study and career options, and vital suppliers of adequate information on study fields.

Although higher education offers numerous programmes, LO teachers and school councillors can provide important additional information on study programmes, associated requirements, and other demands of higher education. Some information relating to higher education programmes is readily available on associated websites and printed media. Several higher education institutions also provide information sessions for LO teachers and career counsellors.

The Ministerial Task Team (DBE, 2014) reported that evaluations in Life Orientation subjects at schools are highly contentious, as these courses are almost entirely internally assessed by schools themselves, producing suspiciously high pass rates. Therefore, the perceived problem of inadequately trained teachers of LO classes and career counselling needs to be prioritised. The report suggests that a learner must be able to demonstrate self-knowledge, and to make informed decisions regarding further studies, career options and career pathing.

Bourdabat and Montmarquette (2007) stress the point that expected economic returns influence study field choices, but personal preferences, available information and socio-economic backgrounds play important roles as well. Prevailing market conditions, gender and the parents' level of education are other significant elements in choosing a correct field of study. Because some study fields like medicine and engineering appear to be prestigious careers and associated with high salaries, numerous potential students select these careers, though many do

not qualify for such careers due to insufficient aptitude and personal characteristics. The providing of adequate information on possible study fields from younger ages onwards may help to solve this problem. The Ministerial Task Team's (MTT) report on the NSC of 2014 recommends that teachers with the required training and qualifications in Life Orientation associated subjects need to be deployed to schools. A particular need exists for teachers who are trained in physical education and career counselling, and generally for professional development in these areas.

Certain South African universities attempt to facilitate successful transitions for students who exhibit lower levels of academic abilities as measured by their performances in the Senior Certificate examination, and who are from socio-economic disadvantaged communities and schools (Dhunpath & Vithal, 2014). Although the entrance requirements are lower than for mainstream degrees in such cases, the number of study years can also differ. The University of KZN's extended programmes include augmented modules that are regular modules combined with foundation modules. These foundation modules are offered only in the extended programmes (Dhunpath & Vithal, 2014).

The University of Pretoria also offer 4-year extended programmes for B Com and Biological Science (Biological and Agricultural Sciences, Physical Sciences, Mathematical Sciences) courses where the modules in both the extended and mainstream programmes are similar, but the respective lengths of programmes differ. The extended programme involves one extra year, with the first-year modules being stretched to cover 18 months. The School of Engineering began in 1994 to offer an extended degree programme called the Five-Year Study Programme (5YSP). This programme was not extended in the same way as managed by the Department of Education during this research. Instead, it extended the length of the degree, allowing students to settle in in their own time, and to get used to the pace of work at the University. Extra tutorials were offered in some of the first-year modules. The 5YSP students also took a specially designed foundation module, Professional Orientation (JPO) to help the students develop communication, technology, IT and life skills.

The extended programmes, therefore, fulfil an important role in the provision of education. Through these programmes, opportunities have been

availed to students who otherwise would not have been able to register for university courses (Zikhali & Bokana, 2014).

2.2.1.3 Teacher training

According to Bateman, Dewey and Muriel (2013), research on transitions from high school to higher education should focus on high school teachers who ought to encourage creative, hands-on learning activities, while teaching practices should focus on intrinsic rather than extrinsic motivations. Fox, Stevenson, Connelly, Duff and Dunlop (2010) focus on the fact that peer interactions, and the building of relationships between students and their peers, are critical elements for successful transitions from high school to higher education.

Student teachers and recently graduated teachers struggled to apply their knowledge due to the way they were trained at tertiary level. The training did not correspond to the reality in schools (Coetzee, 2012). Maree (2015) argues that the inadequate training of teachers (either unqualified or underqualified) – in terms of subject knowledge and knowledge of teaching practices – contribute to this problem. Learners' underperformance is often attributed to a lack of teaching skills. A learner's scholastic achievement may reflect well on the teacher's teaching ability, but it is not always the case, since some learners remain uninspired and possess no motivation to excel academically, despite having highly qualified and able teachers.

The qualities, competence levels and characters of teachers are significant elements in influencing the quality of education, including the preparation of learners to transition from high school to higher education. Educational programmes serve as springboards for the training of teachers, while continued education is important for teachers' further development. Jerald (as cited in Bangser, 2008, p. 10) states that teachers who serve disadvantaged populations are often less experienced and less knowledgeable about their subjects than teachers who serve in more affluent communities. This does not necessarily mean that a community of teachers lacks professional development. Learner diversity creates a space for diverse educational needs, thus creating – within a didactic

framework – a natural requirement for flexible applications of teaching strategies that respect individuality and diversity (Duchovicova & Petrova, 2015).

Some teachers may appear to be inefficient because of low standards of training and education at higher education. Others have dedicated themselves to educating their students well, and producing competent and well-rounded students. No teacher, being well educated and trained, should be inefficient in the classroom (Rahman, Jumani, Akhter, Chisthi & Ajmal, 2011). Trusty and Richetta (2013) believe that inadequate teacher training originates in the first year of higher education. Teachers experience a growing disconnect between their programmes at higher education and actual skills and knowledge needed to be efficient in classroom settings. Although higher education institutions have good intentions, their methods are based on outdated models.

A shortage of well-trained Mathematics and Physical Science teachers, together with a general lack of basic subject knowledge and poor teaching standards in higher education, contribute to poor performances of high school learners (Bernstein, 2015; Makgato & Mji, 2006). Certain high schools in South Africa (1.3% of all public and independent schools) following the NCS in 2013 did not even present Mathematics as a subject. Approximately 25% of Mathematics teachers and 20% of Physical Science teachers at high school never obtained any degrees in their teaching fields (Department of Education, 2009a). Outdated teaching practices, lack of basic content, non-equipped laboratories in Physical Science and a large number of underqualified teachers cause lower pass rates for learners in Mathematics and Physical Science subjects (Ecclestone, 2008; SACE, 2010).

South Africa's training institutions need to produce better trained and higher qualified teachers in these two subjects, to ease learners' transitioning from high school to higher education, and to improve student performances at higher education.

2.2.1.4 Differences between Grade 11 and 12 results

The difference between a learner's Grade 11 and 12 results is a factor that may influence or determine the success of a transitioning process to higher education.

Learners, who are ineligible for higher education based on their Grade 11 results, may expect improved Grade 12 results to make them eligible for higher education. However, because universities schedule their selection dates before the completion of the school year, these learners cannot be accommodated.

The difference between learners' achievements in Grades 11 and 12 is, therefore, a parameter in establishing the number of learners who qualify for entry into higher education. Literature indicates little evidence of a correlation between Grade 12 results and results from the National Benchmark Test (NBT). The National Senior Certificate (NSC) examination in South Africa is a standardised assessment whose main function is to determine whether Grade 12 learners have mastered subject knowledge at the culmination of their secondary education. Alongside this, the National Benchmark Test Project (NBTP) was introduced to develop the National Benchmark Tests (NBTs) to assess the academic readiness of first-time entry students to South African universities (Le Roux & Sebolai, 2017). The three components tested are Academic Literacy, Quantitative Literacy and Mathematics. Importantly, the results inform learners and higher education institutions about the levels of academic support that may be required for successful completion of programmes (Prince, 2010).

Several universities were making use of the NBTs, which consist of two three-hour tests covering the domains of Academic Literacy (AL), Quantitative Literacy (QL) and Mathematics (Prince, 2010). The University of Cape Town conducts and administrates the NBT test. The emerging NBT results have starkly highlighted the vast numbers of students who are entering universities without the required proficiency levels in Academic Literacy, Mathematics, and Quantitative Literacy (Prince, 2010; Wilson-Strydom, 2010; Yeld, 2009).

The NBTs are used to group students into three main performance levels. These levels are:

- Basic: for learners with serious learning challenges who are not expected to cope with degree level studies without extensive and long-term support structures, such as extended programmes;

- Intermediate: for students who are likely to experience difficulties with traditional degree programmes unless specific support systems, such as extended degree programmes, are provided;
- Proficient: for students who are likely to cope with mainstream studies.

As such, the NBTs potentially provide a tool to assist universities in making decisions about students' levels of preparation and the types of programme and additional support required (Prince, 2010, Wilson-Strydom, 2010).

An issue gaining increasing recognition in educational literature is the test performances of learners and students who have to write tests in languages other than their home languages (Beatty, Greenwood & Linn 1999; Kirkup, Wheater, Schagen, Morrison & Whetton, 2008). This is of notable relevance in the South African context (Koch & Foxcroft, 2003; Koch, Foxcroft & Watson, 2001). An argument exists that, when a student writes a test in an unfamiliar language, then the test could become a test of language proficiency rather than a test of the specific skills and abilities it was designed to measure. In such an instance, a test is less helpful in grading potential or aptitude (Kobrin, Sathy & Shaw, 2007; Koch & Foxcroft, 2003). This raises specific questions about the way admissions tests are used and the value that they add to the admissions processes. Higher education uses the NBT as part of its selection process.

The NBT should be used not as an alternative to the NSC, but as a complement to admission procedures and the correct placement of lower performing applicants. Research needs to be conducted to determine if the NBT is a contributing factor to successful studies at higher education level (Rankin, Schoer, Sebastiao & Van Walbeek, 2012).

2.2.1.5 Study methods (habits)

Inadequate study skills – including poor time management and lack of planning – comprise more factors that influence the transitioning process from high school to higher education (Balduf, 2009; Damico & Qucy, 2009). The concept of study habits consists of attitude, methods and skills. A healthy attitude towards study contributes significantly to effective study patterns and academic achievements. Successful

students persist in a positive attitude towards their study obligations, and do not fritter time and energy away (Sherefat & Murthy, 2016).

Students may experience difficulties in terms of self-management and other personal adjustments to the university sphere. Such problems relate to general study skills, such as the scheduling of learning activities (Trautwein & Bosse, 2016). A successful study career is achievable only when the student's study and time management skills are functional, and when the student is satisfied with his/her chosen degree and tutorial attendance (Jansen & Suhre, 2010). Numerous first-year students in higher education have no grasp of effective time management practices, meaning they are less likely to productive study habits. I found no evidence of specific programmes addressing problematic study skills before students arrive at higher education institutions. This problem would be less significant if it receives due attention in the high school environment.

2.2.1.6 Language of instruction and reading skills

Basic literacy and numeracy skills are necessary to improve learning in school and throughout life. Reading, writing and mathematics are not only fundamental foundational skills for learning, but are correlated with greater quality of life, personal well-being, national stability, and prosperity (Ball, Paris & Govinda, 2014). A study conducted by Wedekind (2013) at South African universities suggests that a correlation between languages used for learning at high schools and universities usually serves as a good predictor of study success in higher education programmes. Maree, Fletcher and Somerville (as cited in Maree, 2015, p. 402) supports this suggestion, having found that linguistic aspects (including vocabulary and reasoning ability) and reading abilities emerge as credible predictors of studying success. However, more than half of new first-year students tested on the NBT's were not on the same level in terms of academic literacy. These results were obtained from various universities. This suggests that many school leavers who had good National Senior Certificate results were not well prepared for higher education study (Wedekind, 2013).

A few researchers investigated literacy skills as a possible factor for the successful transition from high school to higher education. Yürekli's study (2012)

indicates that a student's English language skills in a country that use English as the language of academic instruction can be a determiner of the student's successful transition from high school to higher education. In the diverse South African community, with eleven official languages, problems relating to language instruction are major hindrances in a learner's development of language skills. Learners are often not taught in their mother tongues. The use of English as the primary language in higher education can also contribute to problems in students' language skills.

All students should have access to literacy proficiency, and be enabled to become readers and writers who can manage the requirements of academic texts. Clark, Poulton and McCoy (2011) argue that poverty still appears to be the biggest obstacle to literacy achievement in South Africa. It is important to develop literacy skills and initiate behavioural skills at the high school level.

2.2.1.7 Mathematical and scientific skills

Numeracy and mathematics provide ways of understanding the world. Mathematics encourages logical thinking and problem solving, while helping to develop the analytical skills necessary for critical evaluations. Physical Science learners need a basic level of computer literacy as well as practical laboratory experience (National Research Council, 2005). The majority of schools, and especially rural schools, however, simply do not have the infrastructural resources to teach these components. This is largely due to lack of finances and insufficiently trained staff.

A large number of South African schools do not even offer Mathematics as a subject, problematizing students' performances in mathematics-related courses. Many teachers lack the knowledge and competence to teach Mathematics and Physical Science effectively (Makgato & Mji, 2006). Lack of teacher development contributes to this problem, ever since a shortage of competent and qualified teachers to teach the Mathematics curriculum existed (DBE, 2014). Numerous changes to the curriculum over the previous two decades caused instability and further contributed to learners' poor performances in Mathematics. To remain competent, teachers need time to understand and adapt to any curriculum revisions of content, pedagogy or assessments. It is therefore important to

implement a proper training schedule for teachers, especially for those trainees who lack foundational knowledge in Mathematics.

Mathematical skills and fundamental motivation are vital factors in overcoming inadequate preparation for mathematics-related education. Arnold and Straten (2012) acknowledge the importance of mathematical readiness in pursuing successful higher education studies. Worldwide, higher education institutions employ the criteria of maths literacy and competency (as proven by school results) as high priorities in student selection processes.

A lack of compulsory subject combinations in the national curriculum framework allows large numbers of learners to eschew fundamental mathematical literacy in favour of other subjects like Life Sciences, Accounting and Economics. Such learners may achieve 'bachelor' or 'diploma' passes for other courses, but a consequence of not obtaining sound mathematical competency at school is the subsequent disqualification from many popular study programmes. Students at higher education who lack the foundations that the school subject of Mathematics provides need to enter extra mathematical courses, affecting their success rates. Mathematics and Science as subjects are included in most of the selection criteria for studies at higher education in the Medical-, Engineering-, Agricultural- and Veterinary Science departments at higher education. This fact needs to be emphasised at high schools.

It follows logically that students' lack of knowledge and experience in mathematics will negatively affect their transitions from high school to higher education. The National Curriculum Statement (DBE, 2007, p. 51) clearly states that "the purpose of mathematics is the establishment of proper connections between mathematics as a discipline and application of mathematics in real world contexts. Mathematical modelling provides learners with the means to analyse and describe their world mathematically, and so allows learners to deepen their understanding of mathematics while adding to their mathematical tools for solving real world problems."

The branch of calculus in mathematics constitutes a significant part of the Mathematics curriculum in Grade 12 (Brijlall & Ndlovu, 2013). Calculus comprises

near 40% of Algebra in the South African school syllabus, according to the Grade 12 national examinations (paper one) set by the Department of Basic Education in 2011. Calculus forms about 20% of the overall assessment. As a subject at higher education institutions, Mathematics contains a high percentage of calculus; therefore, students who failed to grasp calculus at high school are likely to struggle with the first-year Mathematics syllabus at a university. Furthermore, BCom students who achieved relatively good marks for Mathematics in Grade 12, regularly find themselves poorly prepared for the rigours of statistics and differential calculus during their first year at university (Parry, 2012).

Most higher education institutions acknowledge the shortcomings in the curriculum of high schools, especially in Mathematics where many prospective students lack mathematical reasoning skills and fail to obtain high marks. They cannot qualify for mainstream studies with these lower marks. Hence, modules in extended programmes – especially in courses where Mathematics is a compulsory subject – are designed to aid students in their understanding of economics and mathematics discourses through student engagement and deep learning with intensive structuring and assessment (Zikhali & Bokana, 2014).

While research has been conducted on all possible academic factors, it must be borne in mind that high dropout rates also occur in other faculties, such as Law and Arts, where students are less reliant on pure mathematical literacy and skills. It is therefore important to take stock of the variety of factors contributing to a steady general decline in mathematic skills at the high school level, which include:

- too few students opting to study Mathematics,
- modifications to curricula, course structures and examinations,
- lack of qualified teachers and shortages of specialist Mathematics and Physical Science teachers (Ingersoll & Perda, 2009),
- insufficient calculus experience,
- poor career advice in schools.

To overcome these prevailing problems in Mathematics and Physical Science, higher education needs to better interact with the Department of Basic

Education (responsible for the determination of the curriculum) and gain input into the establishment of fair curricula.

This concludes the discussion of academic factors. In the following section, I will investigate relevant non-academic factors, such as social skills, self-confidence, academic goals, institutional commitment, social support, certain contextual influences (including institution selectivity and financial support) and social involvement. These factors have positive relationships with retention rates (ACT, 2007).

2.2.2 Non-academic factors

Non-academic variables identified as being possible factors in retention rates and transitioning processes from high school to higher education include:

- race/ethnicity (Bailey, Jeong & Cho, 2010; Ishitani, 2006),
- gender (Bailey et al., 2010),
- age (Bailey et al., 2010; Calcagno et al., 2007),
- socio-economic status (Fike & Fike, 2008; Ishitani, 2006; Johnson 2008),
- financial aid (Fike & Fike, 2008; Ishitani, 2006; Paulson, 2012; Stewart, 2010),
- parent's education, in cases of first- or second-generation learners (Fike & Fike, 2008; Ishitani, 2006).

Other possible factors can be co-curricular activities (Andrews, 2013) and culture shock (school versus higher education) (Kish, 2003).

Robbins et al. (2004) conducted research and concluded that several non-academic factors may influence a student's decision to remain at college, or to leave. Kim, Newton, Downey and Benton (2010) list a few factors, including attitude (motivation, work ethic), self-perceptions (confidence, self-efficiency), and problem solving (critical thinking, decision making). Importantly, in this study I will analyse different personal factors that can possibly influence the research group. I will also attempt to establish whether the personal factors that form part of learner's enrichment in the JT initiative influenced them in their successful transitions from high school to higher education.

2.2.2.1 Financial factors

Tuition costs in higher education are transition-related considerations. Attendance costs, which include expenses related to accommodation, transportation, books, supplies and personal expenses, comprise 50% to 80% of a student's financial needs. Notably, students from low-income families may have to manage difficult financial choices (Roble, 2017). The matter of available finances is, therefore, an important factor in transitioning from high school to higher education.

Financial problems are exacerbated when learning facilities at schools are inadequate to meet the educational needs learners, prompting the need for extra classes to support learning. Paulson's research (2012) found that inadequacies in school provisions are linked to other societal inequalities such as urban/rural disparities, and inequalities arising from discrimination in aspects of gender, race and disability. In poor communities learners experience problems such as unavailable transport, poor communication and technology services, insufficient nutrition and training material shortages. These problems negatively affect learners as well as their parents and wider communities. Learners' social and emotional well-being, therefore, influences their learning capabilities (DoE, 1997).

A lack of sufficient resources in schools and funds affect the quality of high school infrastructure, and cause shortages of essential resources like textbooks. Such circumstances directly affect learners with disadvantaged backgrounds. Dunnett, Moorhouse, Walsh and Barry (2011) conclude that students whose parents never attended higher education are likely to experience more transitioning problems due to the high fees associated with their own higher education. Students, intent on successful transitioning, need sufficient financial resources that would enable them to live above mere survival mode, and engage with the learning process effectively. Thomas (2002) states that lack of funds, debt, fear of debt, lowered income levels, and lack of financial wealth in relation to peers are factors that may cause unsuccessful transitions. Bourn (as cited in Jones et al., 2008, p. 29) suggests that the lack of funds can "easily lead to problems of achievement, by provoking anxiety and reducing the time available for study and socializing, which in turn might persuade the student to withdraw". Financial hardship may affect

academic achievement and social integration, and hence cause feelings of isolation and alienation.

I have cause to believe that even the application fee, paid when prospective students apply for studies at higher education, may present an obstacle for learners from disadvantaged communities. Registration-, tuition- and accommodation fees, which have to be paid in advance, present further obstacles. Some students have no family or friends near universities whom they can stay with, or from whom they may receive financial support. Many students cannot afford their own accommodation, meals or transport. They may only afford some (not all) textbooks and equipment, with limited resources or knowledge to manage their finances.

Serious concerns regarding financial problems – at home or at university – may reduce students' abilities to concentrate on their studies. Adequate financial assistance is therefore critically important to students' success rates in higher education. The National Committee on Education Support Services (DoE, 1997) argue that the quality and efficiency of financial aid service and delivery is vitally important to any student. In contrast, students with no financial problems are more able to settle down in their study careers.

The Green Paper on Post-School Education and Training (DHET, 2012) indicates that the state-funded National Student Financial Aid Scheme (NSFAS) significantly contributes to student transition and completion. The scheme, however, does not provide for all eligible students. When students lack adequate financial resources to meet their basic living and studying demands, then it affects both their academic pursuits and social integration efforts. Just over 25% of all undergraduate students in tertiary education and training institutions in South Africa are on financial aid through NSFAS, which is not adequate in meeting nationwide demands. This demand rises annually. Furthermore, studies at higher education institutions frequently become more expensive due to rising general costs and a global economic crisis that affects the value of the currency. It therefore becomes too expensive for rising percentages of students to successfully complete their studies. Numerous students leave their studies solely due to a lack of funds. Even though NSFAS funding regularly increases, it does not keep up with the rising number of

students who are dependent on financial aid. Other areas of concern include the administrative tasks (red tape) regarding applications for study, and the delivery date of funding – students only receive the funding near the middle of the academic year.

Sufficient financial resources to enable students to live above survival mode, and to productively engage with both academic and campus lives, can thus be considered a vital underpinning condition for academic and social integration, successful transition and ultimately student success (Jones et al., 2008).

2.2.2.2 First- and second generation learners

Various definitions of the term "first-generation student" exist. Heyman and Carolissen (2011) describe a first-generation student as a student from a family where no parent or guardian has earned a degree. Nunez and Carol (as cited in Kish, 2003, p. 2) define a first generation student as “someone whose parents’ highest level of education is a high school diploma or less. The term 'second-generation student' is used to refer to students whose parents or guardian earned at least one degree.” Student demographics at higher education institutions in South Africa changed since 1994, meaning that rising numbers of first-generation students have been making their transitions to higher education (Pascarella, Pierson, Wolniak & Terenzini, 2004). Numerous studies examined the influence of parental and family factors on student motivation, engagement and academic achievement (Hernandez, 2014).

First-generation students who have no educated role models in their families may experience problems in making sense of their new environments. No family members have tertiary experience to assist and guide them in their studies. Several researchers argue that factors like parents’ expectations and student motivation (Gonida, Kiosseoglou & Voulala, 2007; Pike & Kuh, 2005), parents’ socio-economic status (Alexander, Entwistle & Horsey, 1997), parents’ education (Choy, 2001; Hornby, 2011) and family structure (Astone & McLanahan, 1991) determine learners’ developments and their transitions to higher education. When a parent has higher education experience, then their academic values are passed on to their children through parental involvement with study related matters (Gniewosz,

Eccles & Noack, 2012). Engle and Tinto's research (2008) indicates that first-generation students are significantly less likely to graduate due to lack of family support, financial constraints, poor academic preparation, and other related problems. They argue that these barriers problematize first-generation students' efforts to adapt to higher education, and to graduate.

The following factors, according to Hernandez (2014), need attention: lack of academic preparation for higher education, financial barriers, affordability, and insufficient guidance for students and families in terms of selecting and applying for higher education institutions, and applying for financial assistance. Low aspirations and expectations from parents, as well as insufficient communication from high school/higher education to learners, are other factors that may contribute to unsuccessful transition.

Maree (2015) argues that study skills and students' self-efficiency can contribute to academic success. Both factors are influenced by university classification and personal variables, such as the quality of career advice, gender and first-generation status. Shelton (2003), however, believes that the level of support within the academic setting relates directly to retention and success.

2.2.2.3 Culture shock (school versus higher education)

Students, who transition to a higher education institution that incorporates a culture different from their own, have to adapt to social, educational and behavioural changes. Some new students may expect different circumstances, yet still have to contend with the demands of adjusting to an environment that is culturally alien to them. However, students who misguidedly assume that the new environment operates like the environment they knew during their high school years may experience what is known as a "culture shock" (Zhou, Jindel-Snape, Topping & Todman, 2008).

A majority of school leavers experience significant differences in teaching and learning styles between high school and higher education. Wangeri, Kimani and Mutweleli (2012) mention that most new students harbour feelings of anxiety toward their pending lives at a higher education institution. Such feelings may affect their

physical comforts and senses of social security. Factors such as raised academic standards, course and subject difficulties, and demanding workloads are significant elements of their concerns (McGhie, 2017). High school learners are used to directive approach adopted by schools. To lessen the culture shock of a new experience in higher education, learners need guidance in terms of directing their own studying schedules and time management disciplines (McCoy, Smyth, Watson & Darmody, 2014).

A student's first year of higher education is generally thought to be the toughest year in a tertiary career. Students have to leave a familiar environment behind, and may experience limited support from staff and peers at university. Daily routines differ markedly from typical school days, while they have to learn to manage new time schedules and freedom from constantly being under the eyes of teachers and prefects. Students from rural areas may be in awe of and overwhelmed by the vast size of universities and the numbers of fellow students on campus. Some of the culture shocks new students may experience include not having to manage certain formalities of high school life (no uniforms, no formal assemblies – depending on courses), having few periods to attend a day, and classes scheduled for late afternoon and evening hours. Many are initially unprepared for the academic workload, distractions caused by a new social life, and the different styles of interaction with lecturers and course leaders (Jones et al., 2008; Tett, Cree & Christie, 2016). These aspects of campus life can be challenging for new students from contrasting backgrounds, and some never recover from initial adjustment problems. Other first-year students often struggle due to poor learning methods, undisciplined working habits, or a reluctance to ask for assistance.

The 'culture shock' is logically magnified when new students meet other students from different cultural communities, then having to share an environment with others who speak different languages, and have different working and social customs. This is notably the case in South Africa with its diverse population. It is advisable to bring these groups together at an early stage for discussions of cultural differences, and to guide new students to understand, respect and learn from each other. Everyone involved in education has to be aware of and understand the differences between cultural groups. Students need to learn to accept cultural

diversity and that fellow students from other communities are their equals in patriotic terms. Such acceptance may lessen the culture shock that new students experience at higher education institutions.

2.2.2.4 Co-curricular experiences

According to Andrews (2013), students should be encouraged to recognise the value of co-curricular activities such as sport, campus societies, part-time work, entrepreneurial schemes and volunteering. This goal is achievable if high school learners are similarly encouraged to engage in co-curricular activities, which will provide them with the right kinds of developmental abilities to thrive in new environments, and to control their own development. Streb (2009) and Zia-ul-Islam, Khan and Khan (2016) maintain that students who participate in co-curricular activities not only academically outperform inactive students but also develop other facets of their characters in the process. Self-esteem, self-confidence, social cooperation skills, and leadership abilities are a few cognitive factors that are positively affected. Co-curricular activities doubtlessly allow students to blend aspects of their academic learning into personal development and deeds.

Higher education institutions endeavour to encourage students' participation in co-curricular activities during the orientation period scheduled for the arrival of new first-year students at campus. This orientation phase sometimes spans only two weeks. Some students may underestimate the importance of orientation and skip certain sessions, which would be detrimental to their adjustment and transition to the new environment. Students cannot rely only on academic skills to succeed in higher education; hence, co-curricular experiences may facilitate successful transitions from high school to higher education. Higher education institutions value co-curricular activities as equal in importance to academic pursuits, in terms of the development of students' life skills.

It would realistically aid transitioning prowess if high school learners learn early to take responsibility for their own development, through academic and co-curricular means.

2.2.2.5 Emotional intelligence

Bar-On (2007) conceptualise emotional intelligence (EI) by stating that emotionally intelligent people are "emotionally and socially intelligent and are able to understand and express themselves; they understand and relate well to others, and cope successfully with the demands of daily life." Emotionally intelligent people are aware of themselves and the state of their own emotions, and are able to express their feelings constructively. They are simultaneously aware of other people's feelings, and maintain satisfying relationships by being cognizant of others' own needs. Emotional intelligence is regarded as a life skill that enables recognition of personal and others' affective states; moreover, it manages the individual's emotional state as well as his/her relationship with others (Goleman, 1995). EI is a distinct kind of intelligence – it helps a person to be adept not only in awareness of emotions but also in anticipating their consequences. Hence, an emotionally intelligent individual could justify and utilise appropriate techniques to solve complex emotional dilemmas (Mendoza & Hontiveros, 2017).

Goleman (1995) identifies EI as an integral element of a successful transition from high school to higher education. He lists the following five characteristics as hallmark skills of EI:

- self-awareness,
- management of emotions,
- motivation,
- empathy,
- social intelligence.

Self-awareness includes the aspects of emotional awareness and self-confidence. Individuals who are able to manage their emotions can exercise self-control, and can be trustworthy, adaptable and innovative. Motivation incorporates the concepts of achievement drive, commitment, initiative and optimism. Social intelligence means an individual can be a source of influence, leadership, collaboration and cooperation; being a catalyst of change, conflict manager and builder of bonds; and to possess team-related skills.

Although Maree (2015) indicates that EI may not predict short-term academic success, its longer-term predictive value has been proven conclusively. Developed emotional skills enhance academic achievement, emotional health, and professional success in higher education. Emotional intelligence needs nurturing from an early age to help high school learners to successfully transition from high school to higher education.

2.2.2.6 Life skills

Life skills can be described as “abilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life” (UNICEF, 2003). Life skills are a set of human skills acquired through teaching or direct experiences with other people. They are utilised to manage problems and challenging situations commonly encountered in daily lives. Life skills are grouped into three broad categories: cognitive skills for analysing and using information, personal skills for developing personal agency and managing oneself, and interpersonal skills for communicating and interacting effectively with others (Munsi & Guha, 2014).

Life skills education is an integral part of learner empowerment at high school. "Life skills education" involves a structured programme of needs- and outcome-based participatory learning, aiming to increase positive and adaptive behaviour. This is achieved by assisting individuals to develop and practice psychosocial skills that minimise risky behaviour and maximize protective factors. Life skills education programmes are “theory- and evidenced-based, learner-focused, delivered by competent facilitators, and appropriately evaluated to ensure continuous improvement of documented result” (UNICEF, 2012).

Life skills contribute not only to behavioural improvement but also balance the personal facets of knowledge, attitude and aptitude. The concept of life skills therefore relates to characteristics like problem solving, critical thinking, decision making, creative thinking, coping with stress and emotions, and empathy. The concept also relates to communication skills, interpersonal relationship skills, and self-awareness building skills. Life skills are therefore the competencies that help us to function appropriately in the environment (UNICEF, 2012).

Hopson and Scally (as cited in Bender, 2002, p. 7) list the following life skills as elements of personal development: time management, literacy, computer literacy, study skills, assertiveness, entrepreneurship, decision making, and management of negative emotions. Life skills education is therefore aimed at encouraging learners to explore and develop the skills necessary for successful living and learning. The more coping skills students can master, the better are their prospects for successful transitions.

To assist new first-year students in transitioning to higher education, the JuniorTukkie initiative focuses primarily on the following skills and aspects: time management, interpersonal relationships, computer literacy, social skills, reading and numeracy. Reading and numeracy are two critically important skills needed to secure successful transitions to higher education, as previously explained. I will now discuss three other important elements of life skills: time management, interpersonal skills and computer literacy. These elements are illustrated as instrumental – in this study – to successful transitions to higher education.

2.2.2.6.1 Time management

Many researchers have explored the topic of time management, constructing several theories on its effective application. According to Crutsinger and Lakein (as cited in Claessens, Van Eerde, Rutte & Roe, 2007, p. 262), time management involves the determining of appropriate actions by setting goals, deciding which events are the most deserving of attention (prioritizing), and scheduling other activities accordingly. This requires the student to make decisions regarding time allowance for tasks (time estimation), adjust to unexpected situations (problem solving), regularly reconsider goals and priorities (evaluation), and observe own behavioural patterns and trends.

Exactly which skills and behaviours constitute effective time management is a source of debate in the research literature. Shipman (1983) identifies six principles of effective time management. These principles are self-awareness, appropriate time structuring, setting of goals and priorities, increased personal efficiency and effectiveness, time scheduling for activities, and time scheduling for relaxation. Time management behaviours have more recently been characterised

as list making, organising, goal setting, keeping and routinely evaluating schedules, and breaking down tasks into simpler parts (Kelly, 2002).

According to literature consulted, time management is commonly defined by time analysis, planning, goal setting, prioritising, scheduling, organising and establishing new and improved time-related habits.

Many students find the transition from high school to higher education stressful due to an inability to manage their time well. They become aware of deficiencies in their time management practices during their first year when they struggle to keep up with the academic schedules. They may feel overwhelmed by the volume of work when they do not prioritise their studies to the required extent. Students can only remedy this situation if they re-evaluate their approach to their assigned work. Students who adopt a time management strategy find themselves able to attend all lectures, and to be prepared for each class and test. These students have realised the benefits of energising their study efforts, for instance by daily reviewing their notes and textbooks, as opposed to the habit of "cramming" at the latest moment (Jones et al., 2008).

Higher education counselling services coach students to harness effective time management practices to overcome this problem. Differences between curricula (high school versus higher education), sports programmes and social activities (school grounds versus campus) compel students to modify their approach towards time management. According to literature consulted, researchers conclude that students who maintain control of their time and schedules, report significantly improved assignment and examination results, better learning standards, increased life satisfaction, less role ambiguity, less work overload, fewer job-induced stresses and fewer somatic tensions (Macan, Shahani, Dipboye & Phillips, 1990).

2.2.2.6.2 Interpersonal relationships

The South African society is composed of several different cultural communities. Given this circumstance, young people will benefit from maintaining healthy relationships with other individuals from different communities. Students who are

able to adapt to changes in cultural and social environments may enrich their own communities by being accepting of the influences of other cultural practices.

Interpersonal relationships can be defined as a person's ability to manage mutually beneficial relationships with others who are sharing a social or professional environment. Bar-On (as cited in Mangal & Mangal, 2015, p. 238) emphasises the need to relate well to other people to be able to establish mutually satisfying interpersonal relationships. Stein and Book (as cited in Mangal & Mangal, 2015, p. 238) concur, stating that the maintaining of healthy interpersonal relationships requires sensitivity towards other persons, and a desire to build relationships that will satisfy all the individuals involved. In this study, the focus will be on interpersonal relationship building between JuniorTukkie members, and the subsequent development of those relationships.

Humans are social beings, and interactions with other people shape our respective characters. Human beings have an innate need for acceptance by social, family or peer groups. Relationships reward individuals in tangible and intangible ways – the act of helping other people serves to develop a healthy sense of self-awareness and self-esteem. Prior relationships influence a person's emotions and behaviours. Hinkley and Anderson (1996) argue that exposure to persons who exude healthy self-belief influences the way persons regard themselves. They list the following elements that determine interpersonal skill levels:

- verbal communication – our words (semantics) and the ways in which the words are spoken (grammatical mood),
- nonverbal communication – unspoken clues and signals that add meaning to the spoken words, like context and body language,
- listening skills – the ability to correctly interpret both verbal and non-verbal messages sent by others,
- negotiation – collaborative efforts to find mutually agreeable outcomes,
- problem solving – understanding how to work with specific individuals in identifying, defining and solving problems,
- decision making – exploring and analysing options to select appropriate courses of action,

- assertiveness – the ability to freely communicate personal values, ideas, beliefs, opinions, needs and desires.

New students may belong to communities that were only partially exposed to diversities in culture, language, and general norms and standards. The development of interpersonal skills of members to any campus initiative may therefore understandably be an influential factor in determining the success of new students' transitioning efforts from high school to higher education.

2.2.2.6.3 Computer literacy

Computer literacy relates to knowledge and skills needed to use computers productively. A computer literate person is a person who can identify the major components of a computer system, can describe the function of each component, and is knowledgeable of computers' capabilities and of related hardware and software issues. Importantly, a computer literate person is able to employ a computer to meet personal needs (Florini, 1983). Anderson, Klassen and Johnson (1981, p. 688) describe computer literacy as "the knowledge and skills the average student needs to know (or do) about computers". Computer literacy also refers to the degrees of comfort that persons have with usage of computer programs and other associated applications (Luehrmann, 1982). It is widely accepted in the sphere of higher education that all students need to be proficient computer users, or "computer literate".

Two factors that may hinder the development of learners' computer skills are a lack of available hardware and software, and a shortage of skilled staff able to assist learners to become computer literate. This is notably the case at schools in South African rural areas. Technological improvements and regular changes in device formats necessitate contingency plans to develop learners' computer skills and keep staff and students computer literate. Moursund (as cited in Eisenberg & Johnson, 2002, p. 2) states that productive utilisation of computers in the general curriculum content is neglected or severely underdeveloped. The importance of integrating computer skills into school curricula to guide learners in applying computer skills in meaningful ways cannot be overstated. Empowerment or preparation initiatives are therefore advised to include development programmes for

computer literacy, to ensure that participants know how to access, manage, integrate, evaluate, create and communicate computerised information. These skills would be best applied when meeting learning outcomes relating to curriculum contents, rather than being taught in isolation from curricula (Eisenberg & Johnson, 2002).

Computer literacy incorporates the innovation of e-learning programmes, which are learning models designed to transmit digitised resources and learning materials through the internet. Learners obtain through e-learning programmes the ability to control their own access to learning materials, and they can make productive use of time and location as parameters in their learning endeavours. Perceived efficacy in computer usage and e-learning programmes are among the most dependable predictors of success. Management support indicates that an advanced e-learning system enjoys a positive correlation with student satisfaction (Khasawneh & Yaseen, 2017).

The popular perception in society is that students naturally possess the technological aptitude to be successful in college careers. The reality, however, is that many students lack the required technological knowledge and experience. That is why it is necessary for higher education institutions to determine students' individual technological skill levels, and if needed, to assign students to courses designed to address their shortcomings (Stewart, 2016). Programmes that nurture computer literacy will not only provide students with basic skill sets to improve their computer usage, but they may also enhance students' utilisation of online learning programmes. The LectorSA reading development programme and the JuniorTukkie initiative's e-learning programmes in Mathematics and Physical Science, serve as examples of such programmes.

2.2.2.7 Social skills

Social skills relate to behaviours that promote positive interaction with others and the environment. Some of these skills include participation in group activities, generosity, communicating with others, negotiating and problem solving (Lynch & Simpson, 2010). McClelland and Morrison (as cited in Lynch & Simpson, 2010, p.

3) argue that the development of social skills lays a vital foundation for later academic achievement and related professional skills.

Walker (1988, p. 27) defines social skills as “a set of competencies that allow an individual to initiate and maintain positive relationships, to contribute to peer acceptance and to allow an individual to cope effectively with the larger social environment”. Wangeri et al. (2012) argue that the majority of students joining higher education have explainable fears and expectations regarding life in the higher education sphere. These fears unsettle their feelings of social security, and even affect their physical comforts. New first-year students will understandably benefit from programmes at higher education designed to equip them with the necessary skills to adapt or adjust to new social, sociocultural, psychological and learning environments.

Interpersonal skills are often referred to as 'people skills' or 'communication skills'. These skills relate to communicative as well as interactive abilities. The skills set include aspects of persuasion, active listening, delegation and leadership. Respective interpersonal skills also determine how people relate to other persons. Mazarin (2014) argues that social skills involve ways of dealing with other people that create healthy and positive interactions amongst group members. Learners with developed social skills can communicate clearly, calmly and respectfully. They can consider the feelings and interests of their peers, take responsibility for their own actions, control their own behaviour, and assert themselves when necessary. Learners acquire social skills through interactions with peers, instructions from their parents, examples set by authority figures, and time spent in the company of other adults.

Social skills enable individuals to create and develop relationships, enrich their social experiences, and to avoid harmful interactions. Since social skills provide the foundations for the forming of friendships, such skills provide learners with opportunities to learn from their friends’ behaviour, and become considerate of all other persons that they encounter. When students develop positive relationships with fellow students and peers, they cultivate a sense of belonging to the university and campus environment (Tett et al., 2016). Social skills’ positive effect on life experiences instils in students a sense of confidence and mastery over their

environments. Therefore, social skills developed during high school careers can ease the transition from high school to higher education.

South Africa's multiracial and diverse cultural environment reinforces the need for young people to acquire a range of social skills. The purpose is not merely to understand each other, but to gain respect for each other's cultural practices and customs. Mutual respect is necessary if different communities desire to work together towards a beneficial future.

2.2.2.7.1 Peer pressure

Bursztyn and Jensen (2015) define peer pressure as the kind of social pressure that prompts persons to deviate from their privately preferred optimal actions (what they would do if others could not observe them) with the purpose to achieve social gains and avoid social losses. Stated differently, peer pressure is the influence exerted by the majority of peer group members on members that encourages the individuals to take certain actions, adopt certain values, modify their attitudes, and conform to group norms to secure social acceptance. It may be in the best interest of easily intimidated persons to avoid peer groups where such pressures are exerted, especially if they wish not to be associated with a group's general behaviour.

A person's state of internal harmony is threatened when faced with the harsh realities of social rejection, as peer relationships are integral elements of all our lives. As a result, students generally accept and attempt to cope with the social climate on campus grounds, to build and sustain social relationships with their peers (Trautwein & Bosse, 2016). Some relationships with peers can promote academic engagement, while other kinds of relationship may lead to a disengagement from academic practices (Treynor, 2009).

According to Treynor's (2009) original "identity shift effect" hypothesis, the peer pressure process is effected when an individual's state of harmony is threatened by the potential of external conflict (social rejection), caused by the individual's hesitancy to conform to a peer group's norms. When the individual eliminates the external conflict by opting to conform to group behaviour, internal conflict manifests itself – because the individual is aware he/she has violated his/her

own principles. To rid oneself of this internal conflict (self-rejection), an "identity shift" occurs, meaning the individual has chosen to committedly accept and adopt the group's norms and behaviours. Having eliminated both external and internal conflicts, the individual may regain a sense of personal harmony. Although the peer pressure process ends when a member frees himself of internal strife, the member effectively invests in a new identity – a new set of internalised standards – because of the conflict resolution strategy.

Peer groups at high school are composed of individuals who are approximately the same age. Students, however, become involved in a variety of peer networks, such as friends, classmates, and teammates. Each group provides support in different situations. Astin (1993) defines peers as a collection of individuals with whom the individual identifies and affiliates, and from whom the individual seeks acceptance or approval. The two main elements in Astin's definition are connection and acceptance. This means that a peer group forms when students bond on the basis of a shared sense of identity, or through participation in shared co-curricular activities or sports. Gibson, Gándara and Koyama (2004) define a peer group as any set of same-age associates connected by a common interest or identity, provided the members sustain their relationships over an adequate amount of time. It is important for individuals to be interested in their peer group activities and to accept their accountability to other members, to ensure sustained and beneficial interactions.

Peer networks may serve as stimulating influences by promoting academic ambitions among student groups. The implementation of empowerment and preparation programmes in high school can initiate the forming of shared academic identities. Initiatives like the JuniorTukkie programme are organised around central academic identities, to purposely effect positive influences on academic achievements. Students who belong to networks of peers have access to pooled resources and knowledge bases, which students who are only loosely affiliated with other students may lack. For instance, the JT programme aims to provide academic and emotional support to learner groups, and to help students (as a collective of peers) succeed in higher education programmes.

Tierney and Venegas (2005) found in their research that participants joined a programme with expectations that they would be interacting with other students. A preparation programme for higher education readiness therefore can provide a needed haven and a sense of community for academically orientated learners. Such a programme should therefore focus on equipping participants with knowledge as well as the necessary social connections to excel in high school and successfully transition to higher education. If the initiative is successful, it can provide a communal sense of identity and a strong peer network for participants.

While empowerment programmes need to focus on academic interventions, they are also obliged to inform learners about all the requirements for admission to tertiary studies. Once learners gained admission to higher education, they can still maintain their peer groups throughout their study careers, and continue in their post-study lives.

2.3 Conclusion

This chapter has identified and analysed factors that influence students' transitions from high school to higher education. This literature review mentions several examples of prior research conducted on the various factors that influence transitioning processes. These factors are grouped into the two categories of academic and non-academic factors.

The academic factors are high school curriculum, poor selection of study fields, teacher training, difference between grade 11 and 12 results, study methods (habits), language of instruction, teaching and reading skills, and mathematics and science skills. Non-academic factors include financial factors, differences between first- and second-generation learners, culture shocks, co-curricular experiences, emotional intelligence, life skills, time management, interpersonal relationships, computer literacy, social skills, and peer pressure.

I divided the factors into two distinct categories (academic and non-academic factors), since some factors function only in relation to certain other factors. Besides the factors mentioned and discussed in this literature review, other aspects of learning and social lives may also affect successful transitions from high

school to higher education. Certain factors may be more influential than other factors, which may become evident in the outcomes of this research. The significance of this research therefore hinges on several factors that determine successful transitions, and not only on a select few factors. My study aims to illustrate that a strategy of addressing all the important factors at an early stage in high school will contribute to successful transitions of learners to higher education. This study therefore advocates for early interventions during the high school years of prospective students' lives, to prepare them effectively for their higher education careers.

In the following chapter, I discuss and describe the methodological approach employed in my research strategies and the manner in which I applied those strategies in adherence to the study framework.

CHAPTER 3: Research methodology

3.1 Introduction

This chapter discusses and explains the research methodology used in this study. I justify my preference for a social constructivist paradigm and explain my decision to utilise the explanatory sequential mixed method research design. I describe the techniques and methods employed to collect, analyse and interpret the data. I explain my reasons for conducting this research in a way to maximise rigour in accordance with the prescribed ethical clearance principles. The chapter concludes with operational definitions of variables. This discussion commences with the restating of the study's purpose and research questions.

3.1.1 Purpose of the study restated

The study's purpose is to examine the factors that influence learners' transition from high school to higher education. The JuniorTukkie (JT) initiative serves as a case study in the investigation of those factors. The ways in which the JT programme incorporates possible factors – deemed relevant in associated literature – are purposefully scrutinised and analysed. The study's aim is therefore to suggest effective approaches that empowerment initiatives like JT could employ to ease prospective students' transition from high school to higher education.

3.1.2 Research questions restated

3.1.2.1 Primary research question restated

What factors determine the successful transitions from high school to higher education of JuniorTukkie participants at the University of Pretoria?

3.1.2.2 Sub-questions restated

- What criteria are used to identify and select learners to participate in the JT Programme?
- What attributes do learners bring to the programme that contribute to their success?

- What mechanisms are utilised to support these learners in their transition from high school to higher education?
- What factors positively influence or account for the successful transition from high school to higher education in South Africa?

3.2 Paradigm considerations

3.2.1 Methodological paradigm

For the purpose of this study, a sequential mixed method research approach was used to obtain the data. Various philosophical assumptions sustained the explanatory design. Multiple perspectives and detailed descriptions added value to the qualitative phase. The perspectives of post-positivism were used to develop instruments, measure valuables, and assess the results (Creswell & Plano Clark, 2006).

A paradigm can be described as a belief system (or theory) that guides actions and methods in terms of outlined tasks. A paradigm therefore establishes a set of practices, ranging from thought patterns to actions. A positivism paradigm may relate to experimental testing, while constructivism (sometimes referred to interpretivism) signifies an approach where every individual constructs his/her own reality.

Guba and Lincoln (1994) argue that paradigms may have their own characteristic components: ontology (determining the reality), epistemology (obtaining required knowledge) and methodology (executing actions to gather information). The ontology component of my research consists of the possible factors that influence the transition from high school to higher education. The epistemology component represents observations of the related factors relevant to participants in the JuniorTukkie programme. Strategies employed by students to mitigate these factors are also considered. The methodology component is embedded in the case study approach of this research.

The primary research activities were to examine, explore and describe the possible factors that could influence the transition from high school to higher education. The research focus was directed at those individuals who participated in

the JuniorTukkie programme, who successfully transitioned from high school to higher education and successfully managed their study careers. I utilised factors and influences on the transitional processes as identified in existing literature on this research topic. Data collected through an online questionnaire were used to form a detailed description and comprehensive interpretation of participants' transitional experiences.

The paradigm of pragmatism dictated the area of this research where the focus was applied to the real problem of high dropout rates at higher education institutions. The research outcomes include suggestions to improve the existing practices of initiatives and empowerment programmes, and hence provide sufficient support to students to ease their transitions from high school to higher education (Guba & Lincoln, 1994). Essentially, this research addresses significant problems related to access and successful transition to higher education that would ensure the retention of students.

3.3 Research design

I used an explanatory sequential design in this study, having first collected and analysed quantitative data before collecting and analysing qualitative data. My intention was to obtain a clear understanding of the subjective dynamic processes involved in individual students' transitions from high school to higher education. I selected the JuniorTukkie (JT) programme to serve as a case study, having already been involved in the recruitment of academically achieving learners for the University of Pretoria. The JT programme is ideally suited for this research, since its function is to aid the university's commitment to lower the dropout rate by identifying prospective students (during their high school studies) and providing them with the support needed to successfully transition to higher education.

For the study to be relevant, I needed to understand the various factors that influence the transition from high school to higher education. These factors constitute the study's foundation. I recorded the new students' transitional experiences, and endeavoured to gain a comprehensive insight into the ways that the students extracted meaning from those experiences (Mertens, 2008). Other

important elements of this research included the participants' historical and cultural backgrounds.

Owing to the complexity of the mixed method design approach, a fixed (emergent) design suited to the research questions and study purpose was selected. The design details of the qualitative methods used (second stage) will emerge from my interpretation of the results of the quantitative methods used in the first stage of research. I decided to incorporate the mixed method design at the start of the research (Creswell, 2014, p. 225-226).

Creswell (2003) lists a few challenges associated with the explanatory design, which are relevant to this research.

- Time: two phases of research may be time consuming. The quantitative phase (online questionnaire with many participants) requires more time than the qualitative phase (focus group interviews with a portion of the participants) in this study. Time allocated to each phase thus needs to be proportional.
- Ethics clearance: I expected difficulties in this regard, since the strategy to select participants for the second phase could not be specified until the first phase's findings were completed. Problems were overcome and ethics clearance for this study was obtained.
- Method descriptions: only upon completion of the first phase could I determine sample sizes and participant selection criteria for the second phase.

Different researchers used different approaches for designing mixed method studies. Tashakkori and Teddlie (1998) used the sequential mixed method design in education research, while Creswell (1998) used the sequential model in educational policy.

The prototypical approach that I used in this research was the explanatory sequential design. This design allowed me to conduct this research in interactive phases. It started with the collection and analysis of the quantitative data, utilising an online questionnaire. This first phase was prioritised on the grounds of its relatively closer relationship to the research questions. I then developed the second phase – collecting qualitative data – according to the first phase's outcomes. The

first phase results were then interpreted through harnessing the qualitative data of the second phase, and all the applicable factors revealed in the literature review.

In this research, I collected and analysed the various factors that influence the transition from high school to higher education, to identify significant predictors of transitioning success (quantitative phase). I then conducted interviews with the participants who were actively involved in the JuniorTukkie programme (qualitative phase). The following basic research procedures of this explanatory design – which I adopted and implemented – summarise the design's prototypical characteristics, as described by Creswell and Plano Clark (2011, p. 84).

I first designed the quantitative component of my research to address my research questions specifically. I next developed an online questionnaire and obtained the necessary permissions from the participants. Upon completion of the quantitative sampling process (when all completed questionnaires had been submitted), I then analysed the quantitative data by using descriptive statistics, inferential statistics and effect sizes to find accurate answers to the quantitative research questions.

The second phase commenced with my selection of sample sizes and strategies. The quantitative results yielded several parameters that I incorporated in designing my qualitative research strategies, such as explainable results, significant and non-significant results, outliers, and group differences. I formulated the qualitative research questions based on the quantitative results, and established the approach for this second phase in the research design. I purposefully selected qualitative sampling strategies that would help to explain the quantitative results, and collected the open-ended data employing procedures adhering to qualitative data analysis protocols. I identified and developed themes, and implemented analytical procedures specific to the qualitative approach, to answer all qualitative and mixed methods research questions.

The compiled results were summarised and interpreted in accordance with the respective quantitative and qualitative results. A discussion then centred on the ways and the extent that the qualitative results managed to explain the quantitative results.

After selecting the explanatory mixed method design, I considered Creswell and Plano Clark's descriptions (2011) of the two following variables of the explanatory design, namely the "prototypical" follow-up explanation variant, and the participant-selection variant.

Table 3.1 ***Differences between the "prototypical" follow-up explanations variant and participant-selection variant***

Prototypical follow-up explanations variant	**Participant-selection variant**
Most common approach in implementation of explanatory design.	Less frequently applied.
Priority placed on the initial quantitative approach.	Priority placed on the qualitative approach.
Used to obtain quantitative data (questionnaire) needed to answer research questions, whereupon a strategy to collect qualitative data (focus group interviews) is determined. Information from qualitative phase helps explain quantitative results.	While the study focus is on the examining of qualitative data, preceding quantitative results are necessary to identify and purposefully select the best-suited participants for qualitative research procedures.

I selected the prototypical follow-up explanations variant for my research. Research priority was therefore assigned to the initial quantitative phase, while the qualitative results were harnessed to explain the quantitative results.

The quantitative results obtained during research informed and explained the nature of the factors that influence successful transitions. The qualitative results obtained in the following phase helped me to understand the participants' attitudes, perceptions and behaviours (as members of the JT initiative) in relation to the quantitative results.

My intention to gather the same types of data through different strategies led to my adoption of the mixed research design. The use of quantitative as well as qualitative approaches would be useful for cross-checking purposes between the data sets. Creswell (2014) supports the idea that data sets can complement each other due to overlapping aspects, and that different facets of a phenomenon may emerge in the process. The mixed method design further helps to integrate results, explains or negates contradictions, and allows fresh perspectives to emerge. The sequential nature of the two phases allows new insights to develop regarding the

information contained within the respective data sets. The mixed method research design thus adds scope and wider interpretive dimensions to the study.

3.4 Target population

The target population was all the "JuniorTukkies" who participated in the JuniorTukkie Empowerment Programme from 2009 until 2013. Some JuniorTukkies recruited at high schools did not progress to higher education, hence only those members that transitioned successfully were targeted. The target population included the JuniorTukkies who opted to study at other universities, on account of finances, geographical distances, practical logistics or selection criteria at UP. The target population comprised students who were either still studying, or who had completed their studies. Social media networks enabled me to locate all the participants who were members of the Grade 11 Empowerment Week initiative.

In total, 642 JT-affiliated students were invited to complete the online survey questionnaire. Five members have dropped out or never registered for studies; the rest were either still studying (at different universities), or had completed their studies. Seventy students were invited to group interview sessions (7 to 10 members each) to discuss their own experiences with regards to factors that may or may not have influenced their successful transitions from high school to higher education.

3.5 Data collection procedures and research instruments

Various data collection methods were considered before I decided to gather quantitative data by means of an online questionnaire, since it provided easy access for students and reliable returns of completed questionnaires. To minimise time and travelling expenses, my selection of focus group interview participants centred on JT-members who were still studying in or near Pretoria.

Table 3.2 ***Research instruments and data collection procedures***

Research instruments	Data collection procedures
1. Literature study	Reviewed all documents, articles and government papers on the transition from high school to higher education. Divided the academic factors as well as the non-academic factors in literature. Compiled and categorised lists of the academic and non-academic factors that may influence transition.
2. Online questionnaire (quantitative research)	Organised the questionnaire into the following categories: – Introduction – Personal information (of participants) – Study career information – Academic information and questions – Non-academic information and questions – Questions about interventions that assisted participants in their transition – Questions about the degrees of influence that factors had on their transitioning experiences – Questions about positive/negative experiences in their first year. Selected Qualtrics as instrument to manage the online-questionnaire. Did language editing of the questionnaire; then tested it with eight participants. (This data was not used in research due to subsequent changes in questions and format.) Addressed all problems identified in the pilot phase and finalised the questionnaire. Sent invitations by email, text message and social media. Followed up on non-responding targets until target number was reached. Send messages thanking all who responded and participated.
3. Focus group interviews (qualitative research)	Determined the required number of participants and group sizes.

Research instruments	Data collection procedures
	Compiled and organised the focus group questions; then tested the questions with four participants. (This data was not used in research due to subsequent changes in questions and format.)
	Sent invitations to all suitable participants who completed the online questionnaire.
	Sent time frames for different interview sessions to respondents for them to indicate which sessions they could attend.
	Selected a scribe and external moderator to conduct and record the interviews.
	Conducted seven interview sessions over two days – each session one hour long.
	Transcribed all answers recorded during focus group interviews.
	Compared recordings with transcriptions; documented the collected answers.
	Compared and verified data from the group sessions; drafted a final comprehensive document.
	Sent messages thanking all participants.

During the data collection procedures, I followed recommendations made by researchers like Cohen, Manion and Morrison (2007). They concluded that semi-structured questionnaires first tested with small group samples before the actual data sampling takes place, could give the researcher prior insight into participants' thoughts and levels of perception. This knowledge could help the researcher to ensure that questionnaire questions are clear, unambiguous and functional. Wilson and McClean (1994) and Oppenheim (1992) corroborate this view, noting that a pre-questionnaire or pilot study enhances the reliability, validity and practicality of the final questionnaire, and improve its organisation and appearance. Other important aspects that must be considered and preferably tested are the time required for completion of the questionnaire, feedback on closed and open-ended questions, question numbering, length, and levels of difficulty and sensitivity. The questionnaire may also fail to add value to the research if the classification methods to be used during data-analysis procedures are not carefully evaluated and tested (Creswell, 2014, p. 226). Note that I did not use the same individuals in the small and bigger

sample groups, because of the potential for contradicting information that may result.

The online questionnaire (Addendum A) and focus group interviews questionnaire (Addendum B) combined to subscribe to the mixed method research design. The two approaches complement each other, increasing the validity of this study.

3.5.1 Online questionnaire (quantitative data collection)

The quality of questionnaire questions largely determines the quality of information gained. As a researcher, I needed relevant and dependable information, and organised the online questionnaire into four distinct sections as follows:

Demographic information:

a) Personal information

Participants provide their ages, genders, parents' education details and home language.

Study programme information:

b) Undergraduate study information

Participants indicate their higher education institutions, study choices, changes to academic courses, reasons for changing (if applicable), and whether they successfully completed their first year of study.

c) Correct study programme

Participants explain if any interventions possibly assisted them (or not) with the selection of correct career and study options.

d) Career placement tests

Participants relate their experiences with career placement tests and grade the influence that those tests had on their study career choices.

e) Teacher training

Participants evaluate the training and skill levels of their Mathematics, English and Science teachers at high school.

f) Differences between Grade 11 and 12 results

Participants judge whether any differences between their Grade 11 and 12 marks are significant, and whether their Grade 12 marks serve as indicators of their transitioning prowess.

g) National Benchmark Test (NBT)

Participants indicate whether their higher education institutions provided preparatory assistance for the NBT tests, whether their institutions discussed the test results with them, and whether their institutions incorporated the test results into their selection processes.

Academic factors:

Participants answer questions about the possible academic factors that could influence the transition from high school to higher education.

h) Study methods

Participants evaluate whether a study method course (at school) or the JuniorTukkie programme assisted them in making a successful transition.

i) Language of teaching and learning

The researcher probes participants' thoughts regarding home language as the medium of instruction; they indicate whether they believe language used on campus influenced their transitioning experiences.

j) Reading skills

Participants reveal whether the LectorSA reading skills and development programme improved students' reading and comprehension skills.

k) Mathematics and Physical Science skills

Participants reveal whether they had Mathematics, Mathematical Literacy and Physical Science subjects at school, and whether extra classes in those subjects improved their performances.

Non-academic factors:

In the next section, the focus shifts to possible non-academic factors that influence the transition from high school to higher education.

l) Financial factors

Participants share information regarding sources of financial support, including bursaries (and applications) and aid schemes like NSFAS.

m) Culture shock (school vs higher education)

The researcher wants to ascertain the degrees of culture shock experienced by students during their transitions from high school to higher education. Participants are prompted to elaborate on their emotions/feelings.

n) Extra-curricular experience

Participants reveal which extra-curricular activities they were involved in at high school, and if their participation in those activities possibly influenced their transition from high school to higher education.

o) Co-curricular experience

Participants describe facets of their co-curricular experiences, including time management, computer skills, peer pressure and social skills; they further grade the degrees of influence those facets had on their transitioning processes.

p) Interpersonal relationship

Participants disclose whether interpersonal relationships influenced their transitions from high school to higher education.

The online electronic survey (the quantitative survey tool) was developed with the assistance of the Market Research Office in the Department of Institutional Planning of the University of Pretoria.

3.5.2 Focus group interviews (qualitative data collection)

A focus group interview is a semi-structured interview dealing with a specific topic or experience familiar to group members. A focus group interview is a technique that applies to qualitative data collection. A focus group is “a group comprised of individuals with certain characteristics [that] focus discussions on a given issue or topic” (Anderson, 1990, p. 241). According to Denscombe (2007, p. 115), a “focus group consists of a small group of people, usually between six and nine in number, who are brought together by a trained moderator (the researcher) to explore attitudes and perceptions, feelings and ideas about a topic.” A focus group interview is a carefully controlled "discussion" that allows people to express their points of view in a group format, and provides researchers with indicators of programme impact.

Patton (1990) states that focus group interviews nurture different perceptions and points of view, and are used to gather information regarding discovery, benchmarking, evaluations, perception verifications, feelings, opinions and thoughts. In literature, information relating to interviews generally includes aspects like preparation for the interview, construction of effective research questions, implementation of interviews, and reflection (Creswell & Plano Clark, 2006).

As the researcher, I was ethically obliged to incorporate an external moderator to conduct the focus group interviews. The moderator, recommended by the university’s Market Research Office, led the groups in all three languages instituted at the University of Pretoria, which are Afrikaans, English and Sepedi. The external moderator’s presence, instead of my own as researcher and JT affiliate, helped to ensure honest feedback from participants. Another reason for incorporating the moderator was to eliminate the possibilities of researcher bias in terms of my reflections and findings, given my close association with the JT programme. I briefed the moderator comprehensively regarding the project’s

background, scope, research objectives and target groups. The moderator used a structured discussion guide for the focus group interviews, ensuring that all required themes were discussed during each session.

An interviewer can guide an interview session in several different ways, according to the consulted research publications. I decided to incorporate Kvale's seven-step process (1996) for this study's focus group interviews. The steps are as follows:

a) Thematising

The researcher defines the interview's purpose and relevant concepts.

b) Designing

The researcher determines the required interview processes and develops a set of questions that would satisfy the research aims.

c) Interviewing

The researcher (or moderator) conducts the interview by questioning and prompting the interviewees, and recording all segments. In this study, the moderator used a tape recorder to capture all the responses.

d) Transcribing

This process involves the writing or typing of all the responses and related information in textual format.

e) Analysing

The researcher determines and interprets the collected material's meaning in the context of the study's purpose.

f) Verifying

The researcher ensures that the recorded and transcribed information is valid and reliable.

g) Reporting

The researcher documents and presents his interview-related findings.

The purpose of having focus group interviews was to understand the participants' thoughts about the JuniorTukkie Empowerment Programme, and the measures of assistance that they received from the initiative during their transitions. Their suggestions informed the later recommendations for customising the initiative to better suit future participants.

Planning the focus group interviews comprised two stages, namely the pre-interview phase and pre-interview questions.

3.5.2.1 Pre-interview phase

In this phase, I, as the researcher, compiled and evaluated potential questions to align with the theoretical framework. I then tested the suitability of the questions on a small test group of four students. After this initial trial, I eliminated a few questions, refined others, and reconsidered the approach to the focus group interviews. This process helped me to establish if the chosen approach is appropriate, and whether the moderator would be able to conveniently apply the methods and prompt the participants to discuss the vital elements of this research.

3.5.2.2 Pre-interview questions

In this phase, I attended to the final interview processes – including the interview structure and ethical aspects – and formalised the dates and times of interview sessions.

I revised the interview questions after gaining insights and helpful suggestions from various knowledgeable persons, then finalised the list and structure of questions. The interview included open-ended and probing questions, set up purposefully so participants' responses, experiences, perceptions, opinions and knowledge bases could be contextually interpreted.

Patton (2001) studied focus group interviews, and listed several advantages of such interview sessions:

- time- and cost-effectiveness – data collection can be done within a short amount of time and with minimal expenses,
- enhanced data quality through participant interactions – they tend to provide checks and balances for each other,
- relative consistency in individual sharing of views,
- a large diversity of views becomes available for assessment.

Participants tend to enjoy working in group settings, as people generally are socially inclined. Invitations to participate in the focus group interviews were sent to all students who completed the online questionnaire. Each focus group would originally have contained 8-10 participants, but due to circumstances, seven groups consisting of 5-8 respondents each were assembled from available online questionnaire respondents. The groups contained students who were at different stages of their studies – some were undergraduates, some were postgraduates, and others were graduates who had already entered their professional careers. The interview participants were all students at some stage during the years of this JT initiative research (2009 to 2013). A number of respondents, however, failed to attend the interview sessions. Ultimately, 48 (from a possible 70) students who availed themselves participated in the interviews.

Each interview was sequenced as follows:

a) Participants introduced themselves, related details of their JuniorTukkie memberships, and disclosed the status of their studies or careers.
b) The moderator sought to ascertain the degrees to which the JuniorTukkie initiative assisted participants to successfully transition from high school to higher education. A secondary purpose was to establish in which ways the JuniorTukkie initiative failed to assist any participants during transitioning.
c) The moderator prompted the participants to reveal their thoughts about the two groups of factors (academic and non-academic) as outlined in the online questionnaire. Participants estimated the factors' respective influences on their successful transitions from high school to higher education.

This stage of the interview incorporated the following academic factors:

- high school curriculum,
- selection of study fields,
- teacher training,
- differences between grade 11 and 12 results,
- study methods (habits),
- language of teaching and learning,
- teaching and reading skills,
- mathematics and science aptitude.

The following non-academic factors were included:

- financial support,
- differences between first- and second-generation students,
- culture shocks,
- co-curricular experiences,
- emotional intelligence,
- life skills,
- time management,
- interpersonal relationships,
- computer literacy,
- social skills,
- peer pressure,
- extra-curricular activities.

The moderator asked participants which academic and non-academic factors influenced or contributed to their successful transitions.

d) Participants detailed their experiences with services offered by the JuniorTukkie initiative, such as aptitude tests, career advice, and others. The purpose was to ascertain which services succeeded (and how), and which services failed to assist the JT members.
e) Participants explained which elements of the JuniorTukkie programmes they would retain, modify or eliminate, or what new services they would implement if they were given the opportunity to design the JT Empowerment initiative for

Grades 10–12. They could also comment on skills or approaches that the JT presenters should ideally assume.

f) Participants discussed and suggested ideas regarding techniques and interventions that higher education institutions employ (such as student orientation, career advice, transportation services and financial support) to ease first-year students' transition to campus life.

g) Participants suggested new strategies, or improvements to existing services, to improve and streamline the current set of services offered by the JT initiative to prospective students.

The focus group interview phase concluded with the formulation of a summary, detailing outcomes and describing the implementation of suggestions. The success of the interview sessions depended on the effective arrangement and sequencing of questions, and a capable interviewer who could introduce probing questions. I expected that successful group interviews would inspire new lines of thinking, and widen the JT initiative's horizons.

3.5.2.3 Recording the focus group interview

Since an external moderator conducted the focus group sessions, all interviews were recorded while a scribe notated as much detail as possible. A protocol (designed beforehand) for the capturing of information whilst recording ensured that all efforts were made to capture the verbatim responses during the interviews. All irrelevant information was excised from the final script, and duplicated parts of information were merged in the final phrase.

As the researcher, I adopted Creswell's interview protocol (2014, p. 194) to guide the asking of questions and recording of answers. The protocol includes the following components:

- heading (date, place, names of interviewer and interviewees),
- instructions for the interviewer (moderator) to ensure that standard procedures are applied to all sessions,
- an initial "ice-breaker" question,

- encouragement of interviewees to explain their ideas, or to elaborate on their answers,
- communicate gratitude to interviewees for their time and commitment,
- collection of records and documents, ready for qualitative analysis.

As the survey instrument, the focus group interviews measured participants' attitudes and beliefs regarding the factors that may have contributed to their successful transitions from high school to higher education. Once the collection of the qualitative data – derived from the focus group interviews – was completed, careful analyses of factors and attributes that account for the degrees of success of transitions followed. Manual and SWOT (strengths, weaknesses, opportunities, threats) techniques of analysis were executed.

3.6 Data analysis and techniques

Rose and Sullivan (as cited in Tichapondwa, 2013, p. 140) remind us that 'data analysis' does not have the same meaning as the term 'statistics'. Data analysis in research entails:

- applying procedures and techniques that help to extract and describe information, and detect and describe patterns,
- testing hypotheses,
- making informed decisions about significance, use and implications of the data relative to the research problem,
- determining and investigating what the captured data truly represent.

It was imperative for me to analyse and interpret the data meaningfully in relation to the stated study problems and research questions. My aim at the outset was to manage research time effectively by collecting only relevant data using recommended methods, validating the subsequent analyses (Walliman, 2005). During the preparatory stages I identified, in specific, what types of data will be collected. The technique of purposeful sampling meant that the selection criteria targeted only those students who had prior experience of the JuniorTukkie Empowerment Programme. My data collection procedures adhered strictly to the specifications of the selected research model, namely the sequential explanatory

model. I hence first established the value and validity of quantitative survey data gathered through the online questionnaire, and then conducted an initial data analysis to describe the precursory outcomes. In the second phase, I gathered qualitative observations, coded in adherence to the ethnographic research design.

As validation of data, codes and themes were created by counting the number of times the same responses occurred in the text data. This technique to quantify the qualitative data enabled me to compare the quantitative and qualitative results, in alignment with information gained from the literature review. It was possible to compare online questionnaire outcomes with focus group outcomes, and to understand why the qualitative sampling data diverged from the quantitative sampling data. The sequential research approach allowed results from the initial quantitative data collection to aid the design of a new qualitative survey instrument. Therefore, the views of the initial questionnaire respondents determined the format of the qualitative sampling that followed.

Data from the online questionnaire and focus group interviews were validated, after which the accuracy of my findings was examined and confirmed. As an advantage of using the sequential mixed method research design, the conclusions contained in the report on the qualitative research enabled me to elaborate on the results from the quantitative research with an improved understanding of the quantitative data. Moser and Kalton (1971) list the following important aspects of overviewing and editing of sampling procedures and outcomes.

1. Completeness: The researcher must ensure that he/she provides an answer to every question, and that cross-checking of information between different sections of the survey is possible.
2. Accuracy: The researcher that ensures the validity of data through stringent testing would be able to answer questions accurately.
3. Uniformity: The researcher needs to incorporate a checking procedure to ensure that interviewees interpret instructions and questions correctly and uniformly. A failure to provide explicit instructions to the interviewer regarding the interpretation of respondents' replies may cause interviewers to record the same answers in more than one answer code. A check on uniformity can prevent errors of this nature to invalidate the data.

In any research project, a high number of responses or large data sets can contribute to making the collected data valid and trustworthy. Hudson and Miller (1997) suggest a few strategies to get a high response rate from the target audience, which I followed. I sent multiple follow-up messages through email and text messaging services, as made repeated personal phone calls. I invested the effort to provide a questionnaire that is easy and quick to complete. I also encouraged participants to ask their fellow attendees in the Grade 11 Empowerment Week initiative, to assist me in obtaining a sufficient number of respondents.

The online questionnaire comprised a constructed set of questions designed to gain understanding into – and, possibly, explanations for – the research problem. I used information from the literature review as a basis for compiling useful questions for the questionnaire. The questionnaire contained four sections: Section A (demographic information), Section B (study programme information), Section C (academic factors) and Section D (non-academic factors).

Various kinds of rating scales have been developed to measure attitudes directly. I opted to employ the Likert Scale in some questionnaire questions. Likert (as cited in McLeod, 2008) developed the principle of measuring attitudes by asking people to indicate the extent that they agree with statements regarding a topic. The measuring instrument used in this research is a five-point bipolar Likert scale. These scales allow respondents to signify the degrees to which they agree or disagree with statements, and approve or disapprove of suggestions. They further allow respondents to indicate other kinds of inclinations, preferences, beliefs or engagements with topics on a least-to-most basis. When Likert scalar data is analysed, the researcher's initial analysis should not involve parametric statistics, but should rather rely on the ordinal nature of data (Allen & Seaman, 2007).

A Likert-type scale assumes that the strength/intensity of experiences and convictions are linear, meaning that those strengths can be numerically valued and placed on a scalar continuum from 'strongly disagree' to 'strongly agree'. The assumption, therefore, is that attitudes can be measured and quantified. Respondents may be presented with a choice of up to nine pre-coded responses with the neutral point being 'neither agree nor disagree'. In this research, I employed the Likert five-point scale but decided not to include the neutral point. Several

researchers before have utilised Likert- or frequency scales with their fixed choice response formats, in order to measure attitudes or opinions (Bowling, 1997; Burns & Grove, 1997).

Once the completed online questionnaires were collected, each item was analysed separately. I summarise the responses at certain questions to create scores for groups of items. Bertram (2008) noted the Likert scale's strengths and weaknesses, which I kept in mind during my analysis. Some strengths of the Likert scale include simplicity of construction, reliability, and ease of use. Some weaknesses relate to the central tendency of bias. For example, respondents may purposely avoid extreme response categories, or they may signify dis-/agreements with statements purely to satisfy or "please" the researcher. Other respondents may display a social desirability bias – also known as virtue signalling – when they opt to portray themselves in a favourable social light, rather than being honest. Other associated weaknesses involve respondents' potential lack of responsibility and commitment to honesty, and difficulties in terms of demonstrating the validity of responses and resultant data.

3.7 Validity and reliability of data

Validity, a reflection of the accuracy of data obtained from sampling procedures, can be classified into two types, namely internal (Guler, 2004) and external validity (Laxton, 2004).

Internal validity refers to the accuracy of a specific study's findings. Internal validity may be negatively affected when, for example, some respondents complete more than one questionnaire, when questions are spoilt or ambiguous, or when the survey questions are presented in such a way that they guide or influence respondents' answers. Other factors that may undermine internal validity include selection bias in the creation of sample groups and respondents' failures to complete the questionnaire or honour subsequent obligations.

External validity reflects the extent that the findings of a study can be extrapolated or applied to other situations. External validity can be undermined by the characteristics or natures of the participants, time-periods or study locations.

These problematic elements may potentially cause obtained data to be unrepresentative of the target population (Laxton, 2004).

Perceived reliability of a data set is reliant on sampling consistency and an absence of any type of bias. In this research, I endeavoured to enhance quantitative data reliability by establishing a large sample size of 623 completed questionnaires, thereby limiting the risk of bias, and minimising sampling errors.

While drafting the online questionnaire, I harnessed the knowledge of my supervisor and the Head of Research at the University of Pretoria, before presenting my proposal for this quantitative research phase to the university's Ethics Committee. The committee approved the use of the questionnaire as designed. I also sought the knowledge and experience of statisticians at UP's Department of Statistics. The team of statisticians allocated to this research project scrutinised the proposed questionnaires and suggested improvements. Suggestions and comments of all persons that I consulted during the preparatory stages were considered whenever I amended the questionnaire. Although my purpose was to collect quantitative data, I also needed to gather a certain amount of demographic information from the respondents who, at the time, studied or have studied at the University of Pretoria and other higher education institutions.

I followed largely the same procedures while designing the format for the focus group interviews. I drafted the original focus group interview questions according to the selected interview protocol (Creswell's protocol). Again, appropriate amendments were made before finalising the interview format and question structures, as approved by my supervisor. The Ethics Committee then issued the needed ethics clearance that allowed me to proceed with the qualitative data collection phase of this research.

Validity checks are critically important for research projects of this nature, where all efforts should be made to prevent personal assumptions, biases, beliefs and emotions to devalue the sampling processes. I hence reflected on ways to separate my own views and assumptions from research procedures, in order to gather data adhering to high standards of reliability, honesty, detail and openness (Creswell, 2003).

3.8 Research ethics

3.8.1 Ethical considerations

All stages of research were designed and executed in accordance with the University of Pretoria's Policy on Research Ethics. Participants' privacies were protected by designing the questionnaires and interviews to preserve participants' rights to anonymity and confidentiality. All participants were informed of their rights before, during and after the sampling processes. Since clinical information constituted an element of research data, permission to proceed needed to be granted by the Institutional Survey Committee at the University of Pretoria, the Director of the Client Service Centre, the Dean of Education, and the Registrar of the University of Pretoria.

I also obtained permission to use contributions from all questionnaire respondents and interview participants. Because I, as the researcher, was simultaneously involved with the JuniorTukkie initiative, the target group potentially could have constituted a captive (inhibited) audience. To safeguard voluntary and honest participation, I employed the services of a research assistant (online questionnaire) and a moderator (focus group interviews) to minimise any forms of pressure on participants. The chosen moderator for the interview sessions was a trained and experienced person, comprehensively briefed in advance about the research aims and methods.

3.8.2 Voluntary participation

The concept of informed consent guided this research's ethical norms in terms of voluntary participation. Respondents could view the letters of consent for using data from a completed questionnaire for research in the online introductory section – this was the most practical strategy given the online nature of the quantitative research method. Students who opted not to participate did not respond nor complete the questionnaire. The informed consent letters (Annexure C) state that all participants have the right to withdraw at any stage from the study.

For the focus group interviews (qualitative research), invited participants received letters of consent through email services. Students who replied to indicate

their willingness to participate in the proposed interviews signified their consent, and acknowledged the notification of their rights to withdraw from the study at any time of their choosing.

3.8.3 Anonymity and confidentiality

Anonymity denotes a circumstance where available information cannot be sourced to any individual persons. Confidentiality refers to the strategy of keeping personal information secret or private. When this study commenced, I had access to a database containing personal information of every student who participated in the JT Empowerment Programme from 2009 to 2013. Personal information included the members' respective names, identification numbers and contact details, such as telephone numbers and email addresses. After each participant completed the online questionnaire, I validated the provided identification number by confirming that the number belonged to the relevant JT member list. This strategy ensured that only students affiliated with the JT Empowerment Programme initiative completed the questionnaire.

Even though I, as the researcher, was familiar with names of JT students, the contributions of all of respondents and participants to the sampling procedures remained anonymous in nature, since no names were ever entered as data elements. I maintained the principles of anonymity and confidentiality at all times throughout the research stages. I assured all participants that their anonymous statuses will be preserved, and even though I was able to identify a particular student's responses if such a need ever arose, I laboured the point that their contributions to the research will be kept strictly private.

The principle of pseudonymity is relevant to this study. This means that the researcher has access to information that can reveal a particular respondent's identity, yet use it only to validate contributed data (if needed), without ever revealing such sensitive information. In this study no names were ever required during sampling procedures, meaning that only identification numbers and email addresses could be used for data validation – and never any participant's actual name. The online questionnaire never prompted respondents to provide names or surnames, and neither were names or other personal details ever included in the

coding and data analysis processes. All participants' responses were kept strictly confidential. Participants were also not privy to answers provided by other respondents.

No participant names or personal information were committed to audio recordings during the course of the focus groups interview sessions – only questions, answers, comments and discussions were recorded. No names of participants who are audible on the recordings were revealed to the researcher. To negate the possibility of losing important information and responses, a scribe notated as many responses and observations as possible to complement audio data captured by the tape recorder. No personal information or names were added to the written notes either. The moderator, scribe and researcher were all obliged to function strictly within the ethical boundaries of participant confidentiality and anonymity. The principle of confidentiality was also honoured during the dissemination of findings.

A data trail guiding the ethical management of data – through the phases of collecting, processing, analysing and archiving – was instituted. All interview transcripts were carefully stored for subsequent checking purposes. Audio tapes and questionnaire responses were kept only in the researcher's possession during processing and analytical operations. After completion of the research, all raw materials will be stored for safekeeping for a period of 15 years in accordance with the policy requirements of the University of Pretoria.

3.8.4 Sampling collection methods

The development and usage of an online questionnaire rather than a paper-based questionnaire saved a significant amount of time. Paper-based questionnaires are costly, while the retrieval of questionnaires could be time consuming as well. The pre-testing of sample materials – to improve and finalise the questionnaire and questions contained in the focus group interviews – benefited the data collection processes. I used those preliminary tests to gauge the general nature of participant reactions, then amended and refined all questions accordingly to capture a high quality of responses from participants.

Focus group interviews always harbour a risk that interviewees would contribute statements and opinions that they expect would align with the moderator or researcher's personal or professional points of view, rather than being frank and honest (Lichtman, 2011). The moderator constantly reminded the participants that there are no right or wrong answers, and that they need to be truthful regarding their actual experiences during their participation in the JuniorTukkie initiative. The moderator emphasised that only truthful reflections on their experiences would provide valid and reliable data.

Time-related challenges are associated with focus group interviews. Processes of recording, transcribing, interpreting, classifying and analysing the data are often time consuming, though I overcame this problem by keeping a strict working schedule. The moderator's knowledge and experience in managing such focus group interviews eased the efforts to follow the proposed research schedule. The combined contributions by UP's Department of Statistics helped me to compile and store the data in a manageable format, saving time and limiting potential difficulties during data processing endeavours.

At the commencement of the respective group interviews, the moderator asked permission from the participants in each group to record the entire sessions. The completeness of the recordings enabled me to verify that everything said during the sessions was accurately transcribed. The use of a scribe added significant value to the recordings, as the scribe noted his own observations and impressions of visual clues that could not be captured on the audio recordings. The scribe's observations therefore informed and enriched the transcriptions that resulted from the focus group interview sessions.

3.9 Limitations of the research

The research conducted was a sequential explanatory mixed method project where the JuniorTukkie initiative served as a case study. Care needed to be taken not to generalise findings while the research explored participants' views and experiences relating to the JuniorTukkie initiative, as well as their experiences while transitioning from high school to higher education. I, as the researcher but also affiliated with the JuniorTukkie initiative in a professional capacity, naturally held strong personal

views and beliefs about the JuniorTukkie initiative. Therefore, to preserve the integrity of my research, I needed to be rigorously disciplined in terms of research ethics and methods by keeping a professional distance at all times.

Lichtman (2011) confirms that a researcher plays a pivotal role in all qualitative research. The researcher needs to be simultaneously committed and focused, yet adaptable and sensitive to all elements of research. As the researcher in this study, I acknowledged the possibility that my own experiences, values, views and background could influence my interpretations of data and study outcomes. It was therefore imperative that I remained unbiased, and eliminated any pre-existing assumptions relating to participants' own values, views, experiences, intentions and backgrounds. The findings and interpretations of my research would depend on my ability to manage and analyse the data in strict adherence to scientific methods and ethical codes; only then would my research conclusions be valuable and meaningful within the framework of the research design and purposes.

3.10 Conclusion

I presented a detailed explanation of the research design and associated methodology in this chapter. I first restated the research question and sub-questions before explaining the research methodology and strategies that I used during the data collection and processing stages. I described the target population, justified my preference for a social constructivist research paradigm and discussed the benefits of the explanatory sequential mixed method research design.

I motivated my decision to involve the JuniorTukkies Empowerment Programme in this research. I then described techniques of data collection, data analysis, and interpretive considerations and measures. I explained the necessity to conduct this research in such a way that rigour would be maximised in accordance with the prescribed ethical clearance principles. The relevant ethical principles were explained and justified. In the closing section of this chapter, I explained possible limitations and challenges that could affect the research value and significance.

In the following chapter, I will present and illustrate the quantitative data in various ways, discuss the possible academic factors that influence transitions, and present the findings of the initial quantitative research phase.

CHAPTER 4: Academic factors and participation in interventions that influence the transition from high school to higher education

4.1 Introduction

The methodology described in Chapter 3 provided the baseline for gathered data. In this chapter, the focus shifts to the analysis and interpretation of the collected data. De Vos (2010) declares that data should be purposefully categorised into smaller units during the analysis phase to obtain answers to research questions, and to test hypotheses. Data analysis procedures will not always provide answers to research questions when the researcher treats the data set as an undividable whole.

In this chapter, the presentation of data is systematically linked to the online questionnaire designed specifically for this research. The analysis presented here primarily focuses on the academic factors that influence the transition from high school to higher education, as well as the interventions that students participated in to ease their transitions. The pattern of presentation is as follows: sample description, results of data sub-sets analyses (illustrated by tables and charts), discussion of respective outcomes, and an interpretation of the combined results.

The processes of analysis convert data into intelligible and interpretable forms. The findings' relations to the research problems will then be examined and tested, upon which any conclusions will be based. As a first step, the characteristics of the relevant sample will now be explained.

4.2 Description of the sample

4.2.1 Online questionnaire (quantitative research)

The goal of the study is to conduct research on the factors that influence the transition from high school to higher education (academic as well as non-academic factors). The research tool was an online questionnaire made available to all participants in JuniorTukkies' Grade 11 Empowerment Week programmes, from 2009 to 2013. The online questionnaire was developed on the Qualtrics Online

platform. The formatted questionnaire was sent via email services to respondents who have indicated that they have internet access. The few respondents without internet access each received a printed copy of the questionnaire – their responses to the questionnaire answers were electronically entered on their behalf to online Qualtrics questionnaires. These communications to the respondents included letters of consent and explanations of the nature and purpose of the research.

The sampling population was selected from the JuniorTukkie database. The database contains contact information about all participants to the five Grade 11 Empowerment Week programmes held between 2009 and 2013. Various means of communication – text messages, voice calls and email services – were harnessed to assemble the sampling population. These different means of contacting the individuals were necessary since the JT programme attendees were either still studying, or had already graduated at different institutions in South Africa and abroad. Other respondents had already joined the workforce. In total, 642 learners attended the Grade 11 Empowerment Week programme during the period of 2009 to 2103. Altogether 722 email messages were sent to all the programme attendees. The number of sent emails exceeded the number of attendees because of changed email addresses. Several requests were also sent to remind participants to complete and submit their questionnaires.

The Qualtrics system permitted only one email response per participant. A respondent could hence submit only one questionnaire, which served to protect data integrity. In all, 256 members (39.9%) of the 642 potential participants completed and submitted their questionnaires. Completed questionnaires were collected over a period of three months. I had to remind and prompt several respondents to complete their questionnaires to ensure an acceptable response rate.

4.3 Results of the quantitative research

4.3.1 Personal information

Table 4.1 indicates that 32.81% of the respondents were male, while 67.19% were female. This division is graphically represented in Figure 4.1.

Table 4.1: ***Gender of the respondents***

	Frequency	Percentage
Male	84	32.81
Female	172	67.19

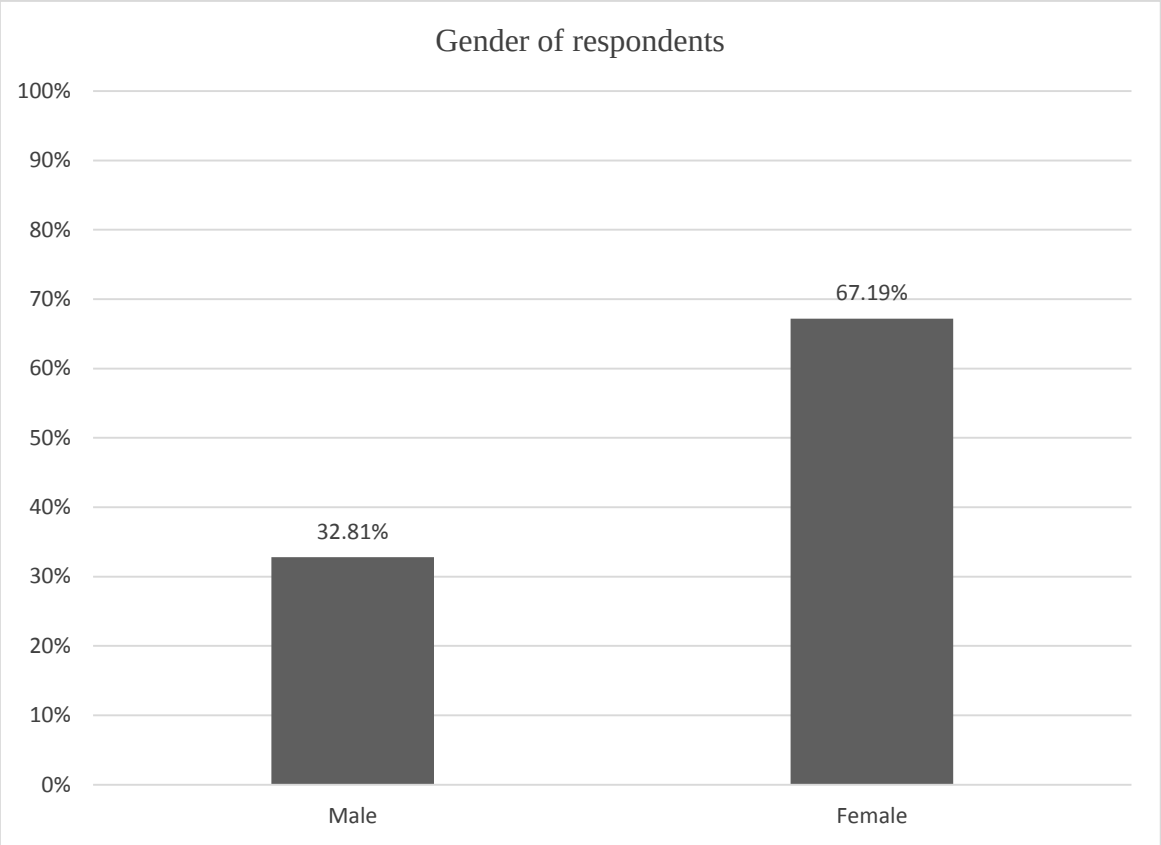

Figure 4-1: ***Gender of respondents***

Table 4.2: ***Frequency of respondents whose parents studied at a tertiary institution***

	Frequency	Percentage
Mother only	33	13.15
Father only	31	12.35
Both parents	65	25.90
None	122	48.60
Total	251	100.00
Frequency missing = 5		

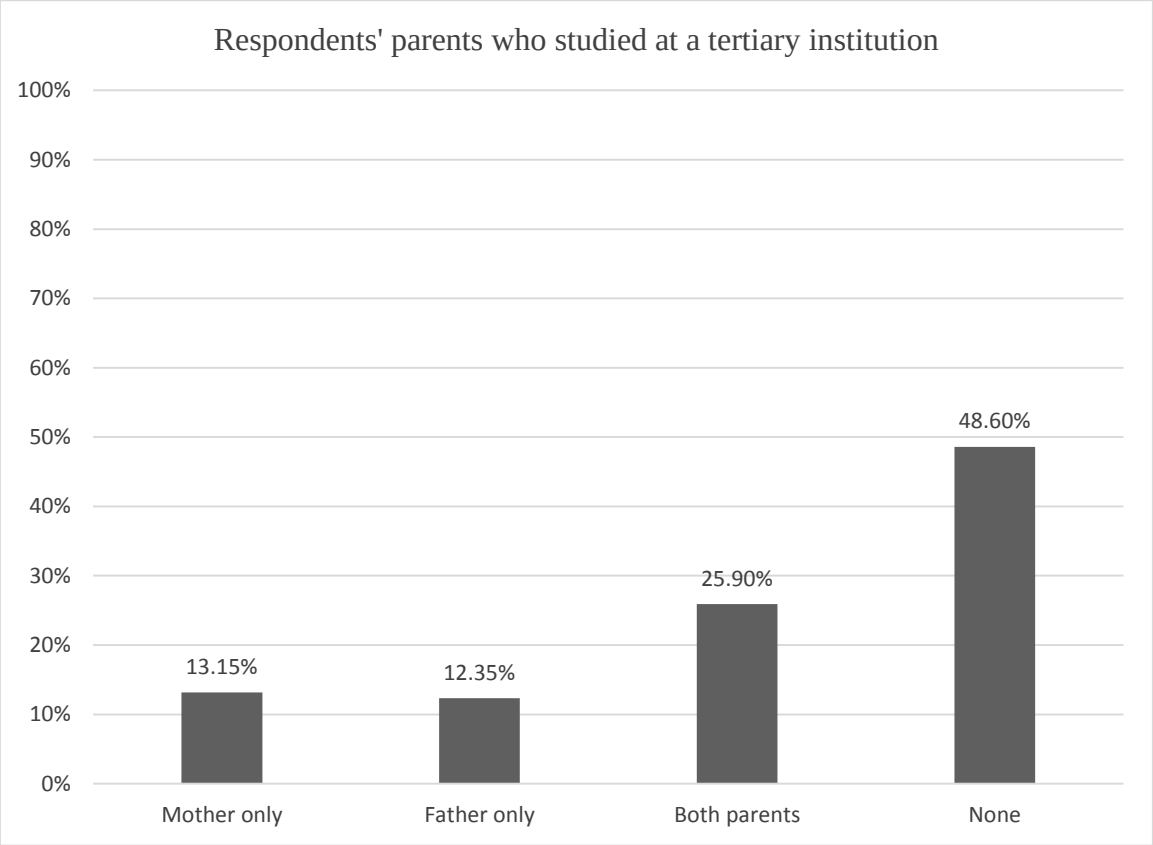

Figure 4-2: ***Respondents' parents who studied at a tertiary institution***

Table 4.2 represents data from 251 respondents. Among those respondents, 13.15% indicated that only their mothers studied at a tertiary institution, while 12.35% indicated only their fathers were tertiary students. In the case of 25.90% of respondents, both their parents studied at a tertiary institution, while 48.60% noted that none of their parents ever studied at a tertiary institution.

Table 4.3: ***Respondents' home languages***

	Frequency	Percentage
English	63	25.10
Northern Sotho	41	16.33
Venda	37	14.74
Tswana	32	12.75
Zulu	19	7.57
Tsonga	18	7.17
Sotho	14	5.58

	Frequency	Percentage
Swazi	7	2.79
Xhosa	6	2.39
Ndebele	4	1.59
Chinese	3	1.20
Afrikaans	2	0.79
Other	5	2.00
Total	251	100.00
Frequency missing = 5		

Table 4.3 presents an outlay of the respondents' home languages. English features as the most commonly used language at home (25.1% of respondents). South Africa's other ten official languages comprise the rest of the participants' home languages, with the exception of eight students. Three of these students noted Chinese as their home language. The occurrence of Afrikaans as a home language among the respondents is noticeably low – considering the university's history – with only two students having indicated it as such. The explanation for this phenomenon is that the initiative (at the time) focused on equity learners (black, coloured and Indian) as prescribed by the transformation goals of the University of Pretoria.

Table 4.4: ***English taken as language subject in high school***

	Frequency	Percentage
Home language	75	29.88
First additional language	165	65.74
Second additional language	10	3.98
Third additional language	1	0.40
Total	251	100.00
Frequency missing = 5		

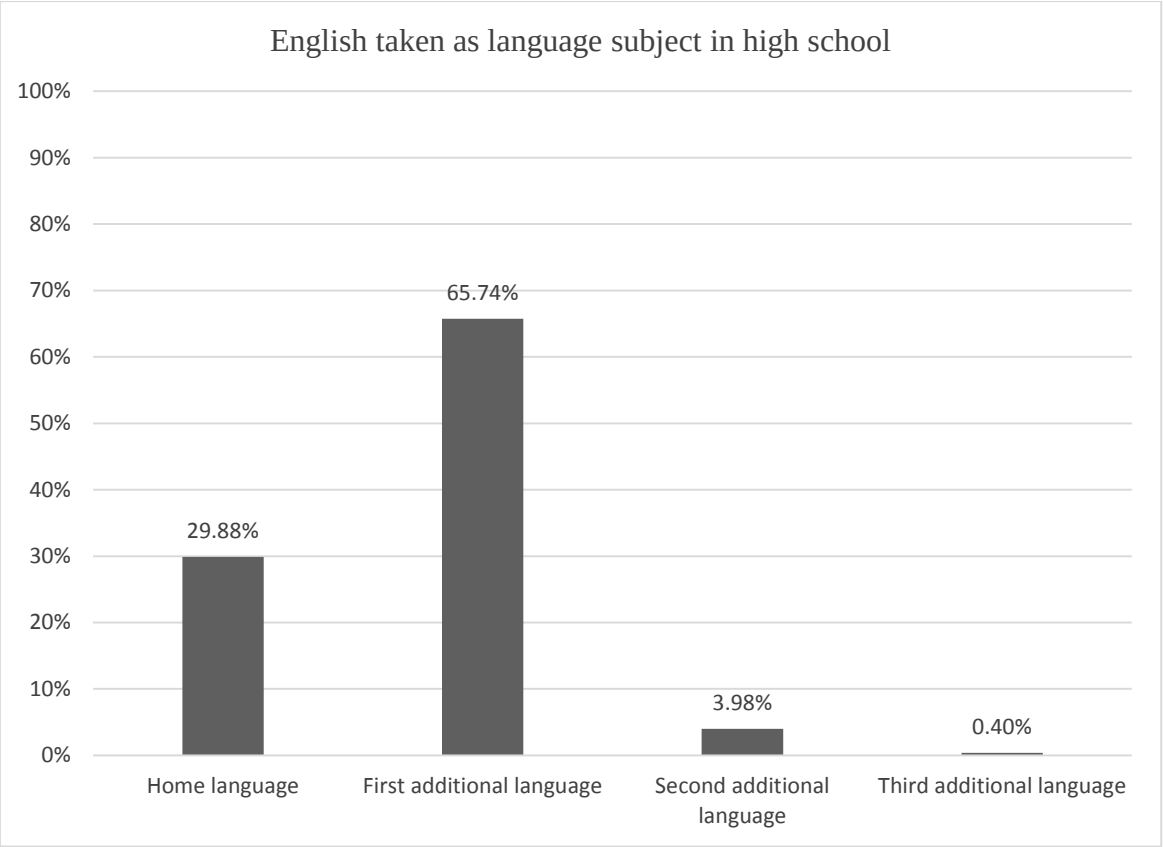

Figure 4-3: ***English taken as language subject in high school***

Table 4.4 represents the different levels of English instruction as learnt by respondents during their high school careers. Classes where English was taught as the first additional language were attended by 65.74% of respondents, while 29.88% of respondents studied English as their home language.

Because the JuniorTukkie initiative focuses on three main subjects – Mathematics, Physical Science and English – it was important to include English as a criterion for membership of the initiative. The dominance of English in global communications is widely known, hence the initiative needed to gauge the varying levels to which participants were able to master English at the high school level. The motivation for measuring the different levels of instruction in English at high schools was to ascertain its influence on students' successful transitions.

4.3.2 School and undergraduate study information

Table 4.5: ***Respective years when respondents attended the JuniorTukkie initiative at the University of Pretoria***

	Frequency	Percentage
2009	33	13.15
2010	42	16.73
2011	68	27.09
2012	57	22.71
2013	51	20.32
Total	251	100.00

Frequency missing = 5

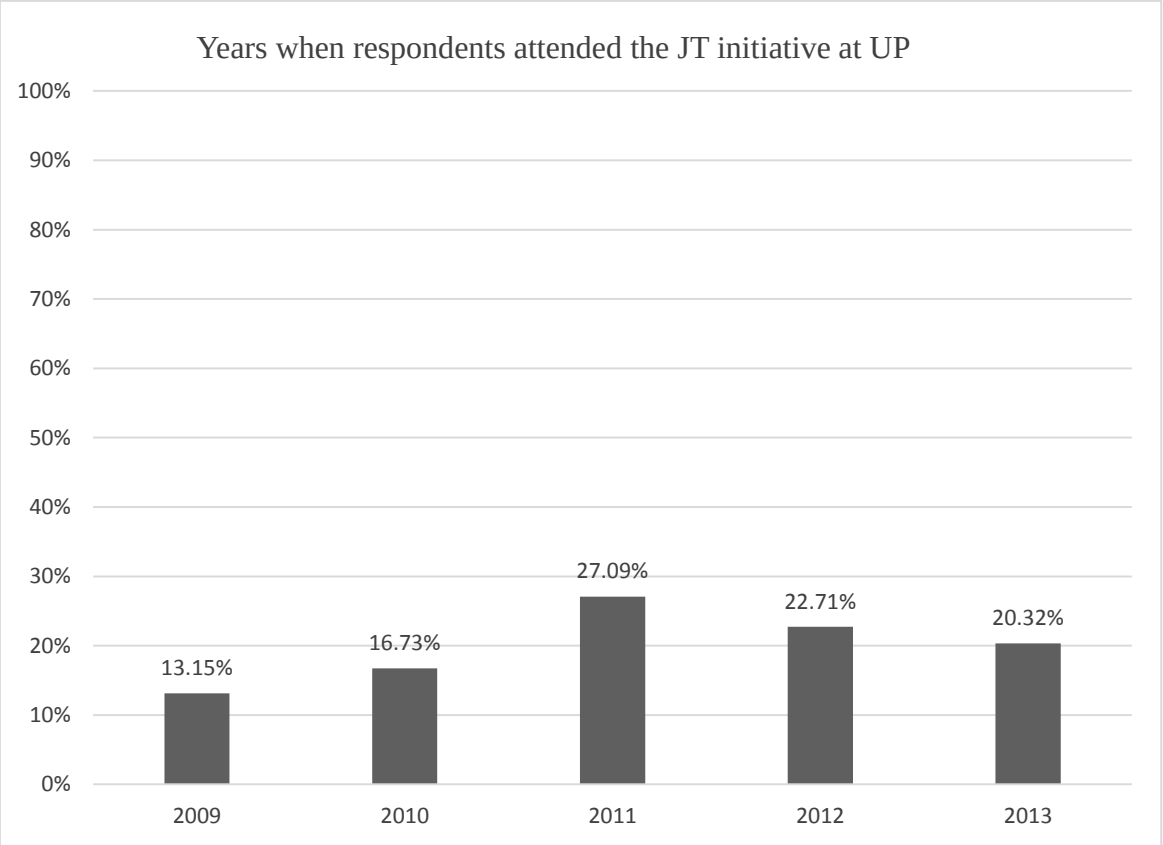

Figure 4-4: ***Respective years when respondents attended the JT initiative at UP***

Table 4.5 indicates the years during which respondents attended the JT Grade 11 Empowerment Week, from 2009 to 2013. Respondents who were still busy with their undergraduate studies comprised 80.8% of the sample population, while the rest were either busy with postgraduate courses or have completed their studies and left the university. Two respondents indicated that their applications to study at higher education institutions were unsuccessful because they did not meet the minimum requirements for either degree or diploma studies. Only three respondents discontinued their studies. Their reasons, respectively, were financial concerns, course dissatisfaction and failure to succeed academically.

Table 4.6: ***Respondents who changed their undergraduate study programmes***

	Frequency	Percentage
YES	54	23.89
NO	172	76.11
Total	226	100.00
Frequency missing = 30		

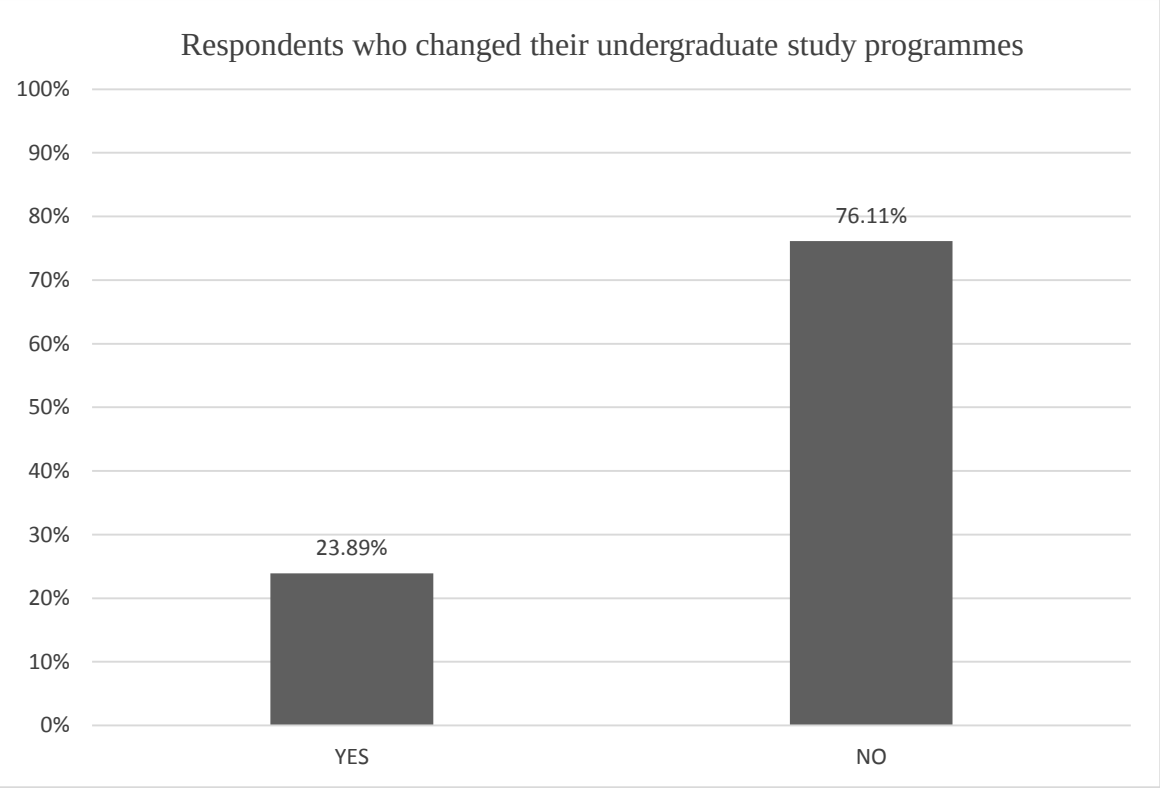

Figure 4-5: ***Respondents who changed their undergraduate study programmes***

Table 4.6 displays the numbers of respondents who either changed or did not change their study programmes during their undergraduate studies. Slightly more than three-quarters of respondents (76.11%) never changed their study programmes. Of the 54 respondents (23.89%) who indicated that they changed their study programmes, 20 students (37.04%) made changes during their first years, 26 students (48.15%) made changes during their second years, and eight students (14.81%) made changes during their third years at university.

Table 4.7: ***Number of years for respondents to successfully complete their first year of undergraduate studies***

	Frequency	**Percentage**
One	167	73.89
Two	43	19.03
Three	8	3.54
Four	8	3.54
Total	226	100.00
Frequency missing = 30		

Table 4.7 presents a notable outcome of questionnaire data analysis. Almost three-quarters of 226 respondents (73.89%) revealed that they successfully completed their first academic year in their first year of undergraduate studies. These 167 students indicated which factors contributed most to the successful completion of their first academic years. Each respondent could mention up to three main contributing factors. As an analytical strategy, I coded different combinations of those factors. Table 4.8 presents the calculated frequencies of grouped factors. Participants who successfully completed their first academic years in only one year evidently rated personal skills, academic skills, and academic support as influential factors; others valued characteristics such as discipline, hard work and perseverance.

In table 4.8 below, the different factors that participants believed had contributed to the successful completion of their first years, were grouped together.

Each participant could indicate several factors; hence the grouping of combinations. In total, 130 responses were grouped.

Table 4.8: ***Grouped factors that contributed to successful completions of first academic years in first years of study***

	Frequency	Percentage
Personal skills, academic support and academic skills	56	43.07
Discipline, hard work and perseverance	28	21.54
Personal skills and academic support	24	18.46
Personal skills, discipline, hard work, perseverance and other	10	7.70
Personal skills, academic support, discipline, hard work	8	6.15
Discipline, hard work, perseverance and other	2	1.54
Personal skills, academic support, hard work, perseverance and other	1	0.77
Personal skills	1	0.77
Total	130	100.00
Frequency missing (accumulated) = 126		

The highest number of respondents – fifty-six (43.07%) – selected a combination of personal skills, the academic support they received as well as their academic skills as factors that contributed to the successful completion of their first academic years. Twenty-eight respondents (21.54%) felt that discipline, hard work and perseverance contributed to their successful completion. A slightly lesser number of respondents – twenty-four (18.45%) – selected personal skills and the academic support they received as factors.

Ten respondents (7.70%) selected a combination of personal skills, discipline, hard work, perseverance and other factors, while only eight respondents (6.15%) selected personal skills, academic support received, discipline and hard work as a combination of influential factors. Only two respondents (1.54%) indicated that discipline, hard work, perseverance and other factors contributed to their success. One respondent (0.77%) selected personal skills, academic support, hard work, perseverance and other factors; another single respondent (0.77%) selected personal skills as a singular factor in his/her success during the first year.

In the following question, participants could indicate the types of intervention that assisted them in selecting correct career or study options. As researchers like Bangser (2008) and Tierney and Vegas (2005) indicated, early and active participation by students in transition initiatives is necessary, and the transition process should be enhanced with various opportunities and interventions. Kohler and Field (as cited in Bangser, 2008, p. 15) emphasise that students should consult a variety of individuals, educators, counsellors, psychologists and parents for assistance in making the correct study and career choices.

In total, 543 responses were captured, as presented in table 4.9. The Career Interest Profile (CIP) test – conducted during JT Empowerment Weeks – received the most responses, followed by parental advice and open days attended at tertiary institutions. Other highly regarded interventions or sources were additional information gained from specialists pertaining to their chosen study programmes, and feedback from the PACE career tests (also conducted during JuniorTukkie Empowerment Weeks). Those two interventions received the same number of responses (51). Other factors such as contact with other students, job shadowing, advice by Life Orientation teachers at school, and psychometric testing by psychologists received approximately the same number of responses. A final form of intervention to have assisted students in selecting correct career choices was advice received from student advisors in the Recruitment Division.

Table 4.9: ***Interventions (pre-arrival activities) that assisted respondents in selecting correct career options***

	Frequency	Percentage
CIP tests, conducted during JT Empowerment Weeks	94	17.31
Advice by parents	89	16.39
Open days at tertiary institutions	75	13.81
Sourced additional information regarding study field from specialists in the field	51	9.39
PACE career test	51	9.39
Contact with other students at University	43	7.92
Job shadowing	38	7.00
Advice by a Life Orientation teacher at school	38	7.00
Psychometric testing by psychologists	36	6.63
Advice by senior student advisors	28	5.16
Total	543	100.00
Frequency missing (accumulated) = 218		

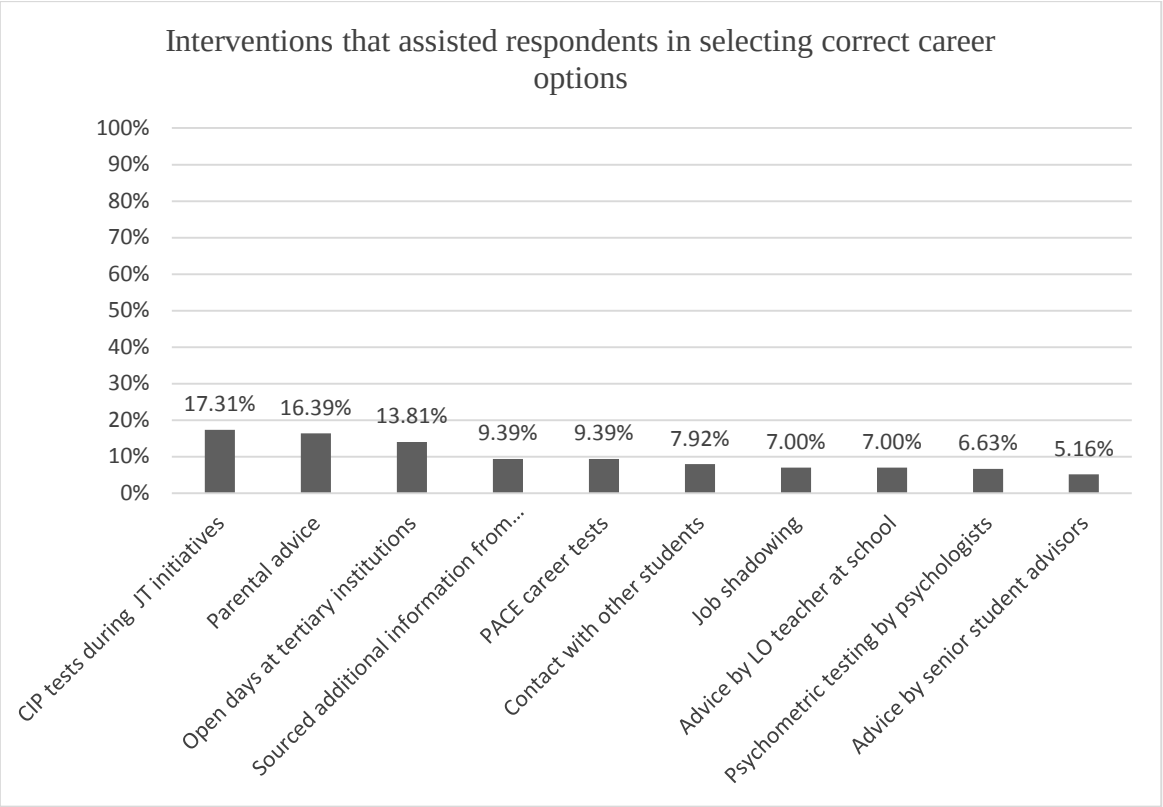

Figure 4-6: ***Interventions that assisted respondents to select correct career options***

I next grouped similar interventions to aid a deeper analysis of these aspects. I respectively combined advice received from different sources (parents, students, teachers and advisors), separate study/career aptitude tests, and other sources of information. The purpose was to determine which combinations of interventions (as pre-arrival activities) best assisted the respondents in their transition.

Table 4.10 reveals the outlay of 219 grouped sets of interventions. The combination of advice and information received from other sources accounted for more than a quarter of positive indications (26.03%). The second most influential set of interventions was the group of related tests (20%). The value of advice from parents, advisors and others, as well as information gained from other sources, is clear since these separate forms of intervention were rated as the third (15.98%) and fourth (13.7%) most influential grouped factors. The two least significant combinations of intervention-sets to have guided the respondents in selecting correct career options were advice coupled with the set of tests (13.24%) and information gained from other sources coupled with the set of tests (10.96%).

Table 4.10: ***Grouped interventions (pre-arrival activities) that assisted respondents in selecting correct career options***

	Frequency	Percentage
Advice and other sources	57	26.03
Psychometric tests, CIP tests and PACE career tests	44	20.09
Advice	35	15.98
Other sources	30	13.70
Advice and tests (psychometric, CIP and PACE)	29	13.24
Other sources and tests (psychometric, CIP and PACE)	24	10.96
Total	219	100.00
Frequency missing = 37		

It is evident that a combination of interventions (pre-arrival activities) assisted the respondents in selecting the correct career choices. These interventions were later influential in their transition from high school to higher education (some more than others were).

Table 4.11 reveals that 85.65% of the respondents agreed or strongly agreed that their teachers (Grades 10–12) were adequately trained to teach their respective subjects.

Table 4.11: ***Respondents' views on the statement that their Grade 10, 11 and 12 teachers were adequately trained to teach their subjects***

	Frequency	Percentage
Strongly disagree	9	3.80
Disagree	25	10.55
Agree	127	53.58
Strongly agree	76	32.07

Total	237	100.00

Frequency missing = 19

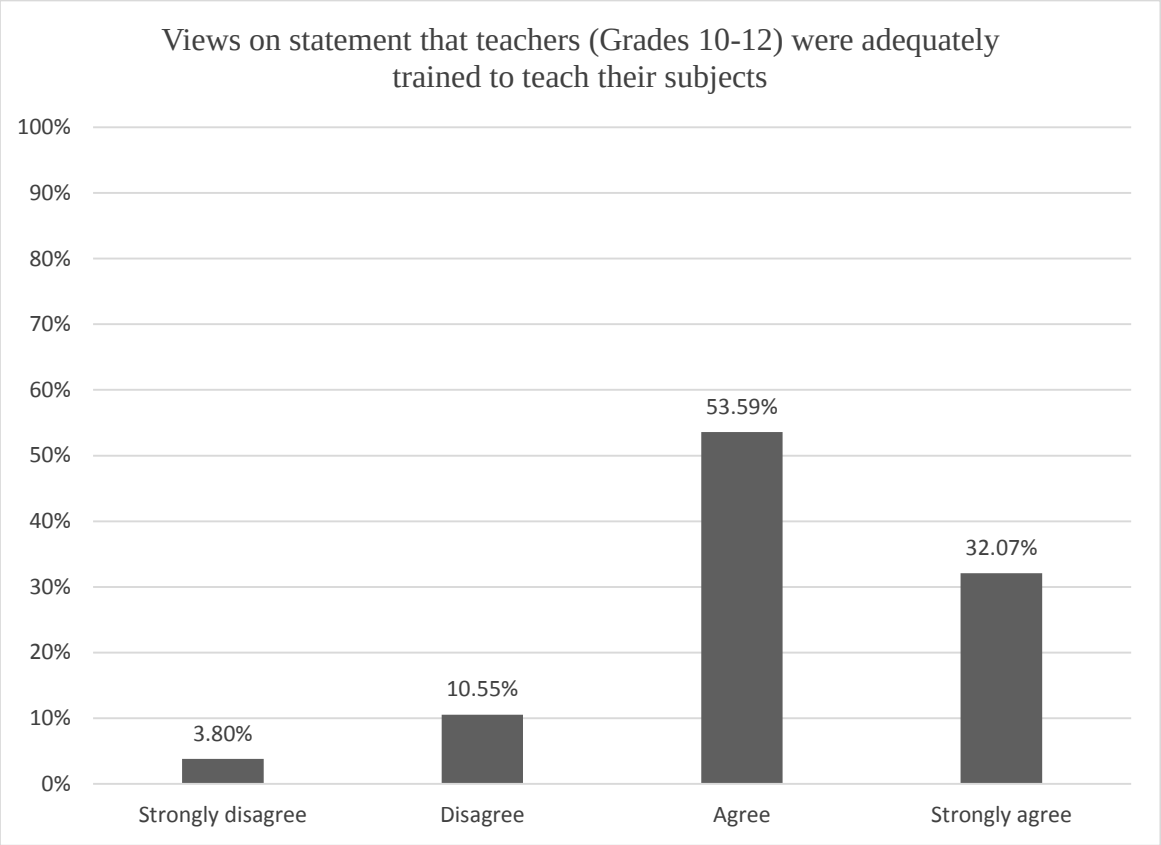

Figure 4-7: ***Respondents' views on the statement that their Grades 10–12 teachers were adequately trained to teach their subjects***

The JuniorTukkie Empowerment Programme for Grade 11 learners focuses primarily on learners who attend Mathematics, Physical Science and English classes in high school. This section of the questionnaire therefore also focused on teachers presenting those three subjects from Grades 10–12.

Tables 4.12 to 4.14 reveal underlying differences in the students' regard for the standard of training of teachers who presented Mathematics, Physical Science and English respectively. In the case of Mathematics, 89.46% of respondents agreed or strongly agreed that their teachers were adequately trained, with almost 60% even strongly agreeing. In the case of Physical Science, 81.86% of respondents agreed with the statement, with the responses divided equally between 'agree' and 'agree strongly'. Students also largely believed (88.61%) their

English teachers were well trained, with 50% of all respondents agreeing strongly. The data therefore proves conclusively that the vast majority of respondents believed that their Mathematics, Physical Science and English teachers (Grades 10–12) were adequately trained and knowledgeable in their subjects.

Table 4.12: ***Respondents' views on the statement that their Grade 10, 11 and 12 Mathematics teachers were adequately trained***

	Frequency	Percentage
Strongly disagree	10	4.22
Disagree	15	6.33
Agree	70	29.54
Strongly agree	142	59.91
Total	237	100.00
Frequency missing = 19		

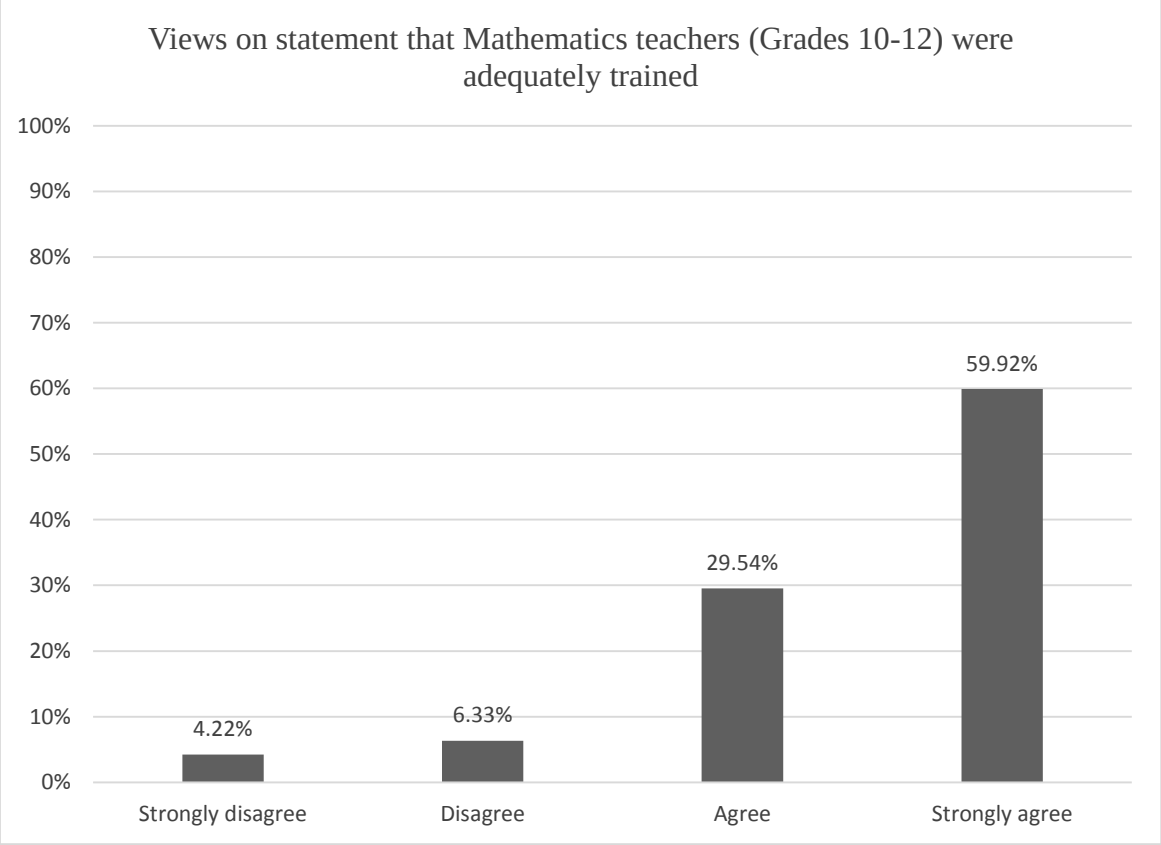

Figure 4-8: ***Respondents' views on the statement that their Grades 10–12 Mathematics teachers were adequately trained***

Table 4.13: ***Respondents' views on the statement that their Grade 10, 11 and 12 Physical Science teachers were adequately trained***

	Frequency	Percentage
Strongly disagree	18	7.59
Disagree	25	10.55
Agree	96	40.51
Strongly agree	98	41.35
Total	237	100.00
Frequency missing = 19		

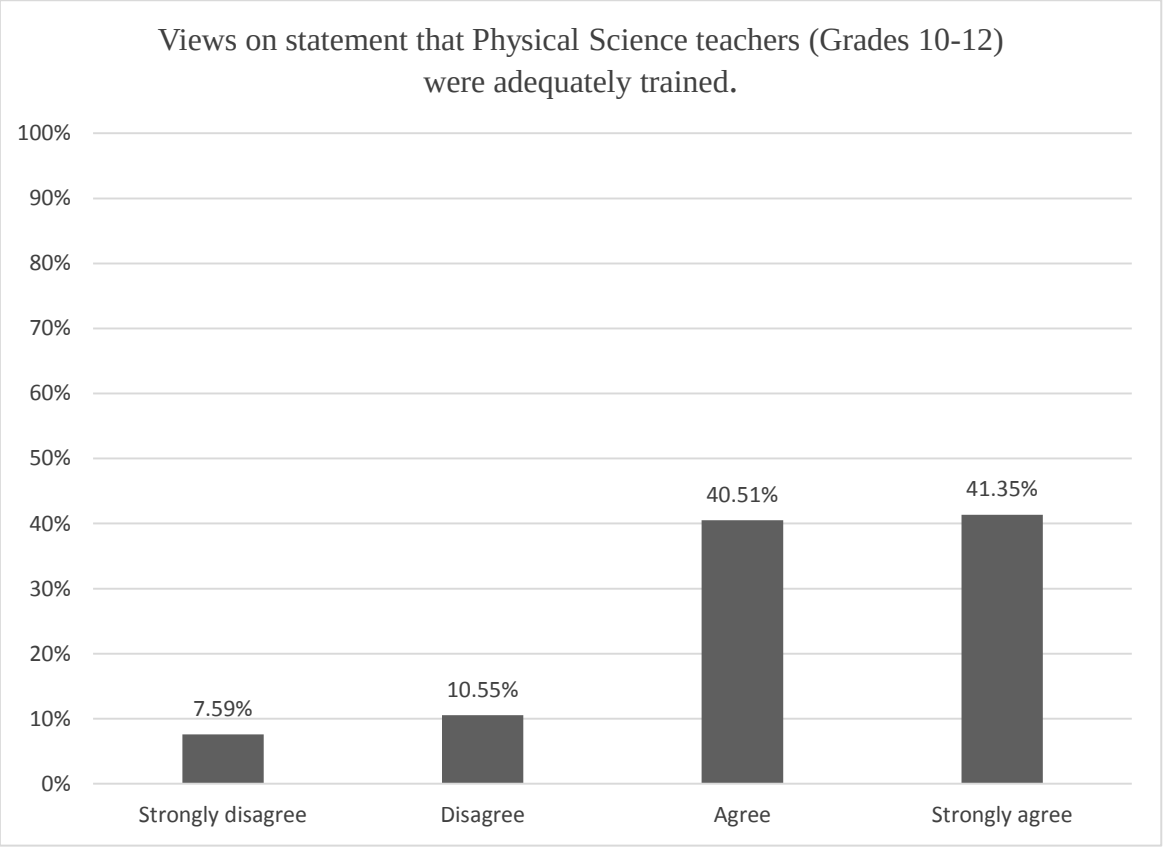

Figure 4-9: ***Respondents' views on the statement that their Grades 10–12 Physical Science teachers were adequately trained***

Table 4.14: ***Respondents' views on the statement that their Grade 10, 11 and 12 English teachers were adequately trained***

	Frequency	Percentage
Strongly disagree	11	4.64
Disagree	16	6.75
Agree	92	38.82
Strongly agree	118	49.79
Total	237	100.00
Frequency missing = 19		

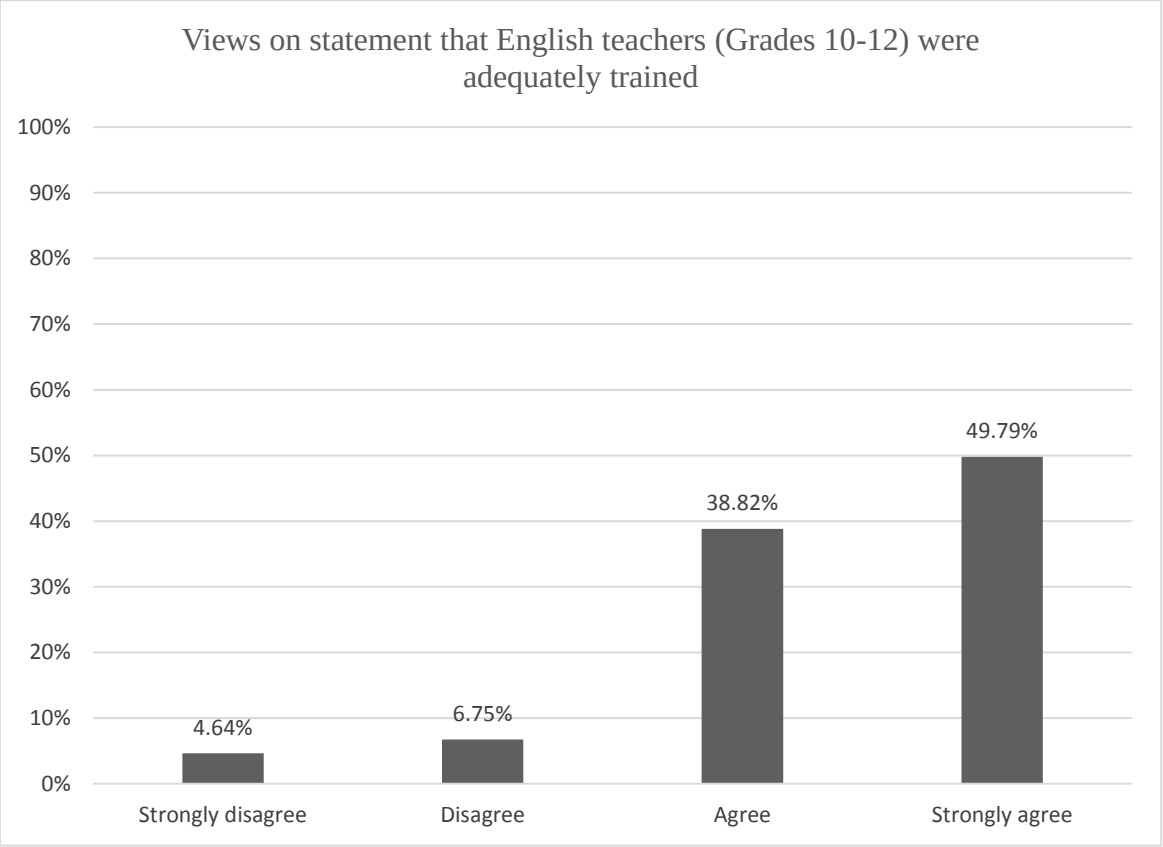

Figure 4-10: ***Respondents' views on the statement that their Grades 10–12 English teachers were adequately trained***

These responses in terms of the adequate training of these teachers may be indicative of the students' profiles and class backgrounds. It is widely accepted that numerous South African educators teach subjects they are not adequately trained to teach. Therefore, it is not widely accepted as the norm that the majority of learners receive their instructions at schools by sufficiently trained teachers. These perceptions are suggestive of the profile of students that JT provides a service to, which could ultimately also be influential in their transitioning experiences.

Table 4.15 presents changes in respondents' scholastic results between Grades 11 and 12 respectively. The data reveals an upward trend, with notably more respondents having earned year-end results higher than 80% in Grade 12.

Table 4.15: ***End of year results in Grades 11 and 12***

	Frequency Grade 11	**Frequency Grade 12**	**Frequency difference**
50-59%	7	2	-5
60-69%	42	18	-24
70-79%	106	94	-12
80-89%	75	113	+38
90-100%	7	10	+3
Frequency missing = 19			

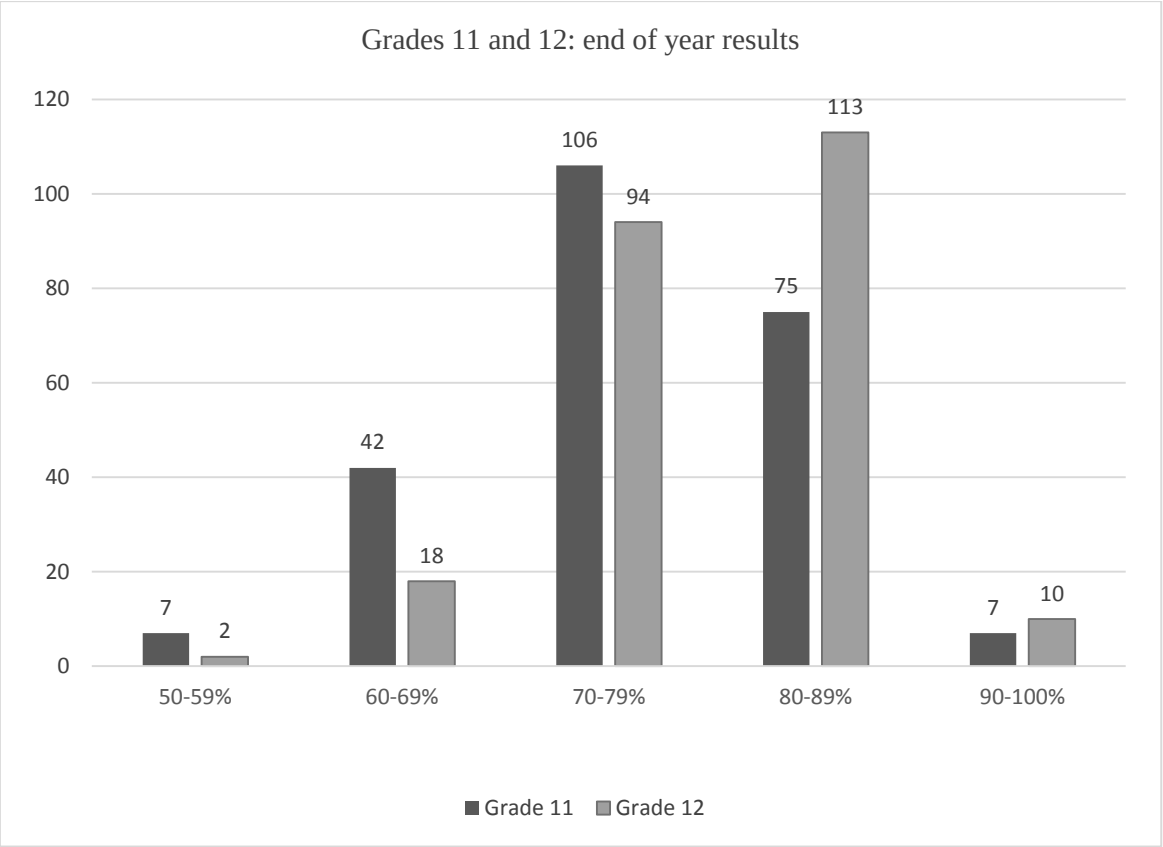

Figure 4-11: ***Grades 11 and 12: end of year results***

Little evidence could be found in this research that the differences between learners' Grade 11 and 12 results may influence the transitioning processes. Müller's research (2013), however, indicated that learners' Grade 12 marks are highly influential transitioning factors. This research points to a different outcome, as only slightly more than half of respondents (51.05%) indicated that their Grade 12 marks had had an influence on their transitioning success.

The data presented in Table 4.16 reveals how the respondents were almost equally divided on the question of whether their Grade 12 year-end examination results served as dependable predictors of their tertiary study results. Slightly less than half of the respondents (48.95%) believed that their Grade 12 results were not reflected in their test results at higher education.

Table 4.16: ***Respondents' views on statement that their Grade 12 year-end examination results were good indicators of their tertiary study results***

	Frequency	**Percentage**
Strongly disagree	29	12.24

	Frequency	Percentage
Disagree	87	36.71
Agree	94	39.66
Strongly agree	27	11.39
Total	237	100.00
Frequency missing=19		

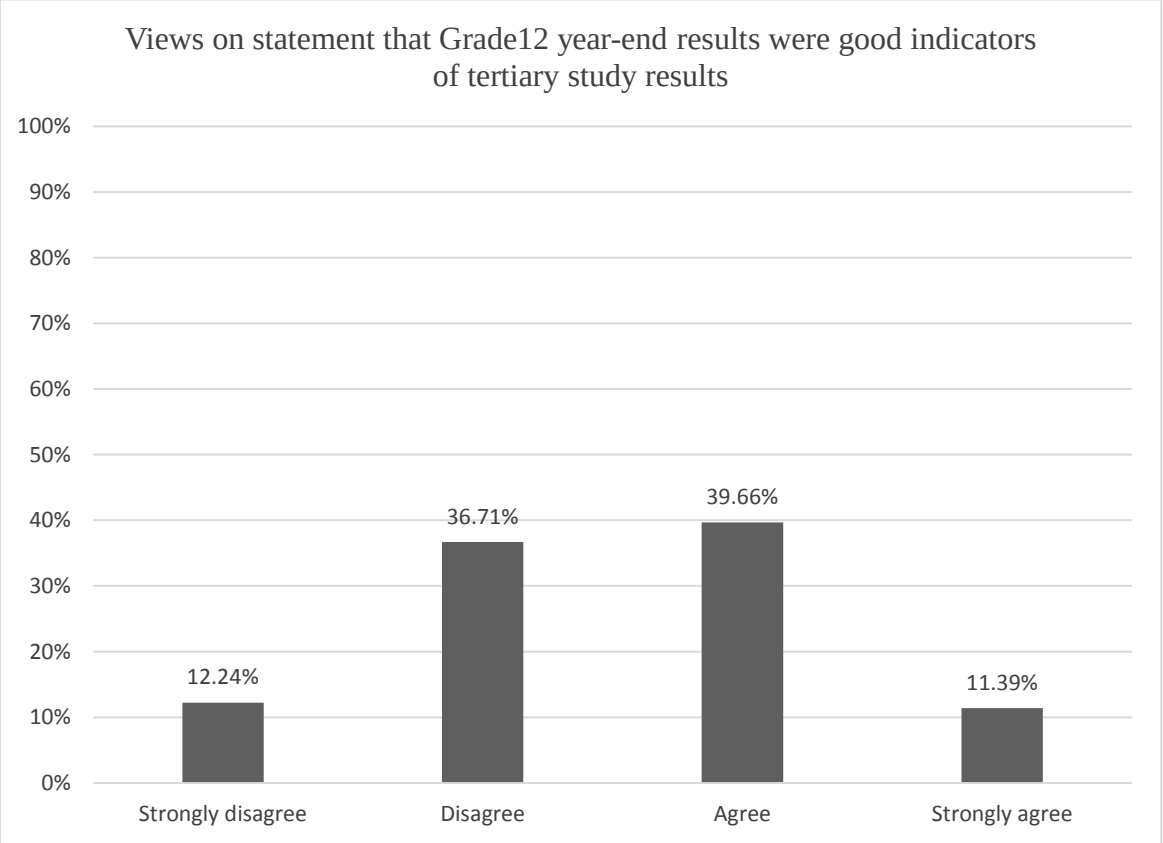

Figure 4-12: ***Respondents' views on the statement that their Grade 12 year-end examination results were good indicators of their tertiary study results***

4.3.3 Academic factors that influence transition from high school to higher education

4.3.3.1 Language of teaching and learning

Almost all the questionnaire respondents (99.58%) indicated that English was the medium of instruction and learning at their high schools. Table 4.17 reveals that

47.26% of the respondents believed that home language tuition could have positively influenced their transitions from high school to higher education, while just more than half of respondents (52.74%) disagreed with this statement.

Table 4.17: ***Respondents' views on whether home language tuition could have made a difference in their transitions from high school to higher education***

	Frequency	Percentage
Strongly disagree	40	16.88
Disagree	85	35.86
Agree	70	29.54
Strongly agree	42	17.72
Total	237	100.00
Frequency missing = 19		

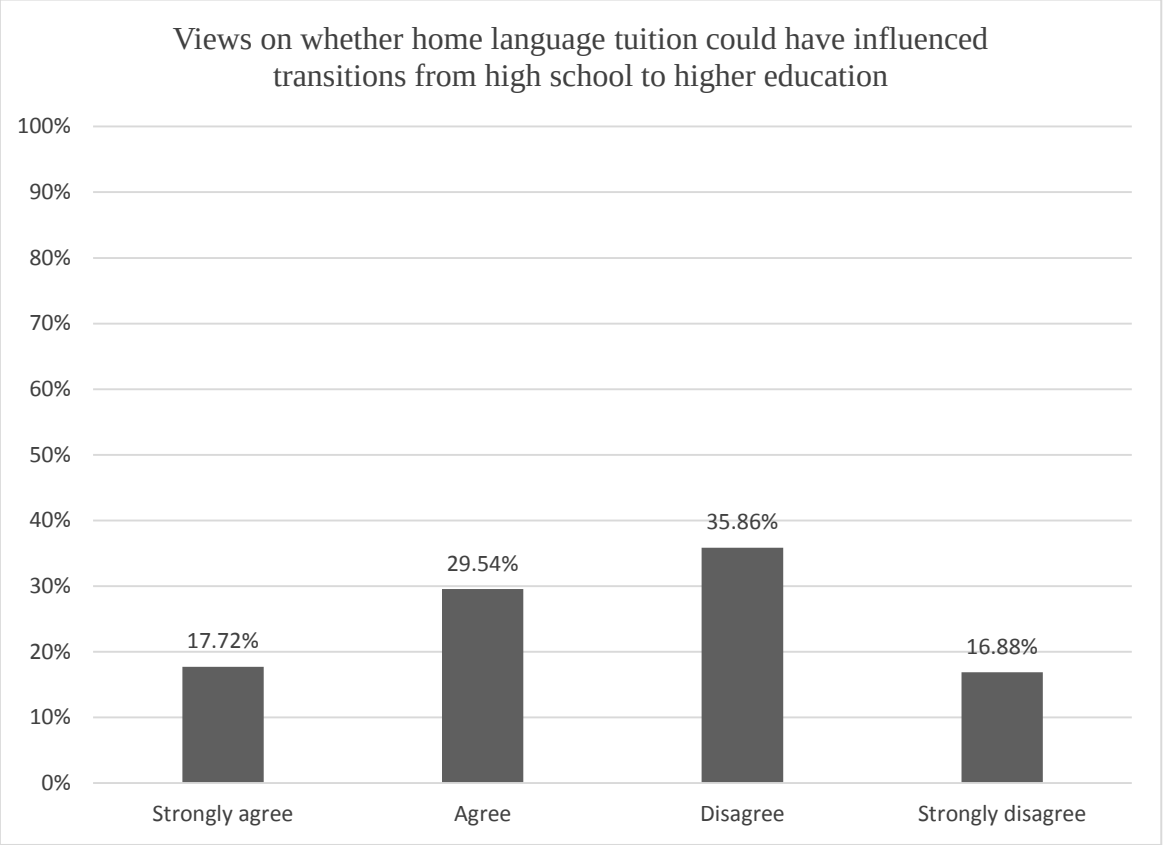

Figure 4-13: ***Respondents' views on whether home language tuition could have made a difference in their transitions from high school to higher education***

4.3.3.2 National Benchmark Test

Of 237 questionnaire indications, 215 respondents (90.72%) indicated that they wrote the National Benchmark Test (NBT). Only 7.91% of those 215 respondents wrote the test more than once. All but seven respondents (96.74%) wrote the test consisting of both Mathematics (MAT) and Academic (AL and QL) sub-tests. The NBT is not compulsory for all study programmes. Some faculties do not require prospective students to write the NBT if the applicant's marks meet the admission requirements. In certain study fields, the applicants were required to write only the MAT or only the AL and QL sub-tests. About two-thirds (67.44%) of the respondents indicated that their NBT results were factored into their selection processes, while only 43.7% of respondents indicated that their NBT results featured during their admission processes. A notably higher number of participants' NBT results were therefore used for selection rather than admission.

Only eight respondents (3.72%) indicated that they received assistance from their teachers regarding the National Benchmark Tests, while only nine respondents (4.19%) received assistance from other persons.

Table 4.18: ***National Benchmark Test indicators***

	YES		NO			
	Frequency	**Percentage**	**Frequency**	**Percentage**	**Total**	**Percentage**
Respondents wrote the NBT more than once	17	7.91	198	92.09	215	100.00
Wrote both the Mathematics (MAT) and Academic (AL and QL) tests	208	96.74	7	3.26	215	100.00
NBT was used in selection process	145	67.44	70	32.56	215	100.00
NBT was used in admission process	94	43.72	121	56.28	215	100.00
Received assistance from teacher	8	3.72	207	96.28	215	100.00

Received assistance from other persons	9	4.19	206	95.81	215	100.00
Frequency missing = 41						

4.3.3.3 LectorSA reading development programme

The LectorSA reading development programme is a component of the JuniorTukkie initiative, and assists in the development of learners' reading and comprehension skills. Learners receive opportunities to participate in the reading programme during Grade 11 Empowerment Weeks. Learners complete approximately ten reading lessons during the Empowerment Week, and may complete the remainder of twenty lessons at their own convenience afterwards.

In total, 211 respondents indicated on the questionnaire that they had completed the LectorSA programme during the JT Empowerment initiatives. Those respondents were asked whether the programme increased their reading speeds, improved their comprehension skills and/or improved their academic achievements. Significantly, 39.81% of respondents stated that the programme improved all three aspects of reading of learning, as seen in Table 4.19. A further 36.02% indicated that the programme enhanced their reading speeds and comprehension skills (but not academic achievements).

The 45 respondents who indicated that they did not complete the LectorSA programme could explain their reasons. Of those respondents, 17 (37.78%) had no internet access at school or home, 13 (28.89%) lacked available time, while 15 indicated other reasons. Of the latter 15 respondents who indicated that they had other reasons, only five provided more details. Their explanations included the following: not being aware of the programme (two respondents); lack of motivation; unable to open the reading programme at home; and the programme being complicated. The remaining ten respondents (who indicated 'other reasons') did complete the LectorSA programme, but had already indicated by mistake that they did not participate in the programme.

Table 4.19: ***Influence of the LectorSA reading development programme***

	Frequency	Percentage
A. Increased reading speed	29	13.74
B. Improved comprehension	9	4.27
C. Improved academic achievement	2	0.95
A & B	76	36.02
B & C	11	5.21
A, B & C	84	39.81
Total	211	100.00
Frequency missing = 45		

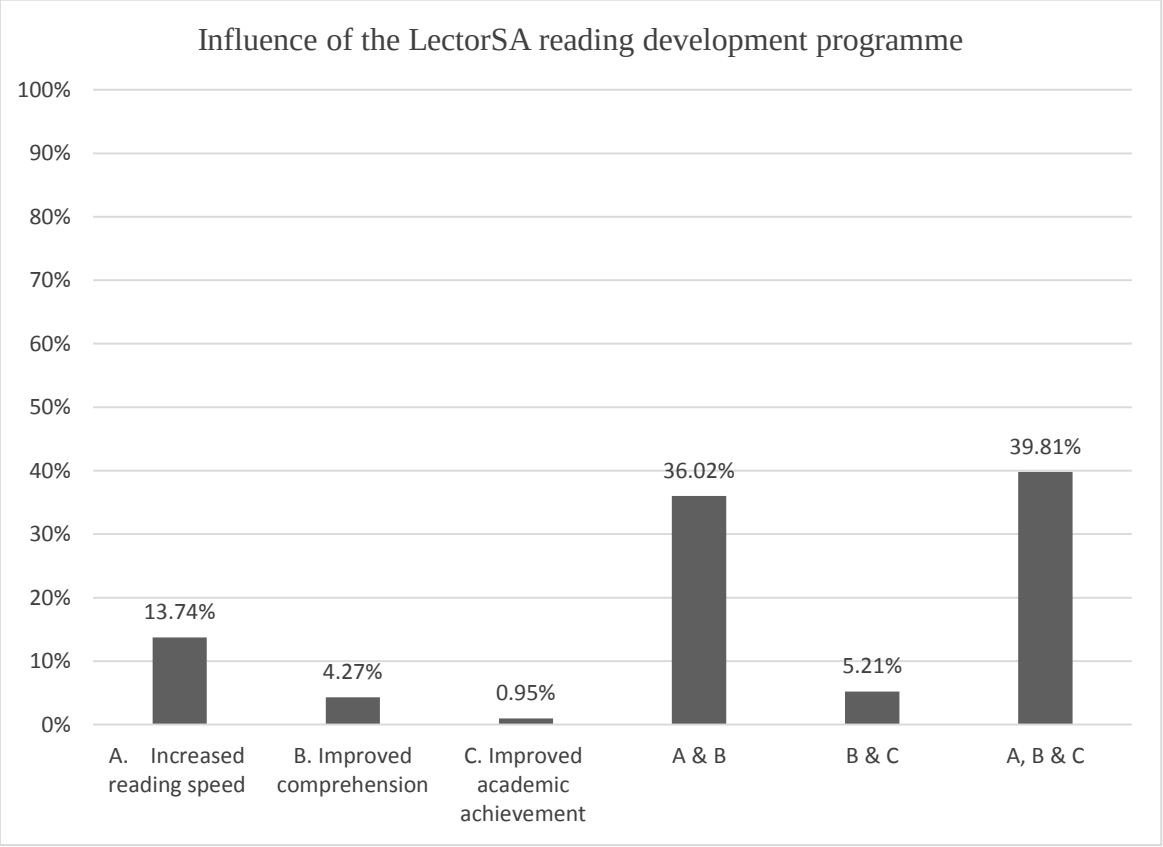

Figure 4-14: ***Influence of the LectorSA reading development programme***

The LectorSA Reading Development programme, with the accompanying improvement in participants' reading speeds and comprehension skills, could be regarded as a type of enrichment intervention that should assist students in making

successful transitions. The value of this development programme – designed to enhance reading skills – cannot be overemphasised, especially in the context of the Progress in International Reading Literacy Study's (PIRLS) report in which South Africa's Grade 4's were placed last of the 50 countries that participated in the PIRLS 2016 project (Howie et al., 2017). This study was conducted by the International Association for the Evaluation of Educational Achievement (IEA). It determined the trends of reading literacy and measured the reading comprehension skills of Grade 4-level learners over a span of five years.

This phenomenon of poor reading skills was also observed in the Grade 11 Empowerment programme, when 200 Grade 11 learners were tested in each of five years. In every year, the test results indicated that Grade 11 learners' reading skills were akin to Grade 2–3 reading levels on average, with comprehension illustrated for approximately 60% of passages only. Significantly, after 20 LectorSA lessons, their reading speeds had improved so much that most of the programme members could read on a Grade 12–first-year student level, with their comprehension levels having improved as well.

JuniorTukkies' partnerships with LectorSA and the utilisation of their Lab-on-line reading development programme have evidently proven to be effective. This programme enhances students' eye-brain performances and consists of 20 automated lessons that cover the following aspects:

- visual skills development
- vocabulary development
- reading fluency training
- comprehension skills development.

4.3.3.4 Subjects in Grades 11 and 12

A total of 227 respondents indicated that they took Mathematics and/or Physical Science subjects in Grades 11 and/or 12. All but one of these respondents took Mathematics – in both grades – as is shown in Table 4.20. Four respondents changed from Physical Science to another subject in Grade 12.

Table 4.20**:** ***Subjects taken in Grades 11 and 12***

	YES		NO			
	Frequency	**Percentage**	**Frequency**	**Percentage**	**Total**	**Percentage**
Mathematics in Grade 11	226	99.56	1	0.44	227	100
Physical Science in Grade 11	224	98.68	3	1.32	227	100
Mathematics in Grade 12	226	99.56	1	0.44	227	100
Physical Science in Grade 12	220	96.92	7	3.08	227	100
Frequency missing = 29						

4.3.3.5 Subjects in which respondents attended extra/Saturday classes

Table 4.21: ***Subjects in which respondents attended extra/Saturday classes***

	YES		NO			
	Frequency	**Percentage**	**Frequency**	**Percentage**	**Total**	**Percentage**
Mathematics in Grade 11	130	57.52	96	42.48	226	100.00
Physical Science in Grade 11	128	57.14	96	42.86	224	100.00
Mathematics in Grade 12	172	76.11	54	23.89	226	100.00
Physical Science in Grade 12	168	76.36	52	23.64	220	100.00

Table 4.21 reveals that more learners attended extra classes in Grade 12 compared to Grade 11 in both Mathematics and Physical Science subjects. The attendance rates jumped from 57% to 76% for both subjects. Respondents could next indicate whether they believed that their extra classes and Saturday sessions helped to improve their marks. Almost three-quarters of respondents (73.45%)

agreed or strongly agreed that the extra classes positively influenced their marks in both subjects, as shown in Table 4.22.

Table 4.22: ***Respondents' views on whether extra/Saturday classes improved their marks***

	Frequency	Percentage
Strongly disagree	31	13.71
Disagree	29	12.83
Agree	83	36.73
Strongly agree	83	36.73
Total	226	100.00
Frequency missing = 30		

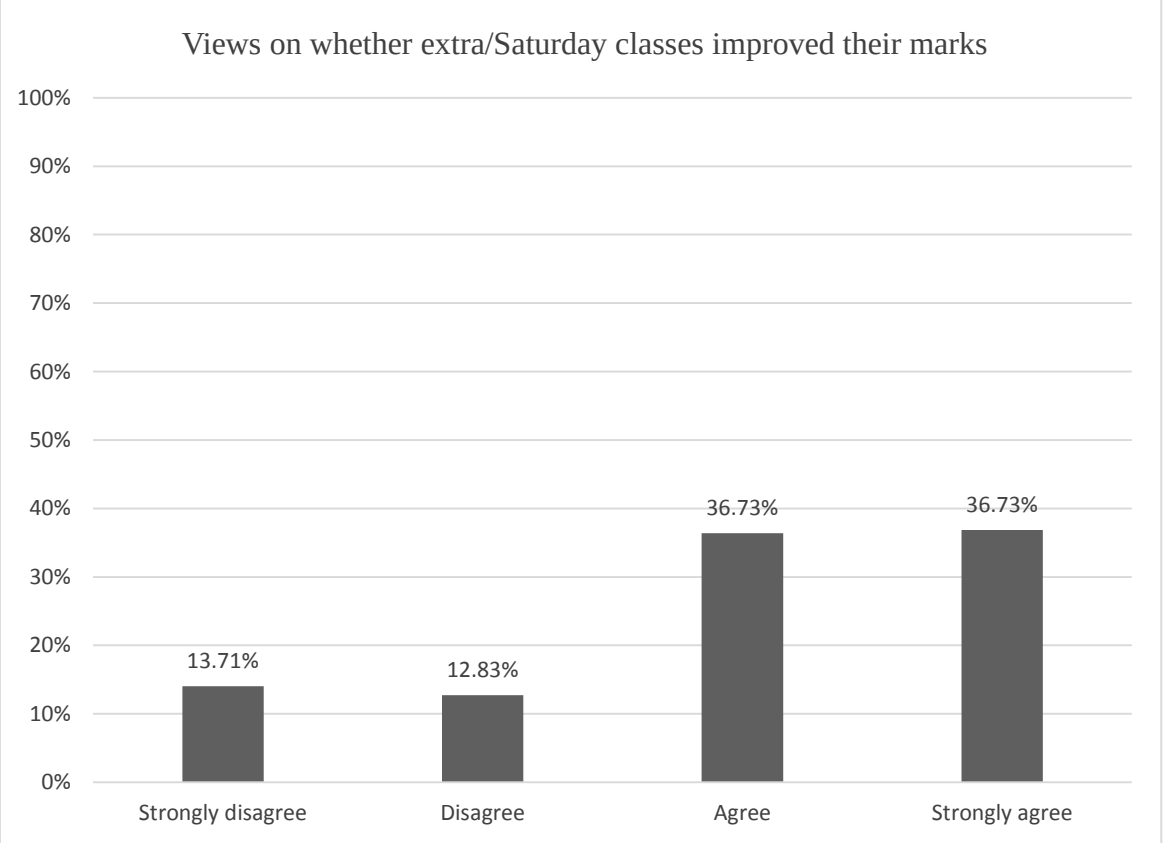

Figure 4-15: ***Respondents' views on whether extra/Saturday classes improved their marks***

Among the biggest challenges in intervention programmes is to improve the performance of learners – not only for those who are far behind the rest, but also

for good performers whose ambitions are to earn higher marks and hence qualify for selection courses in higher education.

The findings in my research, with a high percentage (73.45%) having indicated that the extra classes improved their performances, differs from the conclusions in Prinsloo's research (2008). Prinsloo argues that extra classes add stress to students' existing stress levels, thus affecting their physical and mental development. The provision of extra classes as a norm should be restricted, as it places additional pressure on not only the students, but also the educators (Santhi, 2011). However, Santhi's research (2011) found that extra classes could have positive effects on learners if they facilitated the learning processes, engaged and motivated the learners and maximised their learning. He found that higher learner attendance of Mathematics classes was always related to improvements in performances and results (and vice versa).

4.4 Finances

4.4.1 Bursaries

Table 4.23 collates various forms of financial support to respondents.

Table 4.23: ***Bursaries received to finance studies***

	Frequency	Percentage
NSFAS bursary	35	15.42
Company bursary	69	30.40
Both	22	9.69
None	101	44.49
Total	227	100.00
Frequency missing = 29		

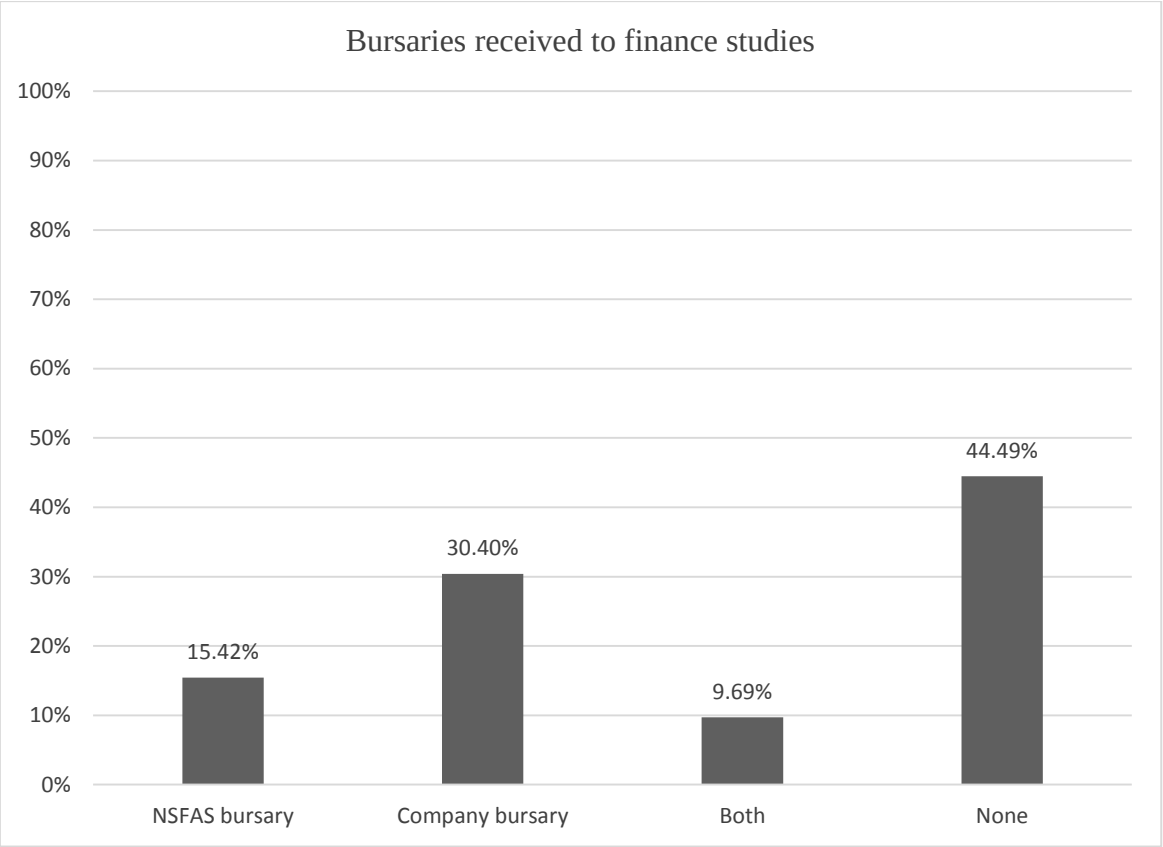

Figure 4-16**:** ***Bursaries received to finance studies***

In all, 35 respondents (15.42%) indicated that they received NSFAS bursaries, while almost double the number of respondents (69) received bursaries from other companies or schemes. 22 respondents (9.69%) received bursaries from both sources. However, 101 respondents (44.49%) did not receive any bursary from either source. This data supported the view expressed in Section 4.3.2 regarding the class or social status of the students in the sample population. These were mainly middle-class students with some financial support, but with most not being in the "average" student position of higher-class privilege.

4.4.2 Other financial resources

Table 4.24: ***Other financial resources used to finance studies***

	Frequency	Percentage
Sponsorship from parents	113	38.18
Study loan	35	11.82
Merit award/s from higher institution	108	36.49

Other	40	13.51

Frequency missing = 31

Note that participants could select more than one financial resource utilised to finance their studies. There were 296 indications recorded. The two primary financial resources that enabled studies for those respondents without bursaries were sponsorship from parents (38.18%) and merit awards from their tertiary institutions (36.49%).

4.4.3 Problems regarding bursaries received

Table 4.25: ***Problems experienced with a bursary received***

	YES		NO		
	Frequency	**Percentage**	**Frequency**	**Percentage**	**Total**
Inadequate funding	64	28.19	163	71.81	227
Complicated applications	21	9.25	206	90.75	227
Poor feedback on application	38	16.74	189	83.26	227
Late payment of funds	39	17.18	188	82.82	227

Frequency missing = 29

Of the 227 respondents, 64 (28.19%) stated that their bursaries received were inadequate and did not cover all accommodation and tuition costs, as opposed to 163 (71.81%) who stated that their bursaries were adequate. The application process proved too complicated for 21 respondents (9.25%), but 206 others had no problems in that respect (90.75%). According to 38 respondents (16.74%), feedback received from their bursary applications was poor, yet 189 (83.26%) experienced no problems regarding feedback. Finally, 39 respondents (17.18%) indicated that their

bursaries were paid late into their student accounts, while the other 188 respondents (82.82%) received their payments in time.

In conclusion, the vast majority of respondents agreed that they did not experience any difficulties related to their bursaries, or with the processes of applications and payments.

4.4.4 Influence of finances on transitions

Table 4.26: ***Respondents' views on whether finances can influence a student's transition from high school to higher education***

	Frequency	Percentage
Strongly disagree	18	7.93
Disagree	6	2.64
Agree	68	29.96
Strongly agree	135	59.47
Total	227	100.00
Frequency missing = 29		

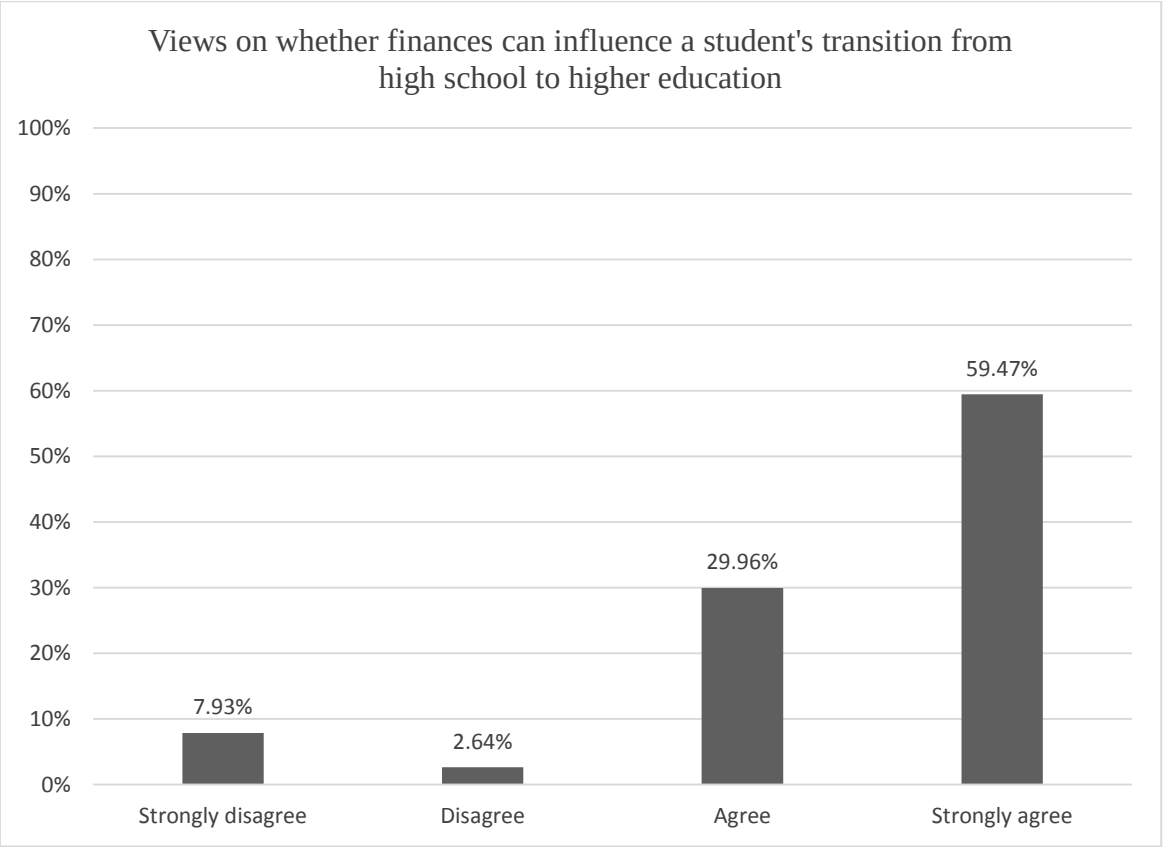

Figure 4-17: ***Respondents' views on whether finances can influence a student's transition from high school to higher education***

Only 24 among 227 respondents (10.57%) disagreed with the statement that finances can influence a student's transition from high school to higher education; 18 of which disagreed strongly. The vast majority of respondents agreed or strongly agreed (89.43%) with that statement, with 68 agreeing (29.96%) and 135 strongly agreeing (58.47%).

The responses correlated with the views of some researchers (Dunnett et al., 2011; Roble, 2017; Thomas, 2002) on the notable influence of financial factors on transition and access to higher education. Students with low-income parents may have to manage difficult choices and sacrifices, as Roble (2017) proposes. A lack of sufficient financial resources to enable students to live above mere survival mode and hence to engage with effective learning processes can hinder successful transitions. Bourn (as cited in Jones et al., 2008, p. 9) argues that a lack of funds can "easily lead to problems of achievement, by provoking anxiety and reducing the time available for study and socializing, which in turn might persuade the student to withdraw".

The responses regarding the positive influence of bursaries and other means of financial aid supported the statement made in the Green Paper of 2012 (DHET) that the state-funded NSFAS bursary scheme contributed significantly to student transition and completion. Financial assistance programmes like the university achievement bursaries (awarded to students on the basis of their Grade 12 academic results – from R6 400 to R40 000), Vice-Councillor "equity" bursaries, Dux-scholar bursaries as well as the JuniorTukkie Empowerment bursaries smoothed the way into higher education for deserving students. JuniorTukkie students, therefore, earned this advantage in their favour in terms of access to and transition into higher education.

4.5 Conclusion

The quantitative phase of data analysis revealed the following significant outcomes. Approximately half of the respondents had parents who never studied at a higher education institution, while the other half of respondents had either one or both parents who did study at a higher education institution. The majority of respondents did not have English as a home language subject at school, but had English lessons as a first, second or third additional language speaker. Approximately 80% of respondents were still busy with their undergraduate studies; just over three-quarters (76%) of them have made no changes to their study programmes at that time. Almost three-quarters (74%) successfully completed their first academic year in one year. Those students largely attributed the successful completion of their first years to combinations of a few factors, including personal skills, academic support, academic skills, discipline, hard work and perseverance.

In terms of pre-arrival activities, several different types of intervention – like psychometric tests, open days at universities, advice (from different sources), job shadowing, and contact with students – were assessed by respondents as factors that contributed to responsible decisions regarding study and career options.

The majority of respondents believed that their teachers were adequately trained and capable of presenting the subjects of English, Mathematics and Physical Science. On average, respondents' marks significantly improved from Grade 11 to Grade 12, with many more achieving results higher than 80% in Grade 12. Half of

the respondents agreed or strongly agreed with the assertion that their Grade 12 results were good indicators of their higher education results, with the other half disagreeing. Just less than half of respondents felt that their transitions to higher education would have been smoother if their classes and lectures were presented in their home languages. Concerning selection and admission processes, most JT initiative participants wrote the National Benchmark Test at least once. A higher number of respondents indicated that their NBT results were utilised during selection processes (145), than during admission processes (94). Only a few participants received any assistance (from teachers or others) during the writing of the tests.

Respondents who had completed the LectorSA reading development programme (a component of the JT initiative), believed that the programme had not only increased their reading speeds, but had also improved their comprehension skills and academic performances. Nearly all the respondents took Mathematics and Physical Science in Grades 11 and 12, while only a few dropped Physical Science in favour of another subject in Grade 12. More learners took extra classes in Mathematics and Physical Science during Grade 12 than during Grade 11 (up from 57% to 76%). Just over 70% of respondents agreed or strongly agreed that the extra classes could have had a positive influence on their transitions from high school to higher education.

About a quarter of respondents received NSFAS bursaries, with over a third having received company bursaries. The rest of the respondents were financially assisted by parents, study loans, merit awards, or other means. The majority of respondents indicated that the funds from their bursaries were adequate. The majority was also satisfied with the application processes and related feedback from companies. Most but not all respondents received their bursary payments on time. The vast majority (88% of respondents) agreed or strongly agreed that finances could be an influential element in the transitioning from high school to higher education.

CHAPTER 5: Emotional dimensions that influence the transition from high school to higher education

5.1 Introduction

This chapter presents certain findings from the quantitative research phase, first relating to the emotions or feelings that respondents experienced during their first year of study at their tertiary institutions. These findings were later illuminated by the qualitative data gained from subsequent interviews and transcriptions. This chapter also focuses on the merits of different initiatives and activities that influenced the students' transitions from high school to higher education. Positive emotions identified as being relevant to this study include feelings of excitement, confidence, group membership and a sense of belonging. Negative emotions are investigated in terms of new arrivals feeling anxious/nervous, uncomfortable amongst strangers, overwhelmed, sad, depressed or lonely.

Respondents had the opportunity to indicate which of the following factors contributed to or had an influence on their transitions from high school to higher education: the JuniorTukkie initiative, sports activities, cultural activities, community activities, religious activities, peer interactions, time management strategies, computer skills, social skills and study methods. Respondents finally indicated the extent to which their personal skills were developed in terms of verbal communication, listening standards, problem solving, decision making and assertiveness (in communicating own values, ideas, beliefs, opinions, needs and wants).

5.2 Positive emotions and feelings experienced during respondents' first year of study

Students who transition to a higher education institution that incorporates a culture different from their own have to adapt to social, educational and behavioural changes. The aims of the JuniorTukkie initiative is to assist its participants to overcome any negative emotions or feelings that they may experience in their first year, and to reinforce the positive emotions and feelings that are associated with successful transitions. It is, therefore, important that initiatives and counsellors guide students to overcome any culture shocks (Zhou et al., 2008) when they may have

assumed that their new environment functions similarly to their high school environments. Participation in a multicultural initiative can positively influence confidence, acceptance as members of groups, and senses of belonging during their first year at tertiary institutions.

Tables 5.1–5.4 and accompanying charts represent outcomes from questions relating to the degrees that respondents experienced emotions or feelings of excitement, confidence, being members of a group, and senses of belonging during their first year at tertiary institutions.

Table 5.1: ***Positive emotions: excitement***

	Frequency	**Percentage**
Never	6	2.64
Rarely	13	5.73
Sometimes	78	34.36
Often	101	44.49
All the time	29	12.78
Total	227	100.00
Frequency missing = 29		

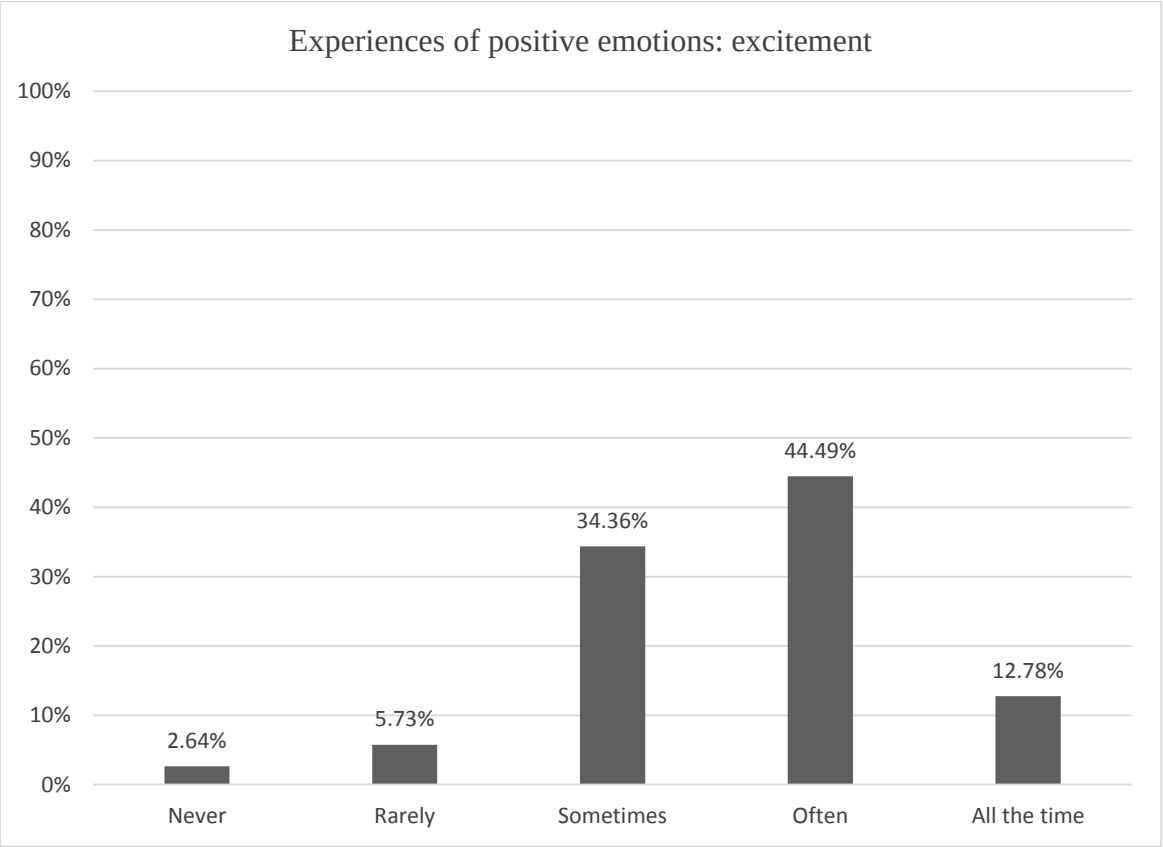

Figure 5-1**:** ***Positive emotions: excitement***

Table 5.1 reveals that the vast majority of respondents (91.63%) indicated that they were excited – intermittently or continuously – about the new environment during their first year of study at tertiary institutions. Pekrun et al.'s study (2014), having found that positive emotions such as joy (excitement), hope and pride correlate with students' self-efficiency, academic interest, effort and their overall achievements, confirms the link between positive emotions and achievements.

Table 5.2: ***Positive feelings: confidence***

	Frequency	**Percentage**
Never	8	3.52
Rarely	44	19.38
Sometimes	91	40.09
Often	65	28.63
All the time	19	8.37
Total	227	100.00

Frequency missing = 29

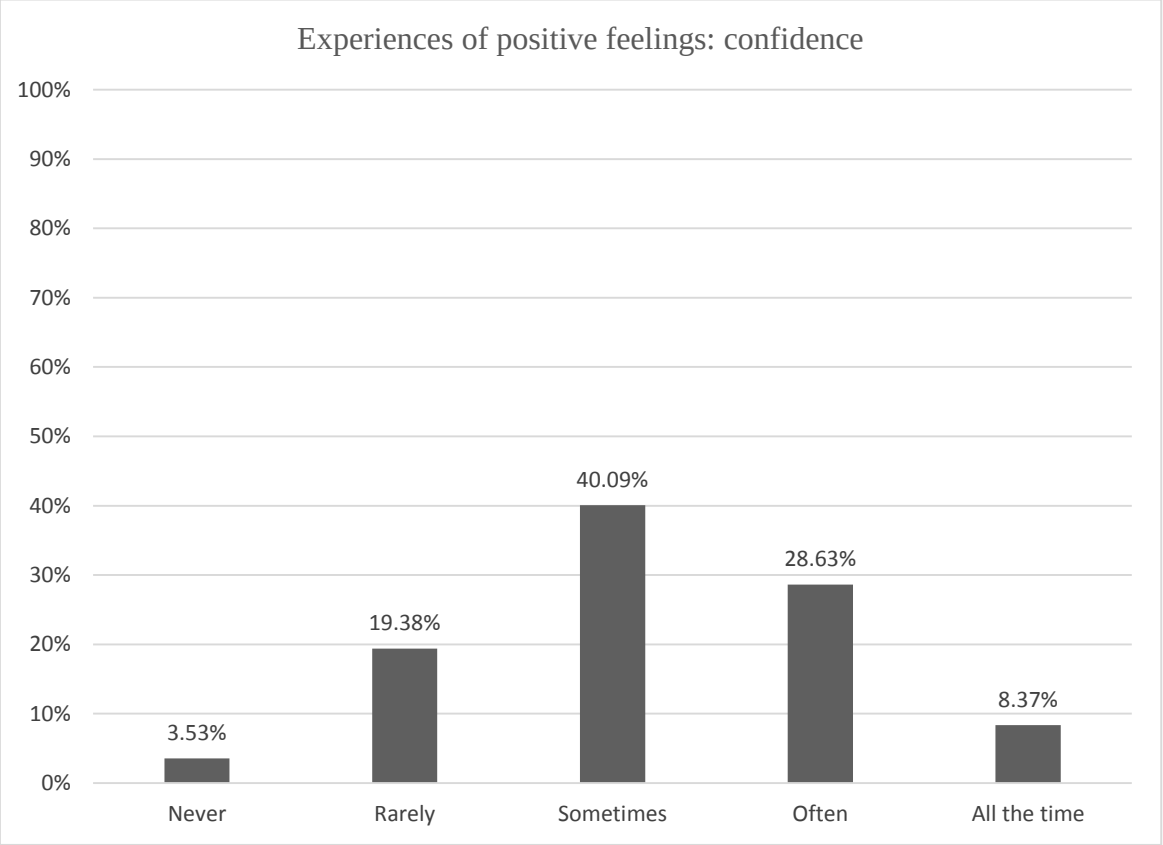

Figure 5-2**:** ***Positive feelings: confidence***

Table 5.2 reveals that just over three-quarters of respondents (77.09%) felt confident – intermittently or continuously – about their new lives as students during their first year of study at tertiary institutions.

In a study conducted in the early 1990's, Parsons, Croft and Harrison (2011) refer to widespread concerns and extensive reporting about the difficulties faced by students at the time. A related problem is students' general lack of confidence and self-efficiency, which affects their learning abilities. Bandura (1989) argues that self-confidence is considered as among the most influential motivators and regulators of behaviours in people's everyday lives.

The sample population's participation in the JT initiative is a probable contributor to the high percentage (77.09%) of respondents who indicated a degree of confidence during their transition to higher education. Interestingly, a similarly high percentage of respondents in this study (74%) completed their first academic

years in one calendar year. This phenomenon correlated with the study by Ericsson et al. (1993), who posited that the individual's confidence and motivation to persist in deliberate learning practices act as a prime influence in the acquisition of expert performances.

Table 5.3: ***Positive feelings: being a group member***

	Frequency	Percentage
Never	19	8.37
Rarely	44	19.38
Sometimes	74	32.60
Often	59	25.99
All the time	31	13.66
Total	227	100.00
Frequency missing = 29		

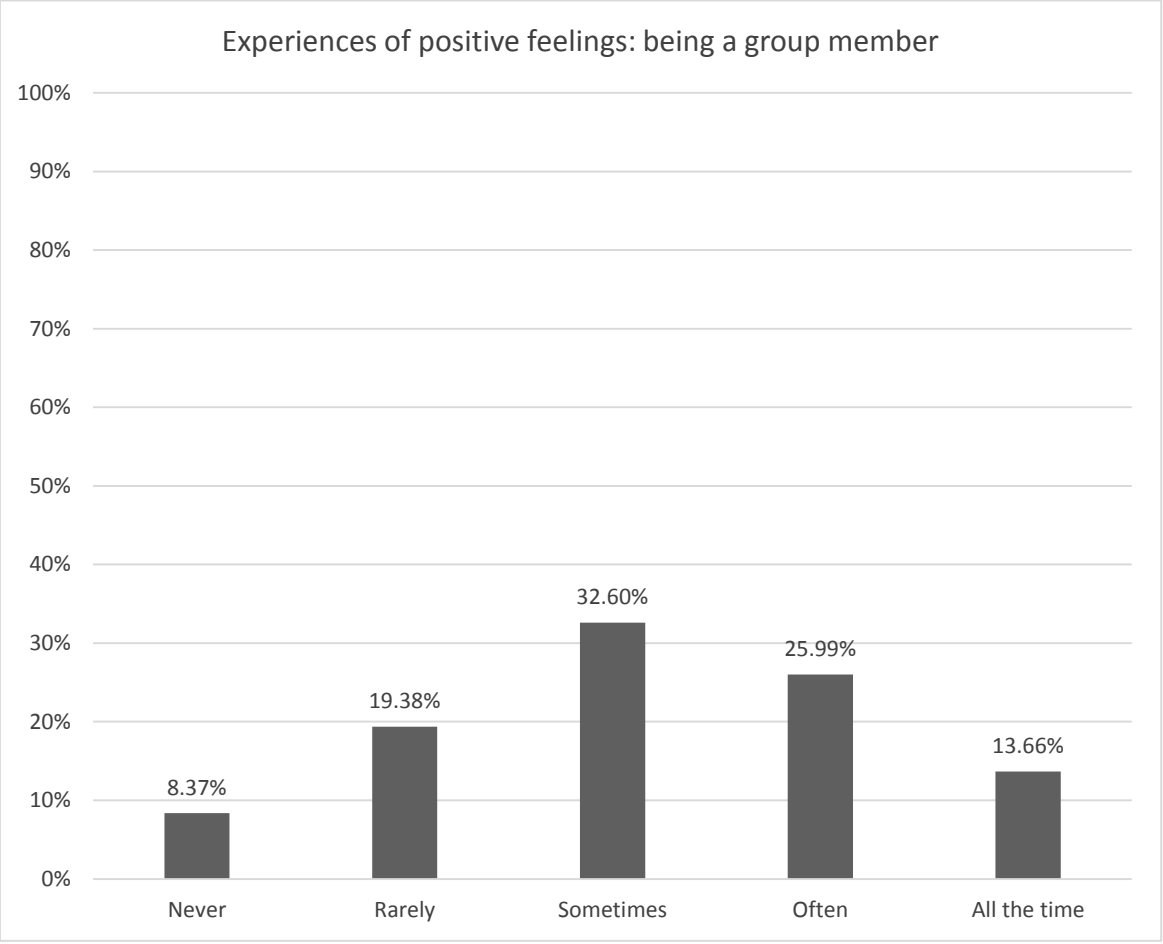

Figure 5-3: ***Positive feelings: being a group member***

Table 5.3 reveals that almost three-quarters of respondents (72.25%) indicated that they have acquired a membership to a group – intermittently or continuously – in a positive way during their first year of study at tertiary institutions. This high percentage correlates with the research findings of Tierney and Venegas (2005), who concluded that preparation programmes for higher education provide a helpful sense of community for academically orientated learners. The positive effects of maintaining healthy relationships with other persons (or persons within a group) and the desire to build steady relationships with others within group environments were emphasised by Stein and Book (as cited in Mangal & Mangal, 2015, p. 238).

Table 5.4: ***Positive feelings: a sense of belonging***

	Frequency	**Percentage**
Never	16	7.05
Rarely	44	19.38
Sometimes	76	33.48
Often	58	25.55
All the time	33	14.54
Total	227	100.00
Frequency missing = 29		

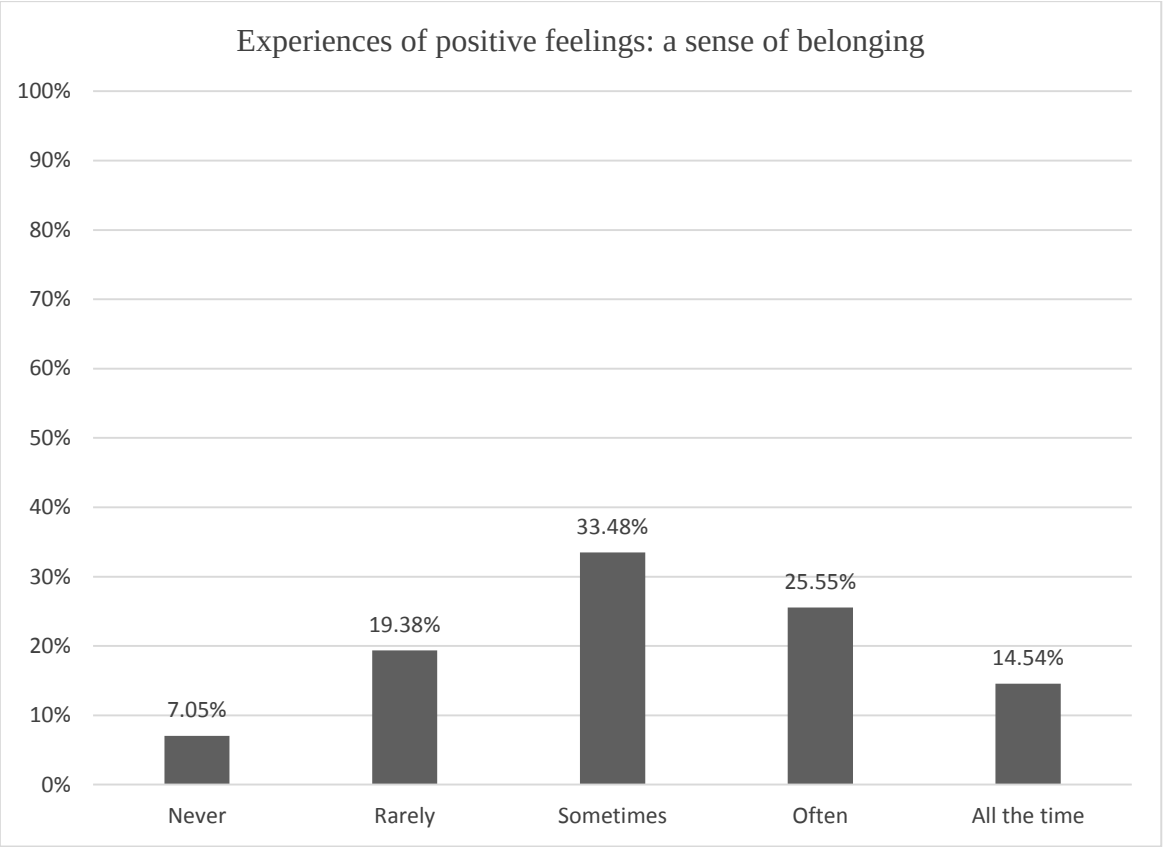

Figure 5-4**:** ***Positive feelings: a sense of belonging***

Table 5.4 reveals that almost three-quarters of respondents (73.57%) felt positive senses of belonging – intermittently or continuously – during their first year of study at tertiary institutions. This high percentage supports Krause, Hartley, James & McInnis's argument (2005) that first-year students generally feel that they belong to a new learning community. Therefore, it is not surprising that they tend to be positive about the identity of being a university student, are likely to have made one or two close friends during their first year, and become more involved in extra-curricular activities. Another study, conducted by Thomas, Herbert and Teras (2014), found that when students feel they connect to other students and the university community, then they are likely to develop and nurture a sense of belonging and to use the opportunity to stay at their university for the longer term.

Since the respondents were still members of the JuniorTukkie initiative for students in the JT Ambassador's programme (first to final year), it follows that their participation in the empowerment programme – which includes study skills, enrichment projects and tutorship from fellow JuniorTukkies – contributed to their positive feelings in terms of a sense of belonging to the campus community.

5.3 Negative emotions or feelings experienced during respondents' first year of study

The majority of new students experience significant differences in teaching and learning styles between high school and higher education. Wangeri et al. (2012) mention that most school leavers harbour feelings of anxiety towards their pending lives at a higher education. When limited support is forthcoming from staff and peers at university, then the new circumstances may contribute to negative feelings and emotions. The negativity experienced can influence the new students' physical comforts and senses of social security. The JuniorTukkie initiative, therefore, pays attention to such negative emotions or feelings to assist participants in overcoming any such related emotional challenges.

Tables 5.5–5.9 represent the respondents' degrees of experiencing negative emotions or feelings during their first year of study at tertiary institutions.

Table 5.5: ***Negative emotions: anxiety or nervousness***

	Frequency	Percentage
Never	5	2.20
Rarely	27	11.89
Sometimes	88	38.77
Often	87	38.33
All the time	20	8.81
Total	227	100.00
Frequency missing = 29		

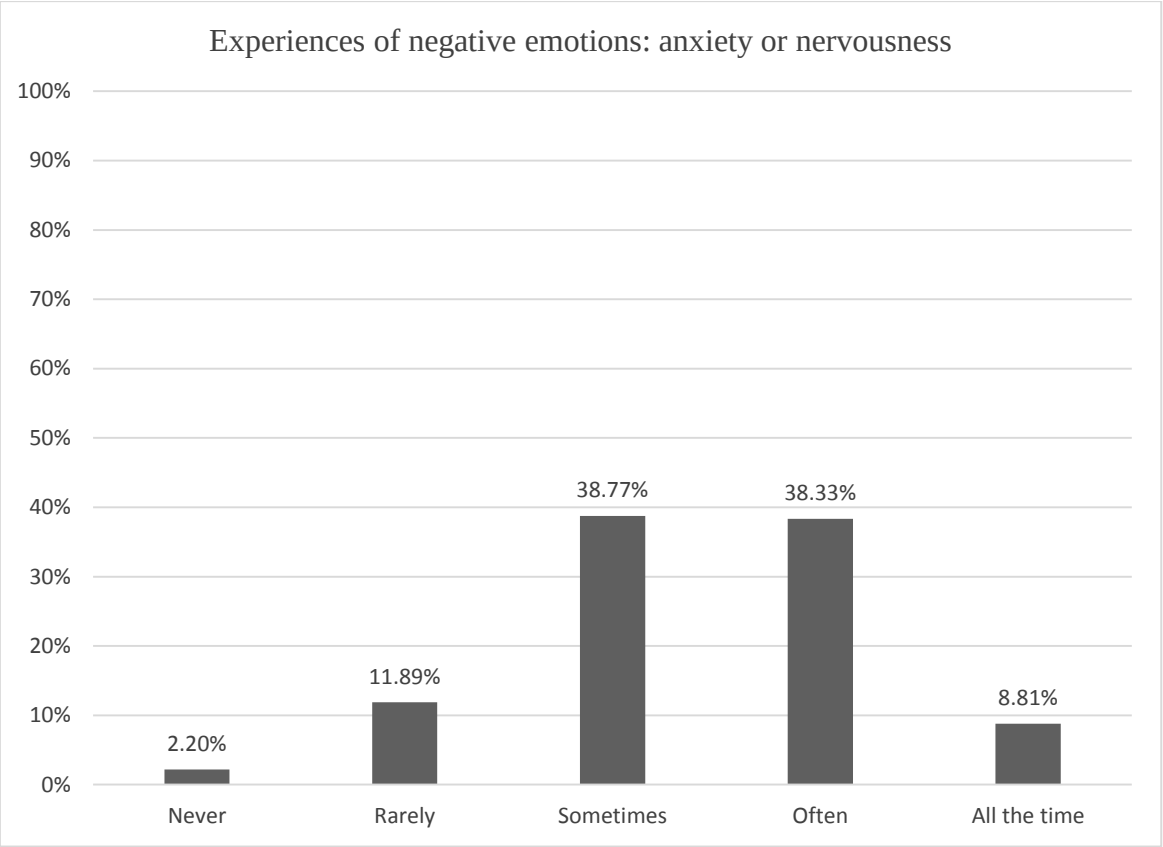

Figure 5-5**:** ***Negative emotions: anxiety or nervousness***

Students who have to incorporate a culture on campus that is different to their own cultures and backgrounds can experience anxiety or nervousness. Many students are obliged to make an effort to embrace social and behavioural changes and adjust to a culturally foreign environment. The anxiety can be exacerbated by significant differences in teaching and learning styles between high school and higher education, raised academic standards, difficult courses and subject material, and demanding workloads (McGhie, 2017).

Bourn (as cited in Jones et al., 2008, p. 29) suggests that the lack of funds "can easily lead to problems of achievement, by provoking anxiety and reducing the time available for study and socialising". The JuniorTukkie participants generally arrived at the university with a poor socio-economic background (lacking adequate funds and financial support) that caused or raised high anxiety levels.

Academic anxiety at higher education is caused or exacerbated by poor study habits, parents' high expectations, insufficient understanding of some subjects and a fear of failure, as confirmed by Rehman's study (2016).

Table 5.6 reveals that almost two-thirds of respondents (64.76%) felt unsure – intermittently or continuously – how to negotiate the introduction to new people on campus during their first year of study at tertiary institutions.

Table 5.6: ***Negative feelings: uneasiness about meeting new people***

	Frequency	Percentage
Never	23	10.13
Rarely	57	25.11
Sometimes	66	29.08
Often	63	27.75
All the time	18	7.93
Total	227	100.00
Frequency missing = 29		

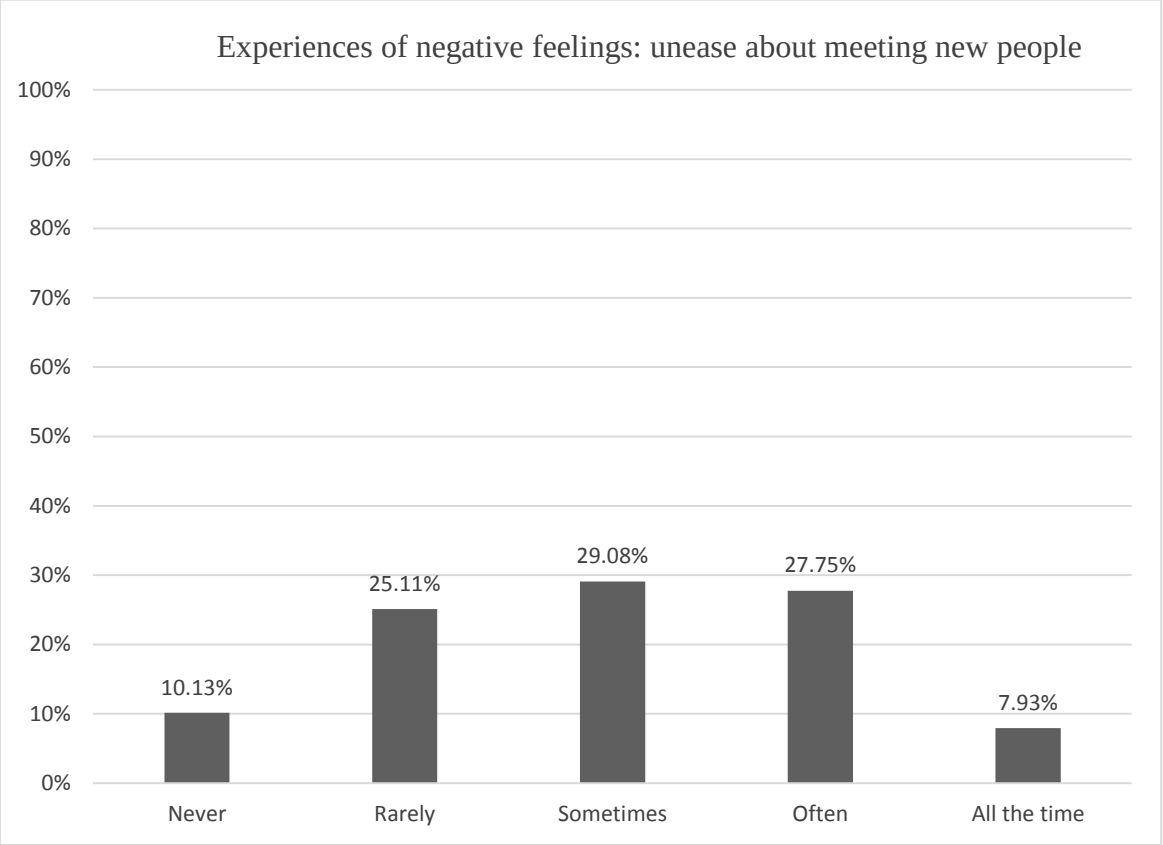

Figure 5-6: ***Negative feelings: uneasiness about meeting new people***

Table 5.7: ***Negative emotions: feeling overwhelmed***

	Frequency	Percentage
Never	10	4.41
Rarely	28	12.33
Sometimes	78	34.36
Often	86	37.89
All the time	25	11.01
Total	227	100.00
Frequency missing = 29		

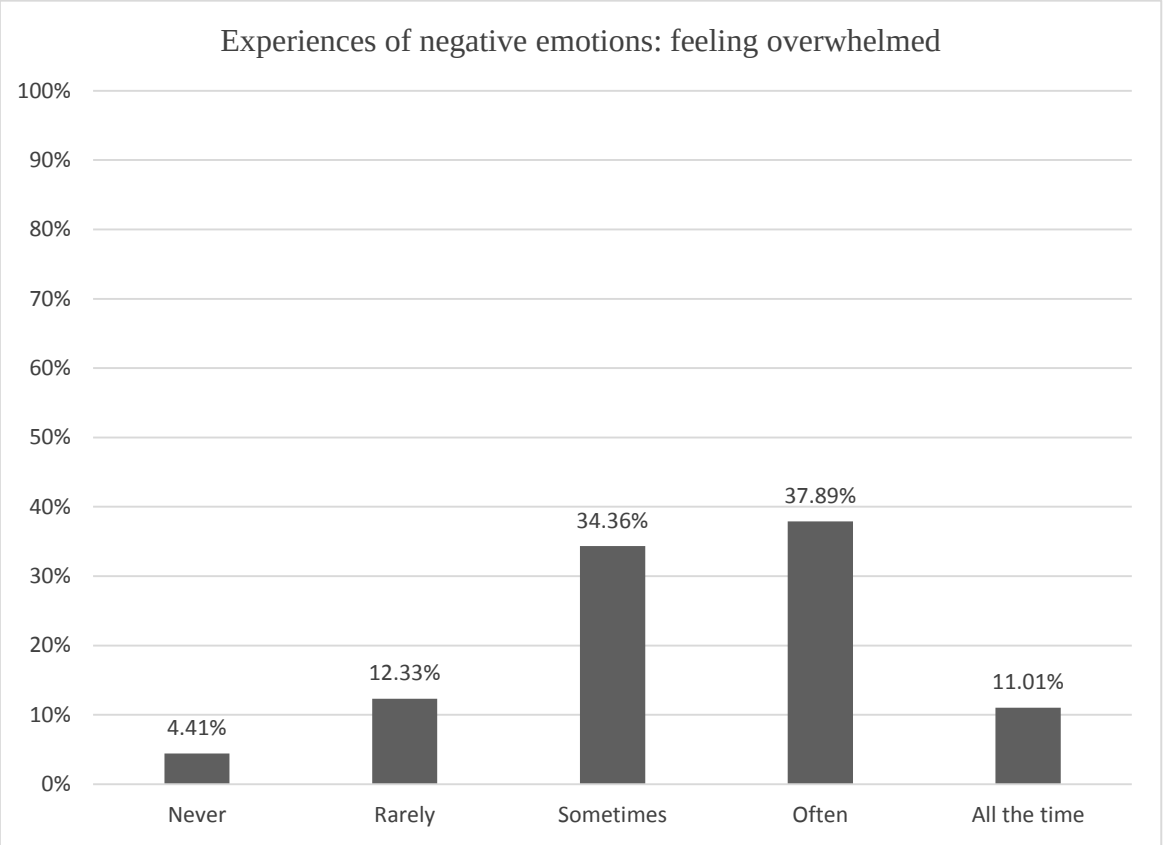

Figure 5-7: ***Negative emotions: feeling overwhelmed***

A national survey conducted by the American College Health Association (as cited in Ramasubramanian, 2016, p. 309) reveals that most college (university) students feel overwhelmed, hopeless, anxious and depressed during their studies. Ramasubramanian adds that the anxiety is borne from being overwhelmed by the volume of academic studies and assignments that needed to be done within strict

timeframes – for many students, the difficulty lies in managing a work/life balance. The findings in my research correlated with these findings in the reviewed literature, as the majority of respondents indicated having felt overwhelmed during their first year.

Table 5.8 reveals that the majority of respondents (58.15%) experienced sadness or were depressed – intermittently or continuously – during their first year of study at tertiary institutions.

Table 5.8: ***Negative emotions: being sad or depressed***

	Frequency	**Percentage**
Never	32	14.10
Rarely	63	27.75
Sometimes	83	36.56
Often	36	15.86
All the time	13	5.73
Total	227	100.00
Frequency missing = 29		

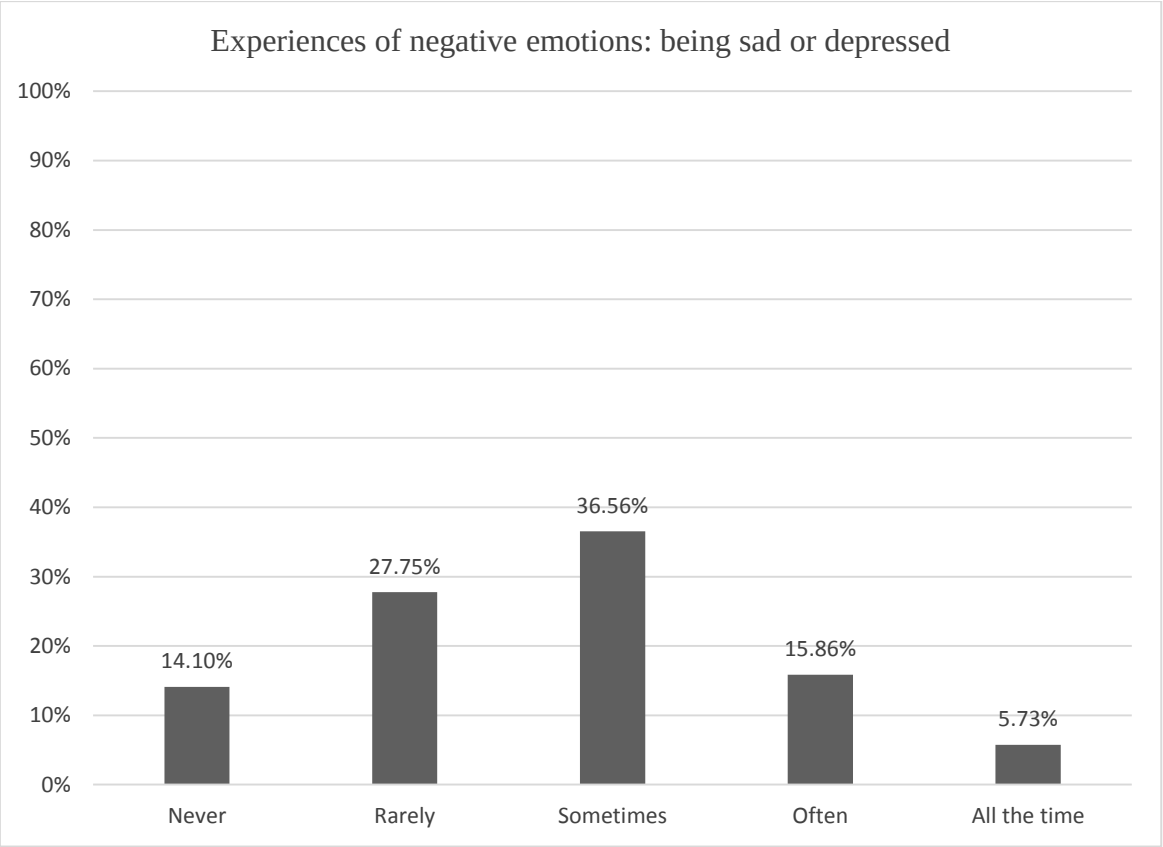

Figure 5-8**:** ***Negative emotions: being sad or depressed***

Keith (2010) states that the rate of depression among college students was at an all-time high at the time of her research. This negative emotion can be attributed to stressors such as academic pressure, inadequate social adaption and the stresses induced by transitioning difficulties. Many students understand the feelings associated with depression as "lacking the motivation to get through the day" or feeling sad and lonely for no obvious reason. According to Keith (2010), many students who made an inadequate social adjustment to their new lives at higher education experienced feelings of loneliness, which could be a contributor to states of depression.

The percentage of students who reported anxiety as a factor affecting their functioning in this survey (almost 86%) – from 'rarely' to 'all the time' – is significantly higher than the 23% of students who indicated the same in the research conducted in 2014 by Holliday et al. (as cited in Bisson, 2017, p. 10).

Table 5.9 reveals that slightly over half of respondents (51.11%) felt lonely – intermittently or continuously – during their first year of study at tertiary institutions.

Table 5.9: ***Negative feelings: loneliness***

	Frequency	Percentage
Never	45	19.82
Rarely	66	29.07
Sometimes	74	32.60
Often	32	14.10
All the time	10	4.41
Total	227	100.00
Frequency missing = 29		

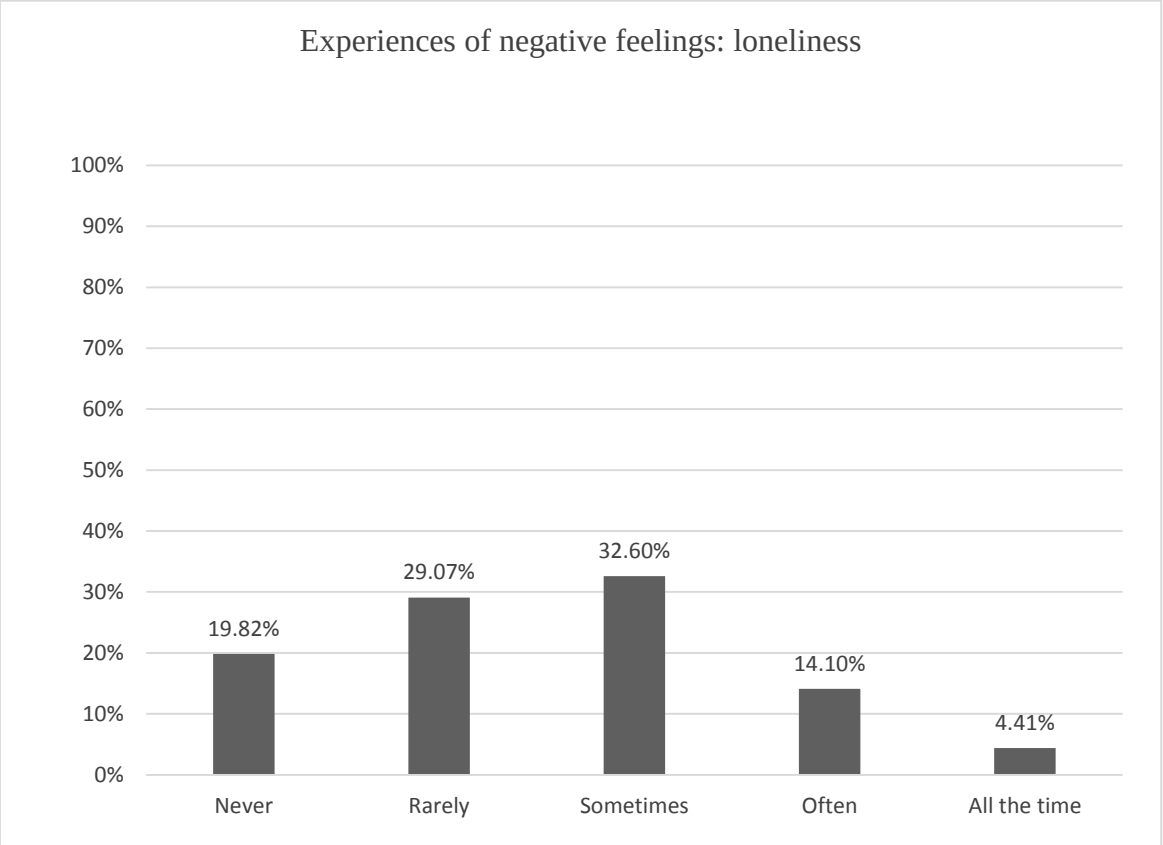

Figure 5-9: ***Negative feelings: loneliness***

Inexperienced students often experience feelings of alienation and/or homesickness, and may experience a lack of socialisation by having difficulties making new friends. This prompts them to feel that they do not belong in the campus environment. Such feelings of 'not belonging' can exacerbate feelings of loneliness to the extent that they may consider withdrawing from their studies (CHE, 2010;

Zepke & Leach, 2005). When considering the sample population of this research, it must be kept in mind that many respondents knew each other from their Grade 11 years (through JuniorTukkies), and they could have overcome this factor by meeting each other again on campus, in their residences or study environments.

5.4 Initiatives and activities that influenced respondents' transitions

The purpose of this section of the questionnaire was to establish which initiatives and activities were effective in easing the respondents' transitions from high school to higher education.

As seen in Table 5.10, only 14 of 227 respondents (6.17%) indicated that the JuniorTukkie initiative did not influence them at all, with a few more respondents (17) believing that its influence was slight. The vast majority of respondents (86.35%) indicated that the JuniorTukkie initiative was influential to varying but notable extents. These results correlated with the argument of researchers like Tierney and Vegas (2005) who found that participants who had joined a preparation programme for higher education readiness already had an established haven, and would likely have experienced an early sense of community.

The JuniorTukkie initiative, as a system that assists individuals to form a 'higher education learner identity', is a concept that underpins Tinto's seminal principals, and it could provide a useful basis for the development of a supportive climate for learner development (Briggs, Clark & Hall, 2012).

Table 5.10: ***Influence of JuniorTukkie initiative on transitions***

	Frequency	Percentage
Not at all	14	6.17
Slightly	17	7.49
Somewhat	48	21.15
Very	81	35.68
Extremely	67	29.52
Total	227	100.00
Frequency missing = 29		

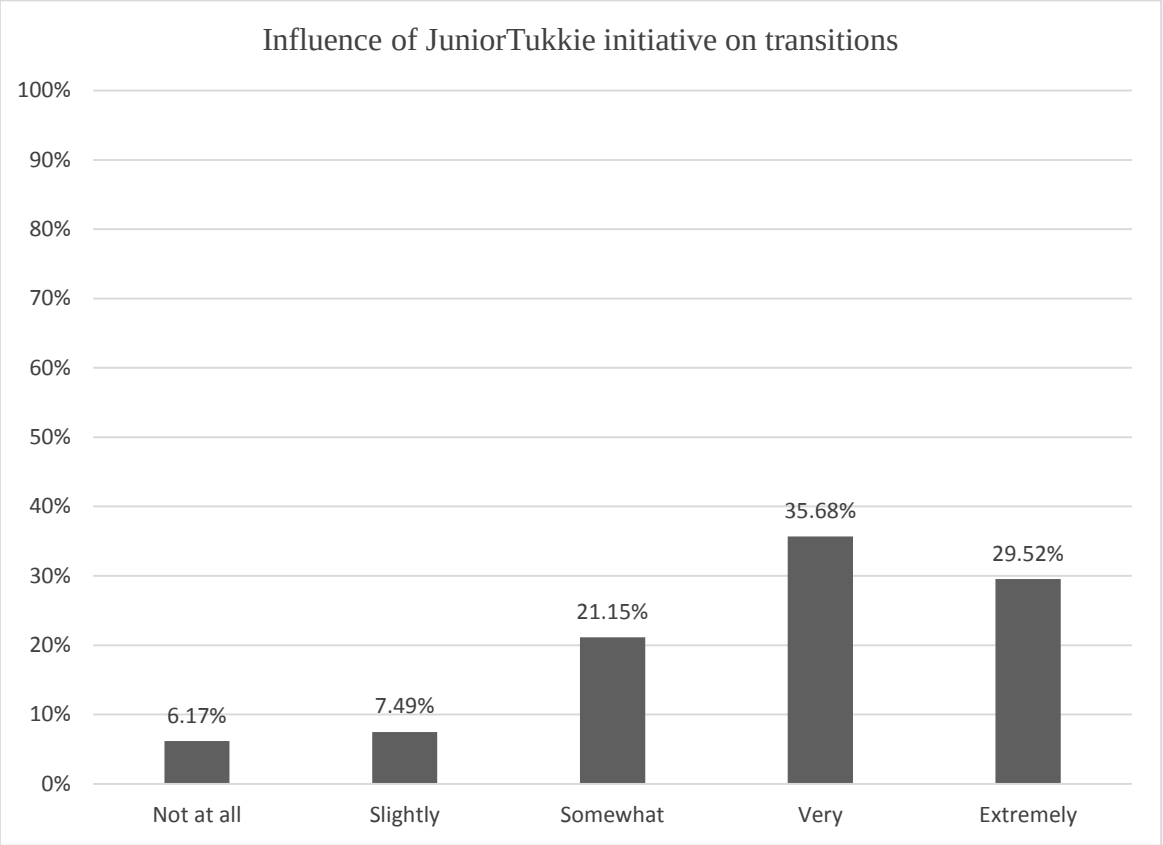

Figure 5-10: ***Influence of JuniorTukkie initiative on transitions***

Table 5.11 reveals that sport seems to have had no influence on a majority (57.71%) of respondents' transitions from high school to higher education.

The connection between school sport and academic achievement has been a long-standing issue since Davis and Copper (as cited in Trudeau & Shepard, 2008, p. 6) first reported a positive association between the two elements. March (1992) also argue that sports activities may improve academic achievement, having found that students who compete in high school activity programmes had better educational outcomes at school and had higher educational expectations beyond high school. Andrews (2013) states that students should be encouraged to recognise co-curricular activities such as sport, as it will provide them with development abilities they may need to thrive in new environments. Therefore, such activities can assist students to achieve successful transitions.

Table 5.11: ***Influence of sports activities on transitions***

	Frequency	Percentage
Not at all	131	57.71
Slightly	34	14.98
Somewhat	41	18.06
Very	15	6.61
Extremely	6	2.64
Total	227	100.00
Frequency missing = 29		

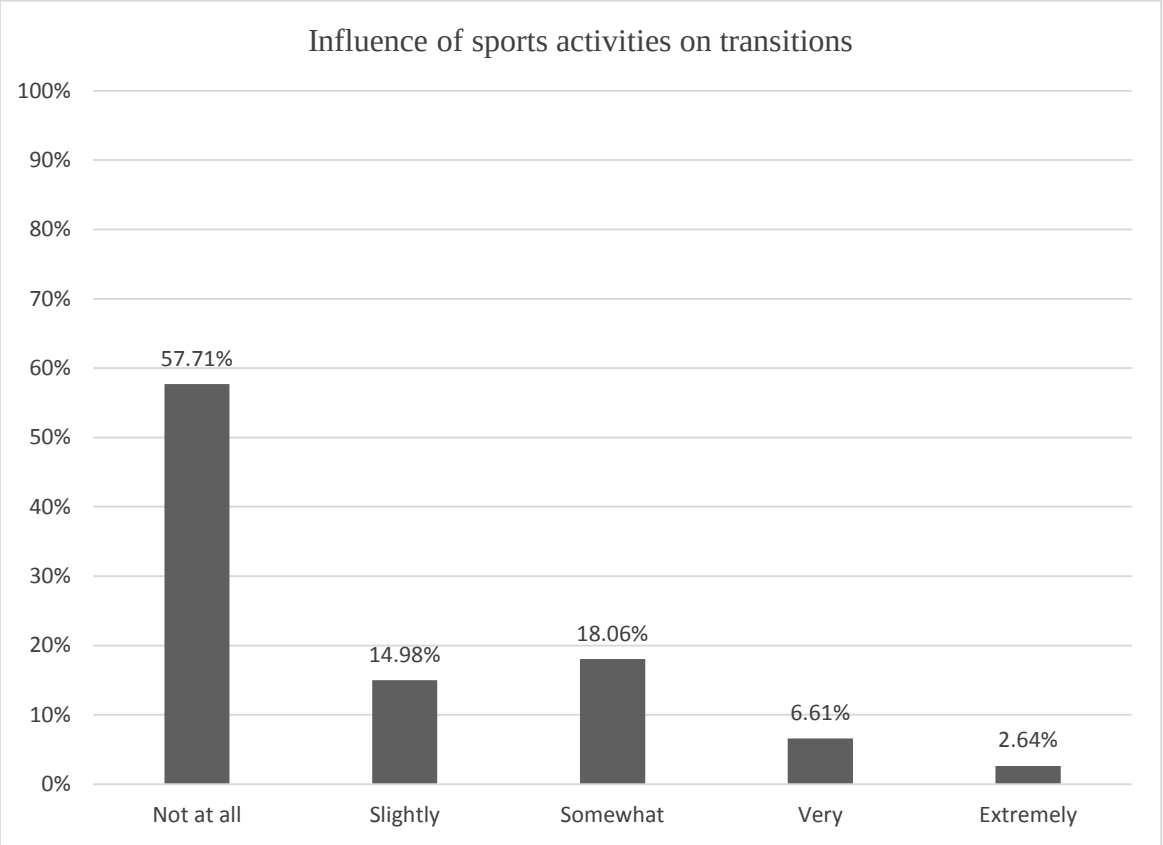

Figure 5-11: ***Influence of sports activities on transitions***

Table 5.12: ***Influence of cultural activities on transitions***

	Frequency	Percentage
Not at all	101	44.49

	Frequency	Percentage
Slightly	50	22.03
Somewhat	43	18.94
Very	23	10.13
Extremely	10	4.41
Total	227	100.00
Frequency missing = 29		

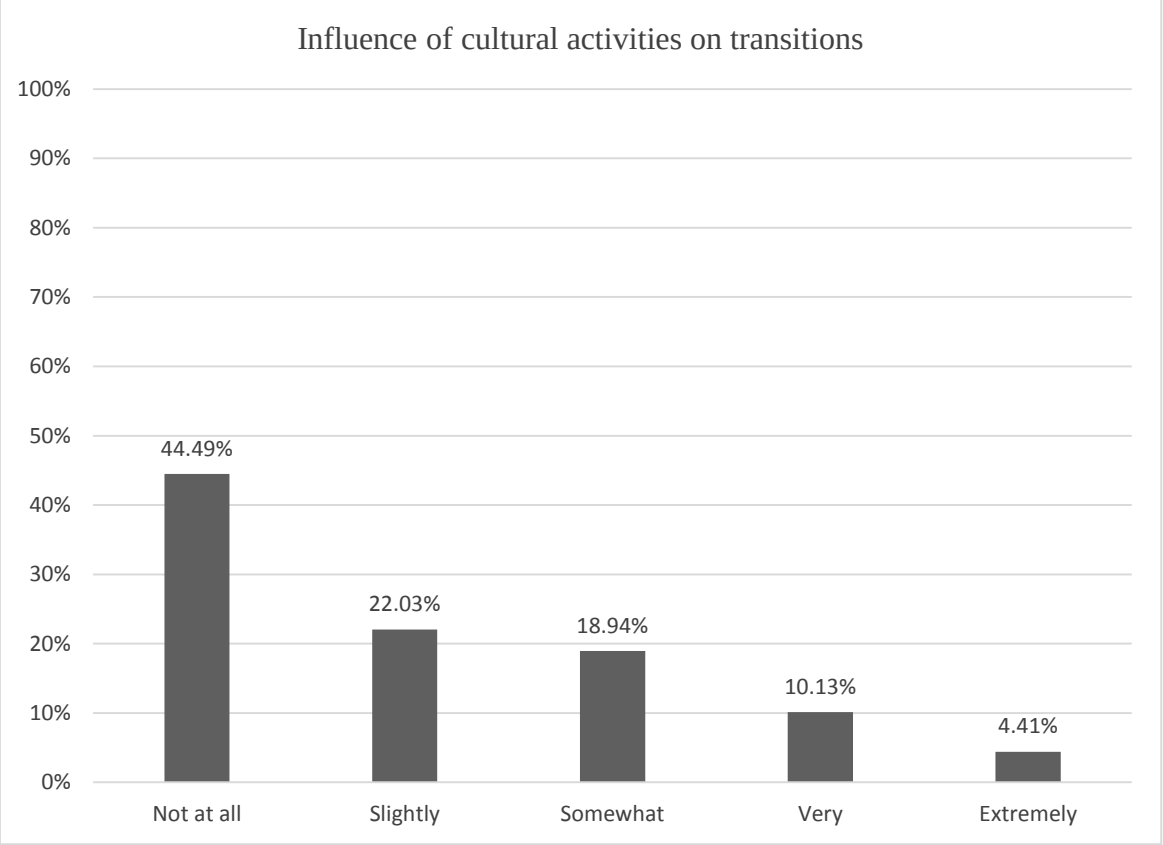

Figure 5-12: ***Influence of cultural activities on transitions***

Andrews (2013) states that students should be encouraged to recognise the value of co-curricular activities in their environments. High school learners may likewise benefit through participation in all such activities, which include cultural activities, by earning opportunities to hone their development skills needed to thrive in new environments. Zia-ul-Islam et al. (2016) add that students who participate in co-curricular activities (including cultural activities) outperform inactive students. A smaller yet still notable percentage of respondents (44.49%) felt that cultural issues

had no influence on their transitions, as seen in Table 5.12. Several schools that the JT initiative participants attended did not have sufficient facilities for sports or cultural activities, which deprived the learners of opportunities to participate in the kind of extra-curricular activities that could have assisted their transitioning efforts.

The majority of respondents (61.67%) indicated that the campus community was (slightly to extremely) influential on their transitions to higher education, as shown in Table 5.13.

Table 5.13: ***Influence of community on transitions***

	Frequency	**Percentage**
Not at all	87	38.33
Slightly	55	24.23
Somewhat	48	21.15
Very	29	12.78
Extremely	8	3.52
Total	227	100.00
Frequency missing = 29		

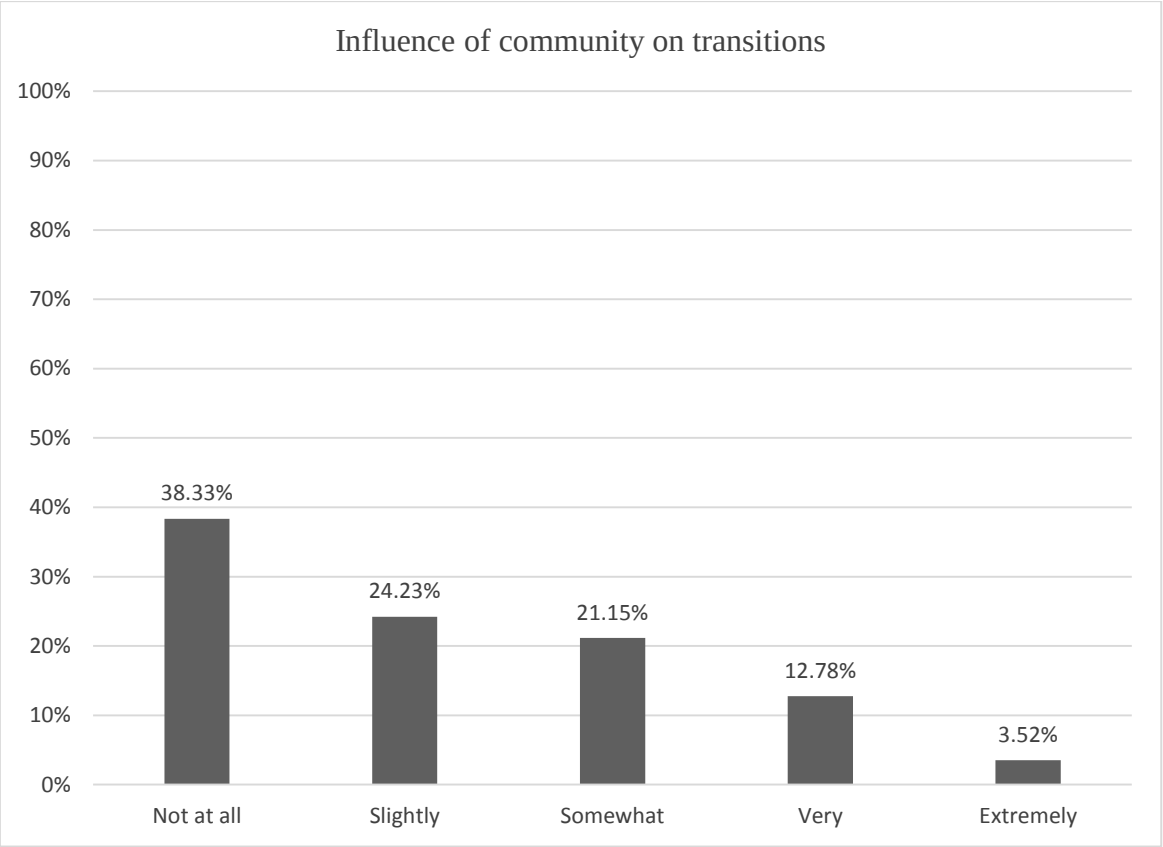

Figure 5-13: ***Influence of community on transitions***

Hinkley and Anderson (1996) argue that the exposure to persons who exude healthy self-beliefs also influences the way individuals regard themselves. New students may have previously belonged to communities that were only partially exposed to diversities in culture, language, and general norms and standards. The reaction to becoming a member of a truly diverse campus community may be an influential factor in determining the success of a transition from high school to higher education. This argument related to the finding in my research where the majority of the participants (61.67%) indicated that the campus community's influence was (slightly to extremely) influential on their transition to higher education, as shown in Table 5.13.

It is evident in previous research that students generally accept and attempt to cope with the social climate on campus grounds, and to build and sustain social relationships with their peers (Trautwein & Bosse, 2016). In his studies, Treynor (2009) also argues that some relationships with peers can promote academic engagement. Astin (1993) mentions that the actions of bonding on a shared sense of identity or through participation in shared co-curricular activities can

assist successful transitions. The JuniorTukkie initiative, therefore, endeavours to develop a network of peers for students who have access to pooled resources and knowledge bases.

Table 5.14: ***Influence of religion on transitions***

	Frequency	Percentage
Not at all	49	21.59
Slightly	36	15.86
Somewhat	42	18.50
Very	49	21.59
Extremely	51	22.47
Total	227	100.00
Frequency missing = 29		

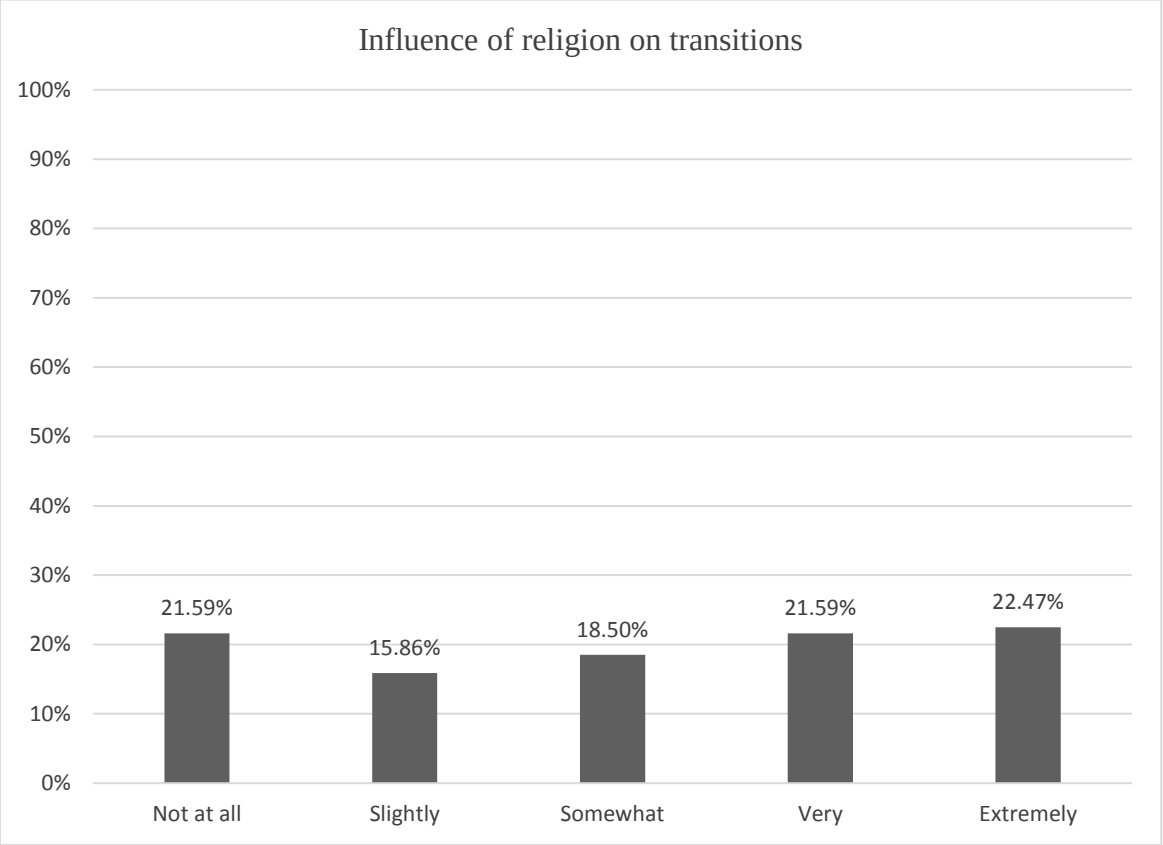

Figure 5-14: ***Influence of religion on transitions***

Religion is a powerful force for many in terms of the shaping of individual values, provision of an overall sense of purpose, forming of connections with others and the building of a sense of community. It provides a framework for an individual's world vision and moral options, and it offers insight into human drives, hopes and reasoning (Lee, 2002). The high percentage of respondents (78.41%) who felt that religion influenced their transition supports the views of Khalil (2015) and Lee (2002) who argued that religion is a significant factor in the life of students.

Table 5.15: ***Influence of peers on transitions***

	Frequency	**Percentage**
Not at all	23	10.13
Slightly	34	14.98
Somewhat	64	28.19
Very	75	33.04
Extremely	31	13.66
Total	227	100.00
Frequency missing = 29		

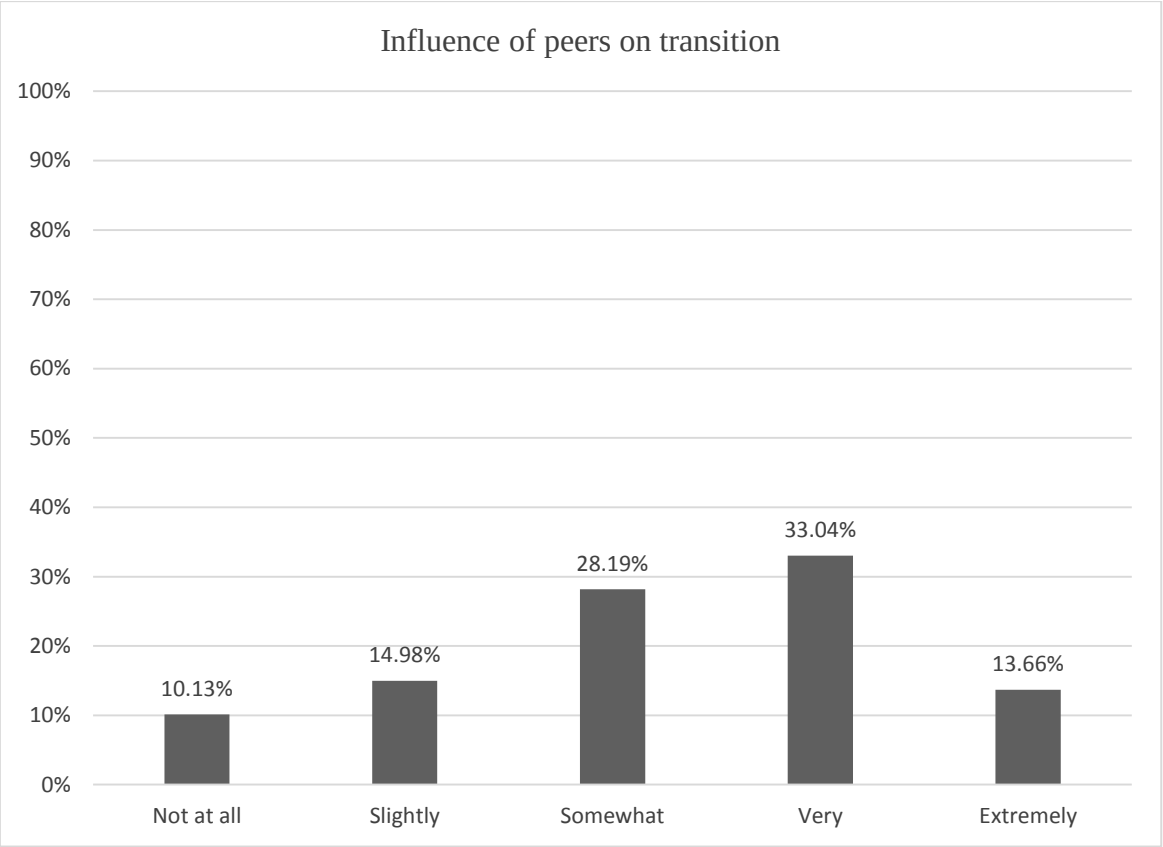

Figure 5-15: ***Influence of peers on transitions***

The high percentage (89.87%) of respondents – all belonging to the JuniorTukkies initiative – who indicated that their peers had an influence on their transitioning experiences supports the view presented by Tierney and Venegas (2005). Their investigation found that participants who had joined a transition programme have realistic expectations how they would be interacting with their peers on a campus. It also aligns with Treynor's argument (2009) that peer pressure situations can affect people's lives either positively or negatively. The JT initiative, for example, employs staff members to encourage its members to elevate their attitudes, values and behaviours among peers, thus establishing a natural support structure and to initiate positive peer influences on members' academic achievements.

Grouped together in the following discussions are respondents' estimations of their development of four types of skill associated with the JT initiative, namely time management, computer skills, social skills and study methods. Almost all respondents believed that the JT initiative influenced – to varying degrees – the development of each of these skills. These percentages

amount to 96.04% for time management, 96.92% for computer skills, 95.59% for social skills, and 96.48% for improved study methods (see Tables 5.16–5.19).

A clear majority of respondents indicated that the JT initiative influenced each of those four skill types to 'very high' and 'extremely high' extents. These specific percentages amount to 71.37% for time management skills, 67.84% for computer skills, 59.03% for social skills, and 65.64% for improved study methods.

The JT initiative's positive effect on skills development is therefore indisputable, according to the respondents' estimations. The four sets of tables and figures are shown on the following pages.

Table 5.16: ***The JuniorTukkie initiative's degree of influence on time management skills***

	Frequency	**Percentage**
Not at all	9	3.96
Slightly	15	6.61
Somewhat	41	18.06
Very	104	45.81
Extremely	58	25.55
Total	227	100.00
Frequency missing = 29		

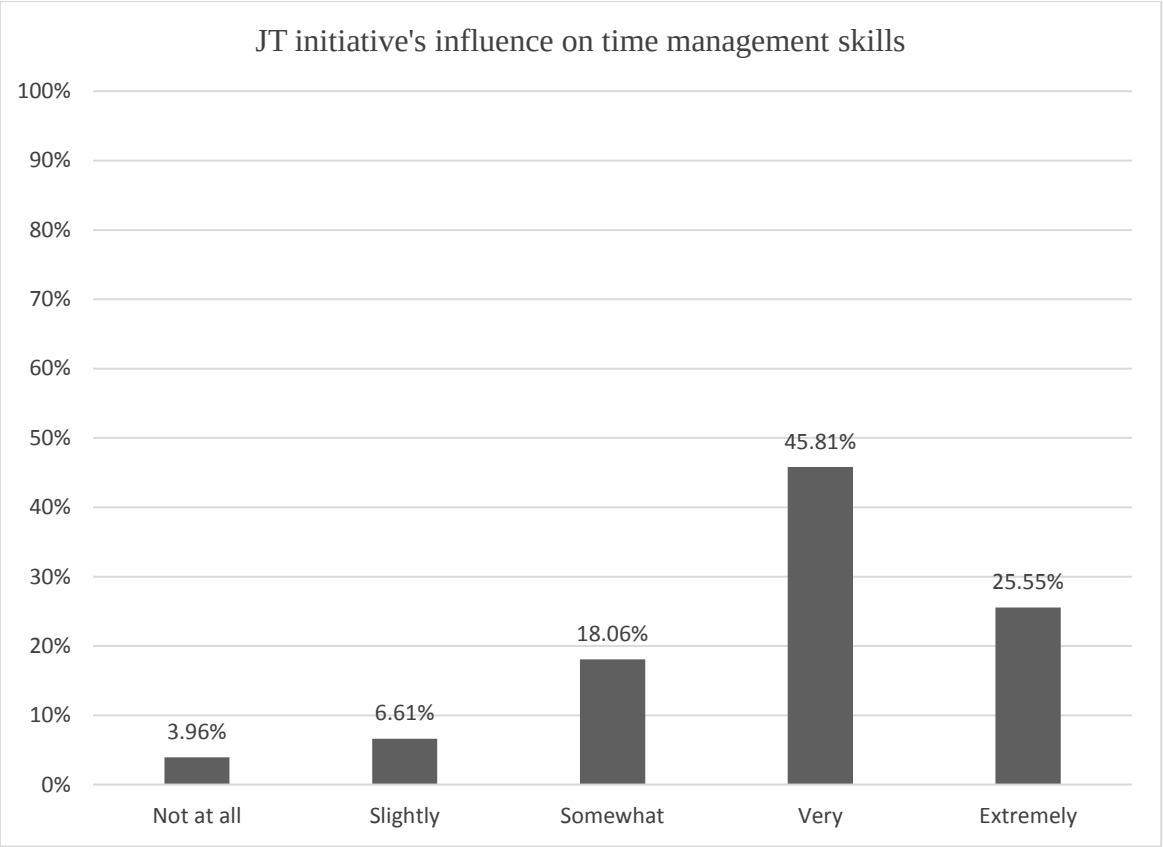

Figure 5-16: ***The JuniorTukkie initiative's degree of influence on time management skills***

Other researchers have previously explored the element of time management, such as Crutsinger and Lakein (as cited in Claessens et al., 2007, p. 2) who stated that it involves the activities of goal-setting, prioritising and scheduling. This means that students need to adopt a time management strategy to ensure they can attend lectures and be prepared for their tests and assignments. Students who employ functional time-management habits report significantly improved results, satisfaction with their lives, less stress and lower tension levels (Macan et al., 1990).

The importance of time management practices is reflected in the fact that almost all the respondents (96.04%) believed that the JT initiative had influenced the development of this particular skill. This finding correlates with the arguments as cited in the reviewed literature.

Table 5.17: ***The JuniorTukkie initiative's degree of influence on computer skills***

	Frequency	**Percentage**
Not at all	7	3.08
Slightly	17	7.49

	Frequency	Percentage
Somewhat	49	21.59
Very	91	40.09
Extremely	63	27.75
Total	227	100.00
Frequency missing = 29		

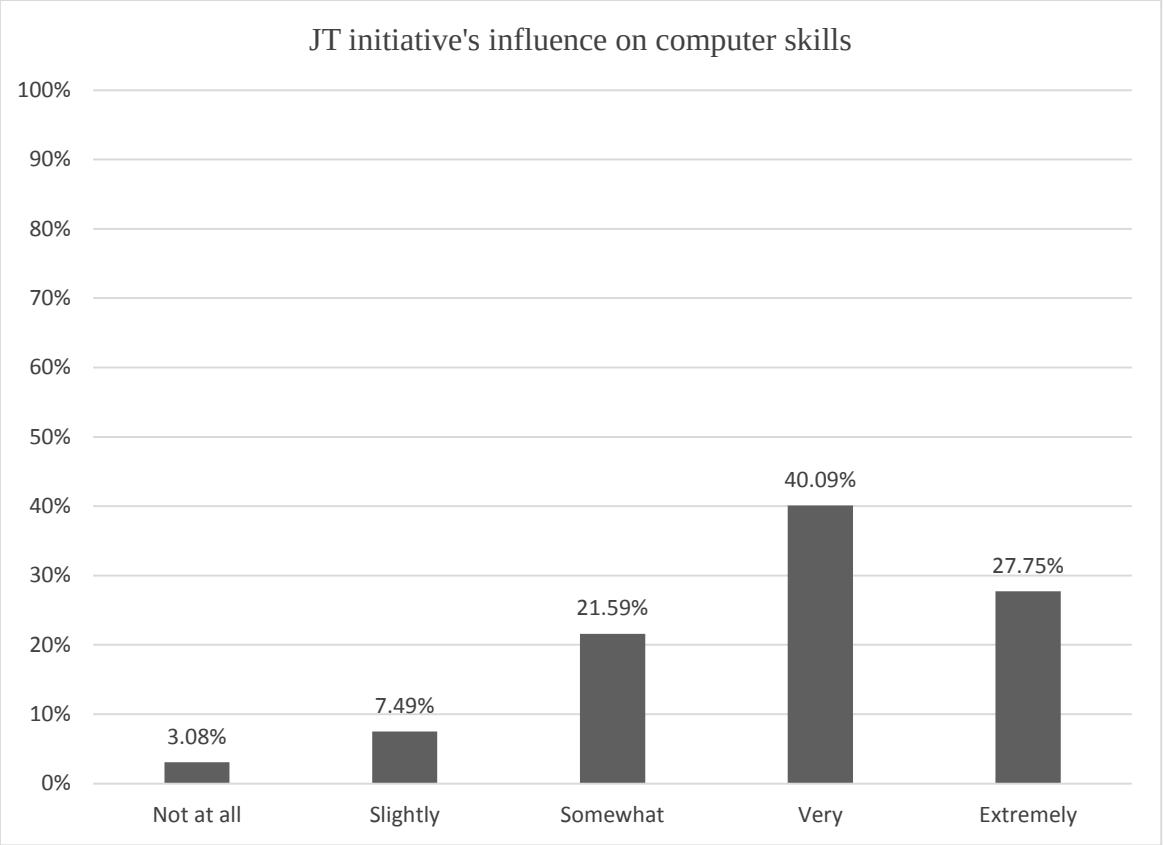

Figure 5-17: ***The JuniorTukkie initiative's degree of influence on computer skills***

Moursund (as cited in Eisenberg & Johnson, 2002, p. 2) notes that the productive utilisation of computers in the curriculum content is neglected or severely underdeveloped in several schools. The inclusion of computer literacy in the JT initiative not only aims to fill this gap but also to ensure that participants know how to access, manage, integrate, evaluate, create and communicate computerised information. Almost all the respondents in this research (96.92%) felt that the JT's initiative to develop its members' computer skills had a positive effect on their own transition and development as students.

Table 5.18: ***The JuniorTukkie initiative's degree of influence on social skills***

	Frequency	Percentage
Not at all	10	4.41
Slightly	26	11.45
Somewhat	57	25.11
Very	82	36.12
Extremely	52	22.91
Total	227	100.00
Frequency missing = 29		

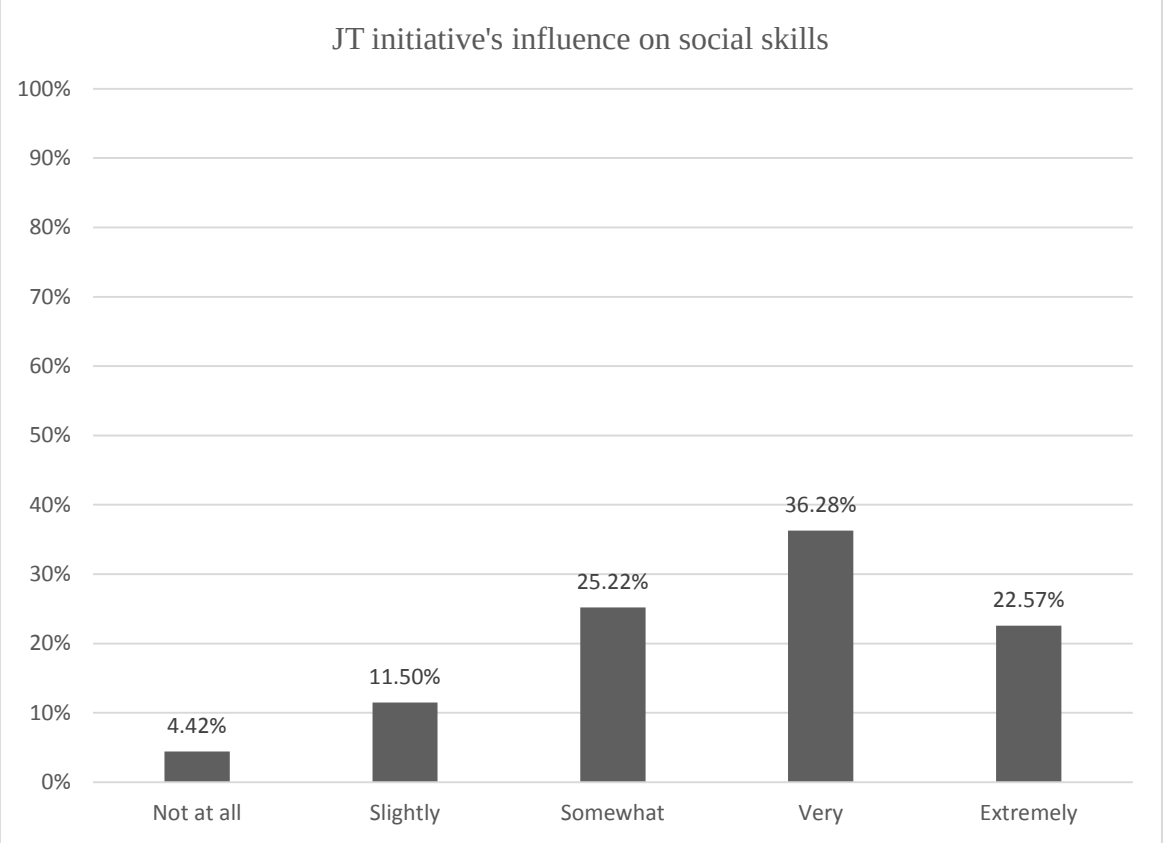

Figure 5-18: ***The JuniorTukkie initiative's degree of influence on social skills***

Humans are social beings, and interactions with other people shape our respective characters. Human beings also have an innate need for acceptance by social groups. Exposure to persons with a healthy self-belief can influence persons in social contexts (Hinkley & Anderson, 1996). The positive responses by participants to this research in terms of the JT initiative's focus on social skills, and

subsequent empowering of the students, correlated with the research conducted by Mazarin (2014), who concluded that social skills could create healthy and positive interactions within group settings. It also aligns with Tett et al.'s statement (2016) that when students develop positive relationships with fellow students and peers, they then cultivate a sense of belonging to the university and campus environment.

Table 5.19: ***The JuniorTukkie initiative's degree of influence on study methods***

	Frequency	Percentage
Not at all	8	3.52
Slightly	12	5.29
Somewhat	58	25.55
Very	90	39.65
Extremely	59	25.99
Total	227	100.00
Frequency missing = 29		

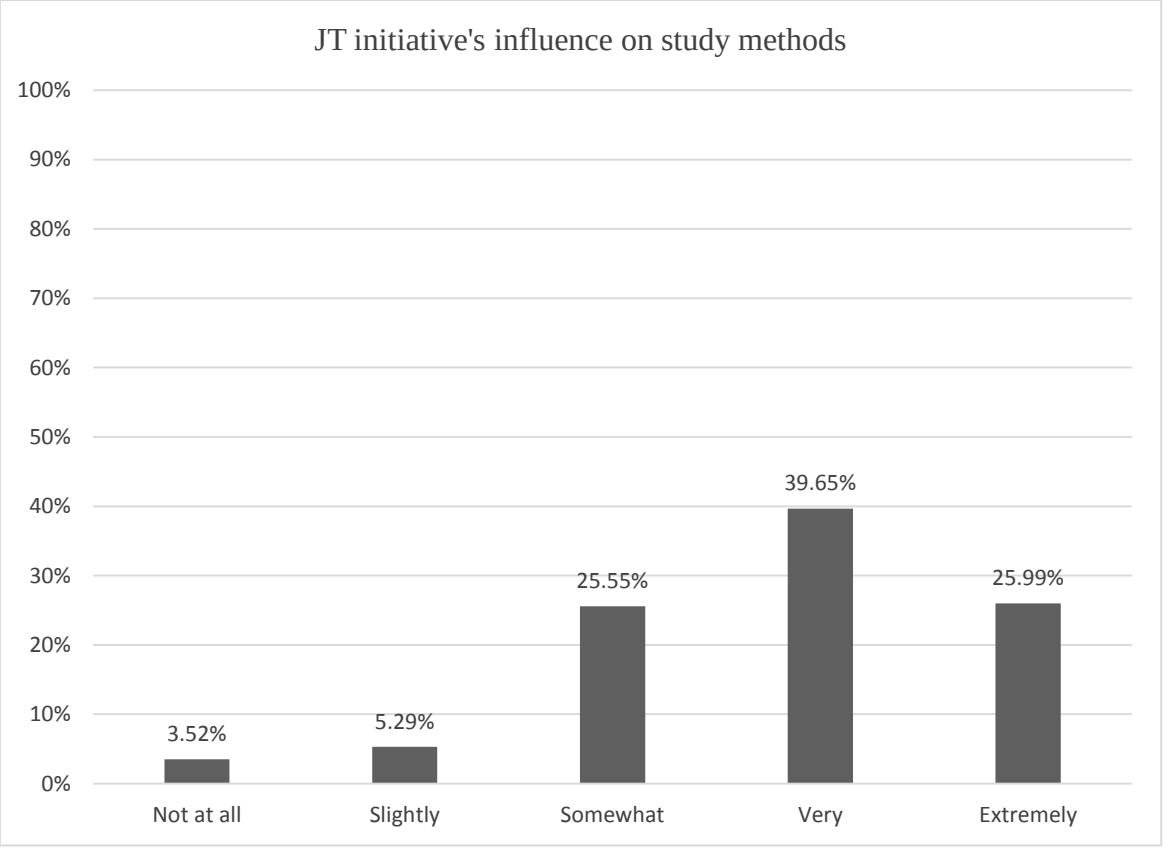

Figure 5-19: ***The JuniorTukkie initiative's degree of influence on study methods***

Some researchers – such as Balduf (2009) and Dumico and Qucy (2009) – argue that inadequate study skills (including poor time-management and a lack of planning) comprise some factors that negatively influence students' transition processes. A successful study career is achievable only when the student's study and time-management skills are functional, and when a student is satisfied with his/her chosen degree and tutorial attendance (Jansen & Suhre, 2010).

Considering the presented data, it is evident that a high percentage of respondents felt that the JuniorTukkie initiative had a very positive influence on the development of their study methods (skills). The JT initiative endeavours to develop the participants' study and time-management skills in such a way that not only a successful study career is achievable but also that the students are satisfied with their chosen degrees and tutorial attendances, as promoted by Jansen & Suhre (2010).

5.5 Development of personal skills through the JuniorTukkie initiative

In addition to aforementioned programmes and services, the JuniorTukkie initiative also focuses on the development of the personal skills of participants in the programme. The JT initiative concentrates on personal skills related to verbal communication, listening, problem solving, decision making and assertiveness (in communicating own values, ideas, beliefs, opinions, needs and wants).

Similar to respondents' views on the development of skills mentioned in the previous section (social skills, study methods and others), respondents again almost unanimously believed that the JT initiative influenced – to varying degrees – the development of each personal skill that is investigated in this section. These respective percentages amount to 96.92% for verbal communication skills, 98.68% for listening skills as well as problem solving, 97.80% for decision making, and 98.24% for assertiveness (see Tables 5.20–5.24).

The proportion of respondents who indicated that the JT initiative influences each of these five personal skill types to 'very high' and 'extremely high' extents varied in percentages between 43.17% and 61.68%. These specific percentages amount to 43.17% for communication skills, 61.68% for listening skills,

59.03% for problem solving, 57.70% for decision making, and 49.34% for assertiveness.

The JT initiative's positive effect on personal skills development is indisputable, according to the respondents' estimations. The five sets of tables and figures are shown on the following pages.

Table 5.20: ***JT initiative's influence on verbal communication skills***

	Frequency	Percentage
Not at all	7	3.08
Slightly	24	10.57
Somewhat	98	43.17
Very	74	32.60
Extremely	24	10.57
Total	227	100.00
Frequency missing = 29		

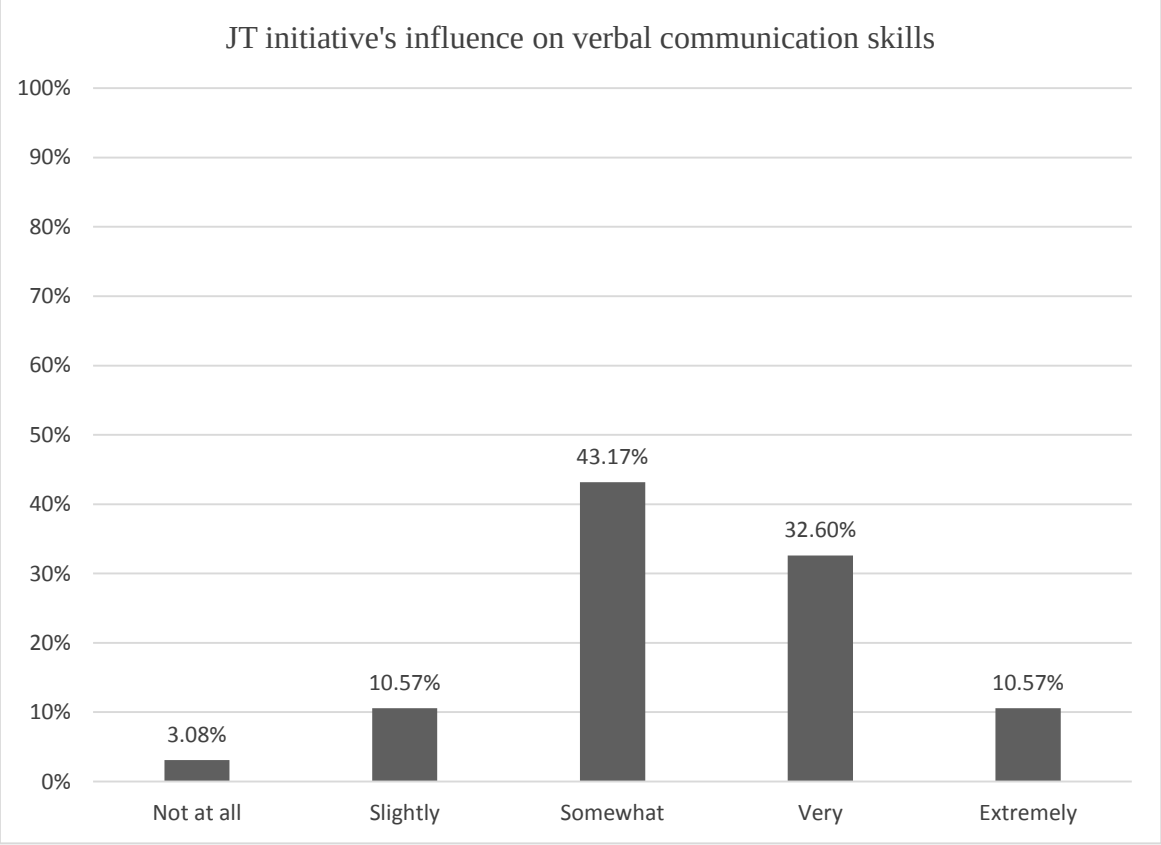

Figure 5-20: ***JT initiative's influence on verbal communication skills***

Hinkley and Anderson's study (1996) listed verbal communication – our words (semantic) and the ways in which the words are spoken (grammatical mood) – as among the prime elements that determine interpersonal skills. The JT respondents almost unanimously (96.92%) indicated that the JT initiative had influenced their verbal communication skills. This high percentage supports the argument that communication, as a personal skill, is very important for both successful transitions and success at higher education in terms of achievements.

Table 5.21: ***JT initiative's influence on listening skills***

	Frequency	**Percentage**
Not at all	3	1.32
Slightly	14	6.17
Somewhat	70	30.84
Very	106	46.70
Extremely	34	14.98
Total	227	100.00
Frequency missing = 29		

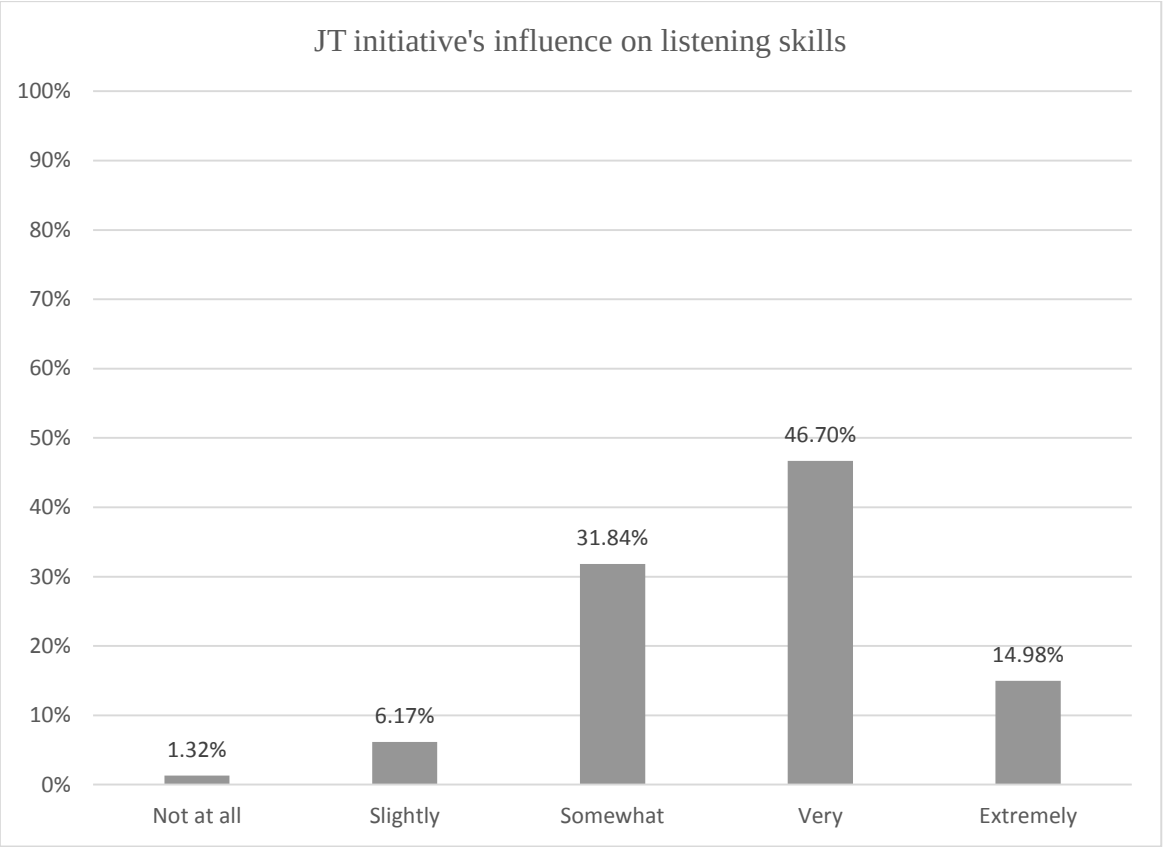

Figure 5-21: ***JT initiative's influence on listening skills***

The listening skill, which refers to the ability to correctly interpret both verbal and non-verbal messages sent by others, is, according to Hinkley and Anderson's research (1996), the prime element that determines an individual's measure of interpersonal skills. Respondents selected this skill as the skill type that had been improved the most by the JuniorTukkie initiative.

Table 5.22: ***JT initiative's influence on problem-solving skills***

	Frequency	Percentage
Not at all	3	1.32
Slightly	20	8.81
Somewhat	70	30.84
Very	93	40.97
Extremely	41	18.06
Total	227	100.00
Frequency missing = 29		

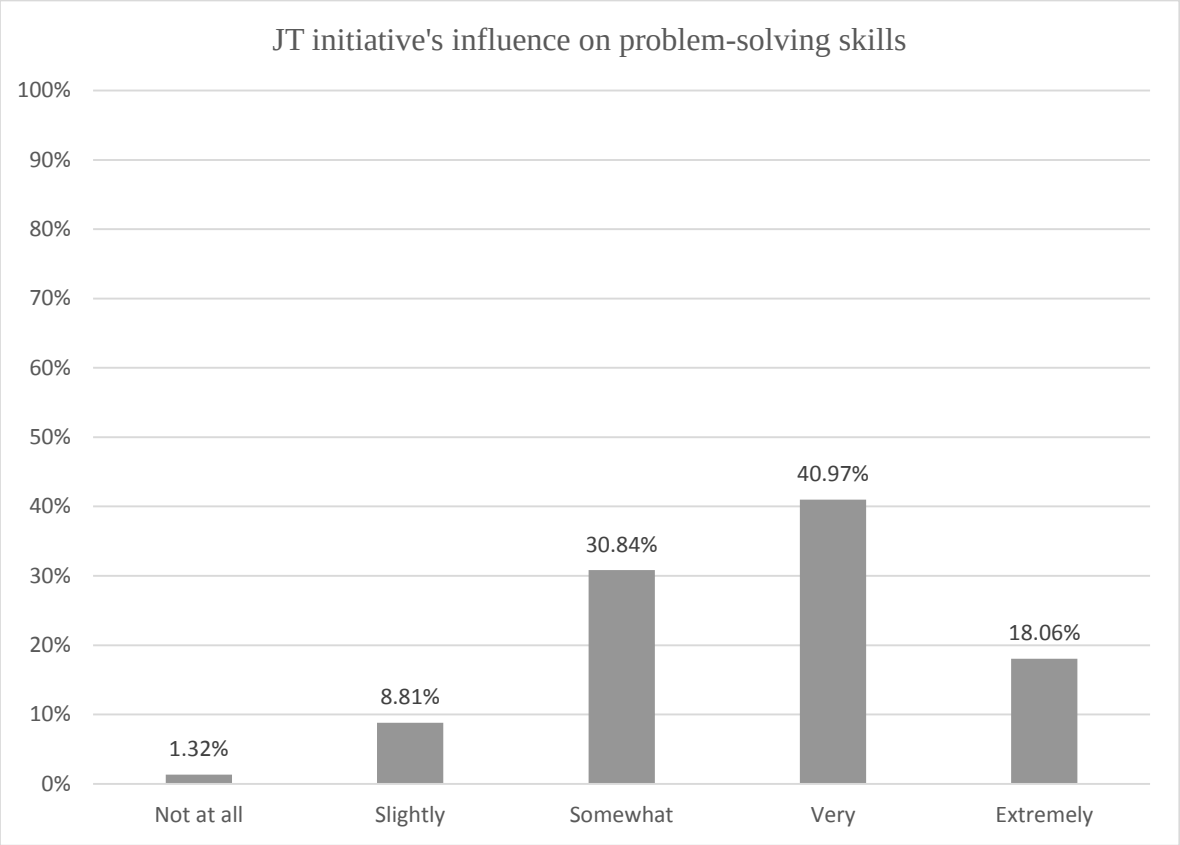

Figure 5-22: ***JT initiative's influence on problem-solving skills***

Hinkley and Anderson's study (1996) on interpersonal skills included problem solving as one of the fundamental elements that determine interpersonal skills. Problem solving in this context relates to an understanding how to work with specific individuals in identifying, defining and solving problems. Problem solving is a key skill and can have a vital effect on a person's career. Problem solving is an element of general life too, so it is important to develop an effective process when approaching a problem. Good problem-solving skills mean that many problems can be quickly and effectively solved (Verma, 2015). This research reflects well on these statements, as almost all the respondents (96.92%) indicated that the JT initiative had a positive influence on their own problem-solving skills.

Table 5.23: ***JT initiative's influence on decision-making skills***

	Frequency	**Percentage**
Not at all	5	2.20
Slightly	21	9.25

	Frequency	Percentage
Somewhat	70	30.84
Very	85	37.44
Extremely	46	20.26
Total	227	100.00
Frequency missing = 29		

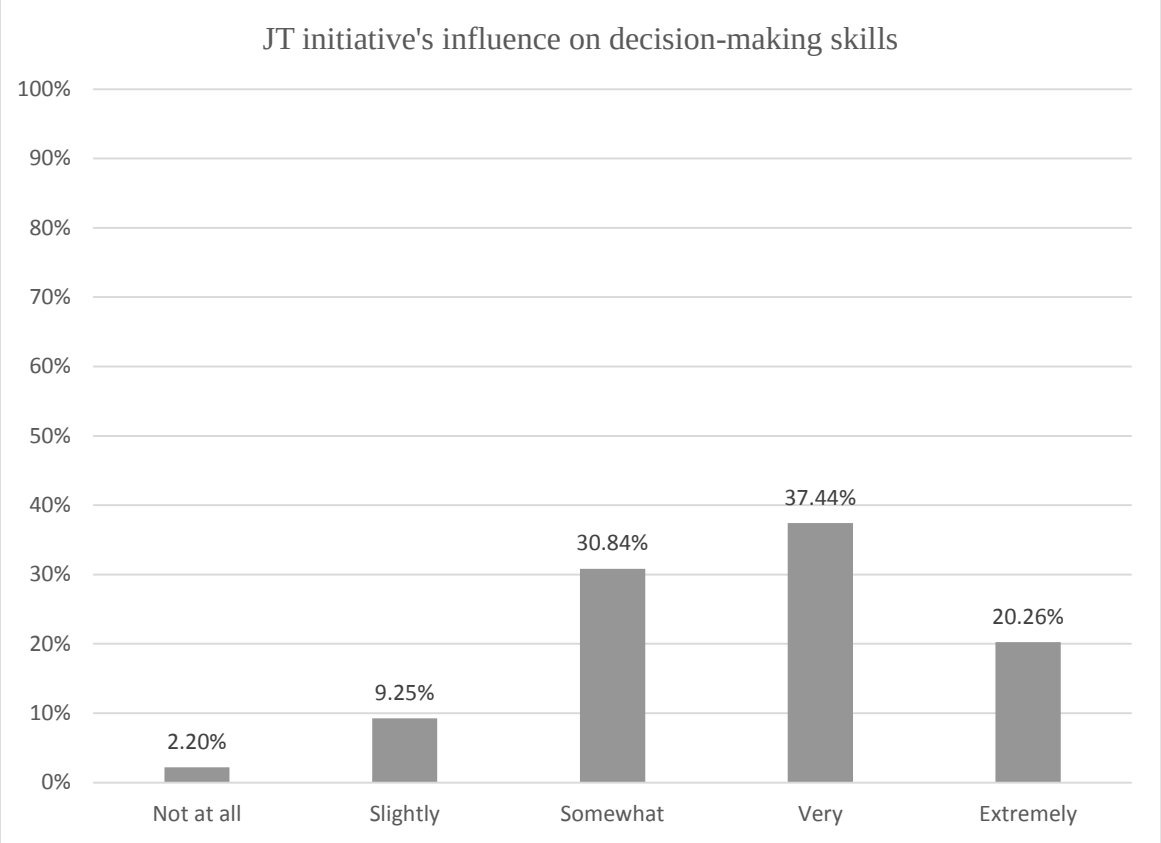

Figure 5-23: ***JT initiative's influence on decision-making skills***

In regular life, persons are continuously confronted with processes of decision making or selections from available or created options. Almost all the respondents (98.24%) evidently felt that decision making is an important skill to develop, and that the JT initiative contributed to the development of their own decision-making skills.

Table 5.24: ***JT initiative's influence on standards of assertiveness***

	Frequency	Percentage

Not at all	4	1.76
Slightly	32	14.10
Somewhat	79	34.80
Very	71	31.28
Extremely	41	18.06
Total	227	100.00
Frequency missing = 29		

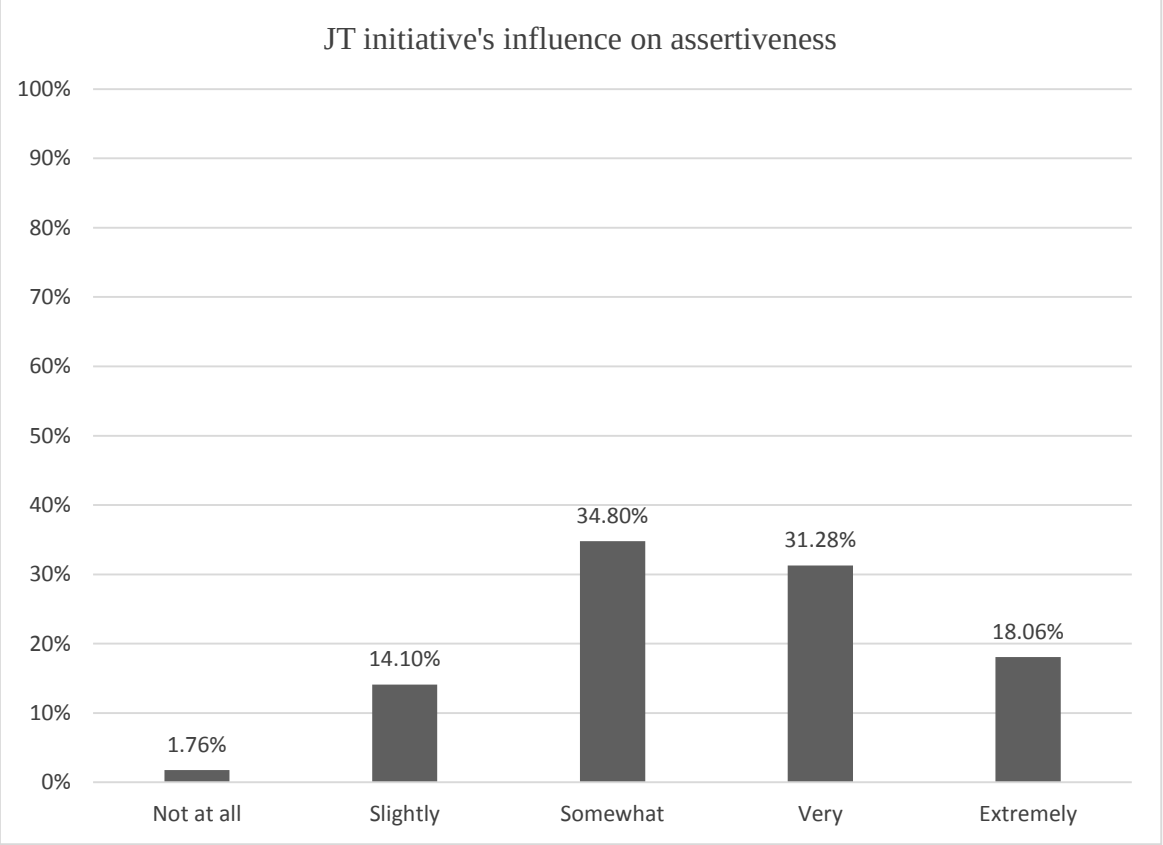

Figure 5-24: ***JT initiative's influence on standards of assertiveness***

The final element that determines interpersonal skill levels – as listed in Hinkley and Anderson's study (1996) – to be examined here is assertiveness. Assertiveness refers to the ability to freely communicate personal values, ideas, beliefs, opinions, needs and desires. Assertiveness was selected by the second highest percentage of respondents (98.24%) as the interpersonal skill to have been improved by the JuniorTukkie initiative.

5.6 Conclusion

This chapter concludes the presentation of findings of the quantitative phase of research. Firstly, research results relating to the positive emotions or feelings that respondents experienced during their first year at tertiary institutions, were tabled and illustrated. According to the respondents, a feeling of excitement regarding life at a higher education institution was the most frequently experienced positive sensation. The other positive feelings were also frequently experienced by the respondents, which were – in declining order – a feeling of confidence, a sense of belonging, and a feeling of being a member of a community (Pekrun et al., 2014; Zhou et al., 2008).

Research results relating to negative emotions or feelings as experienced by respondents were next presented in tables and graphs. The vast majority of respondents indicated that they suffered anxiety and felt overwhelmed during their first year of study. Approximately six out of every ten respondents indicated that they felt either sad, depressed, lonely, or unsure about meeting new people.

Concerning the different initiatives and activities that may influence a transition from high school to higher education, respondents indicated that the JuniorTukkie initiative, religion and their peers were significant transitional influences. Sport, cultural activities and campus communities also played significant roles – if to a slightly lesser degree – during their transitions.

Respondents revealed that the JT initiative had a major positive impact on the development of their time management, computer skills, social skills and study methods. The JT initiative also contributed greatly to the development of their personal skills, which include verbal communication, listening skills, problem solving, decision making and assertiveness.

CHAPTER 6: Academic factors that influence the transition from high school to higher education

6.1 Introduction

Chapters 6 and 7 present the analysis of qualitative data relating to the academic and non-academic factors (respectively) that influenced the research population's transition from high school to higher education. The qualitative data complements the quantitative results – as presented in Chapters 4 and 5 – through statistics that reveal the extent of the JuniorTukkie initiative's influence on participants' transitions. Comparisons made between the quantitative and qualitative data sets will highlight important differences and similarities. As the researcher, my focus centred on the participants' positive comments during the interviews, meaning that the negative comments, as only the positive elements of the feedback on the various factors and influences contributed to the study's aims.

As revealed in Table 4.7, 73.89% of participants successfully completed their first academic year in their first year of attending university. Research results will reveal the JT initiative's pivotal role in this high success rate, and its role in guiding JT programme attendees to select correct study and career options. Data analysis supports the view that these elements contribute to new students' smooth transitions from high school to higher education.

The reviewed literature states that both academic and non-academic factors can influence the transition from high school to higher education (DiRamio & Jarvis, 2011; Dunnett et al., 2011; Morrison & Cowley, 2017). Data obtained from this study, as presented in Chapters 4–7, demonstrates that not all the academic or non-academic factors had the same measures of influence on the transitioning experiences of new students associated with the JuniorTukkie programme. The discussion of analysed data relating to academic factors (this chapter) and non-academic factors (Chapter 7) will substantiate this argument.

6.2 Academic factors as positive contributors

Academic factors are all factors related to classical studies, where a formal education determines a student's academic prowess, based on calculated test

averages. The factors that are considered in the grading practices of students' achievements or the performances that illustrate the mastering of course content are included (Wormeli, 2006). In this section, the academic factors analysed are high school curriculum, poor selection of study fields, training of teachers, differences between Grades 11 and 12, study skills, the language of teaching and learning, and Mathematics and Physical Science skills.

6.2.1 High school curriculum

Bangser's study (2008) found that students' high school experiences often do not prepare them well for a successful transition to higher education. He suggested that efforts should be made to increase the rigour, relevance and engagement of the high school curriculum for students who have traditionally faced barriers to transition successfully to higher education.

In this study, 24 of the 47 participants (51.06%) in focus group interviews declared that the high school curriculum did have an influence on their transitions from high school to higher education. Nearly all the participants of the first four interviewed groups agreed that it influenced their transitioning experiences. These are a few selected quotes, as extracted from recordings:

> *"The ways in which we were taught to apply what we learnt in the curriculum influence[d] our transition."*

Four participants shared the opinion that high school and tertiary curricula are similar and that the respective levels of difficulty and methods of testing align.

> *"The syllabus [curriculum] is similar to that done in tertiary education."*
>
> *"The level of difficulty of the school curriculum is more in line with the manner of testing at tertiary institutions."*
>
> *"Being part of the learners who were writing the Independent Examination Board [IEB] made a difference."*
>
> *"The intensity of the curriculum at a private school helped me to adapt and adjust to higher education."*

Their remarks contrast the assumptions found in the literature (Bangser, 2008; Dlomo et al., 2011) where writers and researchers perceived the higher education curricula to differ from and to present more strenuous challenges to students than high school curricula, on account of increased workloads and higher volumes of learning material.

6.2.2 Poor selection of study fields

Bourdabat and Montmarquette (2007) draw attention to the fact that expected economic return is a primary influence on the choice of a study field; personal preference, available information and socio-economic background are other notable factors. Learners who benefited from career development support in high school could easily attain their career goals (through correct career choices) than those who received no support. JuniorTukkie programme participants comprise learners from rural as well as urban areas, meaning that those learners may not all have received the same standard of guidance and information beforehand. Intervention programmes based on career and self-construction, such as the JT initiative, can hence be beneficial in ensuring comprehensive guidance for learners nationwide.

Of the seven focus groups, members of only four groups pointed to ‘poor selection of study fields’ as a factor that can influence the transition from high school to higher education. In total, only 17 participants (36.17%) of the focus group interviews indicated a belief that a poor selection of study fields could influence the transitional process. The low number of participants in the qualitative research who felt that the poor selection of study fields was a significant factor could be explained by the fact that the research participants have already progressed in their studies, and have, therefore probably made the correct career choices (Bourdabat & Montmarquette, 2007).

As mentioned in previous chapters, the qualitative research phase served to complement and illuminate the data obtained from the quantitative research phase. Here, a comparison between the data sets reveals that, while 17 of 47 interview participants felt that transitions can be affected by a poor selection of study fields, only one of the 256 questionnaire respondents discontinued his/her studies due to an incorrect career choice. These students appreciated the effect that the JT

programmes had on their transitions, and all agreed that the JT initiative facilitated their own selections of study and career options.

> *"This [the JT initiative] helped the learners to do more research on the various career paths which they wanted to pursue."*
>
> *"Students were given the options on the degrees they could choose based on their academic performance and guidelines in situations where learners were not selected for their first choice of study."*
>
> *"It [the JT initiative] gives learners confidence, enthusiasm, inspires and motivated us."*

These comments clearly indicate that the JT initiative not only gave learners the confidence and enthusiasm to pursue their chosen fields of study, but also motivated and inspired them to make the correct career choices.

The JuniorTukkie initiative prioritises collaboration with all UP faculties. Open days are held at both the Health Sciences and Veterinary Science faculties. Organised visits are arranged with the Faculty of Engineering, Built Environment and Information Technology. The Faculty of Natural and Agricultural Sciences and the Faculty of Humanities promote their study fields at various information sessions. Faculty open days and information sessions expose learners to vital information on a wide range of study fields, and therefore have a positive influence on the learners' transition from high school to higher education, as demonstrated by this quote:

> *"Visiting the various faculties [and] campuses and having information sessions gave us exposure and actually helped confirm whether the intended study field is the correct one."*

The online questionnaire revealed that 54 of 226 respondents (23.89%) changed their study programmes during their undergraduate studies, while 172 (76.11%) made no changes to their study programmes – a logical assumption follows that just over three-quarters of the participants made the correct study and career choices. Of the 54 respondents who changed their study programmes, 20 (37.03%) changed in their first year, 26 (48.15%) changed in their second year, and

eight (14.81%) changed in their third year. It is important to note here that some participants were admitted not into their first choice courses, but into their second choice courses. This is explained by occasions when an applicant's preferred course was already fully subscribed to capacity, or when applicants opted for study programmes that allowed them to reapply for their preferred courses after six months or a year. For example, the Health Sciences and Veterinary Science faculties allow prospective students to reapply for admission into their first choice courses after six months or one year. Students who are admitted to extended programmes in the Faculty of Economic and Management Sciences or the Faculty of Engineering, Built Environment and Information Technology, may also apply for admission to normal (non-extended) degree programmes if they excel academically, and if they comply with the admission requirements for the normal programme after their first academic year (that lasts 18 months).

6.2.3 Training of teachers

According to Jerald and Ingersoll (2002), teachers in schools that serve the disadvantaged population are often less experienced and less knowledgeable about the subjects they teach than teachers in more affluent communities. Consequently, and in terms of teachers' development, teachers need to be provided with well-designed and established curricula rather than being expected to create their own. Advance and ongoing training must be implemented through undergraduate or continuous education courses (Bangser, 2008).

Fifteen of 47 participants (31.91%) in the focus group interviews indicated 'teacher training standards' as a factor influencing the transition from high school to higher education (see Table 6.1). Fifteen comments were recorded regarding the influence that teachers' training had on their transitioning experiences. The participants' responses were very similar; here are a few relevant comments as recorded:

> *"Teachers that are knowledgeable in the various subjects are able to help learners understand the curriculum better."*
>
> *"The manner in which the teachers taught contributed to the learners getting high marks."*

"Teachers encourage and motivate learners to improve their marks on their own and don't encourage to be spoon-fed all the time."

As revealed in Table 6.3 in the conclusion to this chapter, the factor of teacher training standards was regarded as the least influential – in terms of transitioning – of the various factors being investigated in this research.

The JT initiative focuses largely on learners who had Mathematics, Physical Science and English subjects at school; these three subjects are instrumental components of the initiative's selection criteria for programme participation. Consequently, this research aims to establish whether teachers had adequate training in these specific subjects. The majority of participants in the quantitative research phase (85.66%) felt that their teachers had adequate training to teach their subjects.

Table 6.1: ***Standards of teacher training***

	Percentage
Quantitative respondents: teachers were adequately trained	85.66%
Qualitative respondents: teacher training as a transitioning influence	31.91%

The findings in the quantitative phase, combined with the comments in the qualitative research on teacher training, align with the research conducted by Botha et al. (2005) who indicated that the inadequate training of teachers can potentially harm learners' transitions from high school to higher education. Dlomo et al. (2011) also argue that learners who had poorly trained teachers and resources at school could spend less time than required on their learning, and were thus inadequately prepared for their tertiary studies.

6.2.4 Differences in results between Grades 11 and 12

The difference between Grade 11 and 12 results is a factor that may affect a learner's attempt to transition to higher education. Learners, who did not qualify for higher education based on their Grade 11 marks, often rely on their Grade 12 results to make them eligible for admission to higher education. However, because

universities have an early selection date for applicants – before Grade 12 results are released – these learners cannot be accommodated.

Actual differences between respondents' Grade 11 and Grade 12 results were determined during the quantitative research phase (see Table 4.15). This was done to establish if such differences could affect their transitions, coupled with the respondents' estimations of their Grade 12 marks as indicators for successful transitions to higher education. In the qualitative research phase, only 21 of 47 participants (44.68%) regarded the difference between their Grade 11 and 12 results as a possible transitional factor. The positive effect of the support that research participants received via the JT initiative – by gaining knowledge about admission requirements and subject choices – is illustrated by this participant's comment:

> *"Great emphasis was placed by the JuniorTukkie initiative on which results would be considered when applying for admission into higher education for the preferred choice of study as well as the subjects required for selection in a certain study field."*

Responses to the online questionnaire (quantitative research) regarding respective Grades 11 and 12 results revealed that respondents' marks generally improved from Grade 11 to Grade 12, and that significantly more respondents achieved marks higher than 80% in Grade 12. Just over half of the respondents (51.05%) agreed or strongly agreed that their Grade 12 examination results were reliable indicators of their tertiary results.

Naidoo, Motala & Joubert (2013) found that a high correlation existed between matriculation scores and degree averages. Graduates with higher Grade 12 marks obtained a higher degree average. Therefore, according to Naidoo et al. (2013), the Grade 12 marks may be used as a prediction of degree average.

The assumption made by some researchers – such as Botha, McCrindle and Owen as well as Du Plessis and Gerber (as cited in Müller, 2013, p. 62) – that a correlation exists between Grade 12 marks and performances in higher education, led to a hypothesis that improved Grade 12 learning (specifically in Mathematics and Physical Science) would positively correlate with the results obtained in higher

education. Conversely, Müller (2013) presents a case that the NSC Grade 12 examinations are not good indicators of success in higher education.

6.2.5 Study skills

The phenomenon of inadequate study skills – often the result of poor time management and a lack of planning – is investigated here as another factor that could negatively influence the transition from high school to higher education (Balduf, 2009; Damico & Qucy, 2009). Successful study habits/skills combined with persistence should secure worthy academic achievements. Successful study skills are dependent on advanced time management skills, regular tutorial attendance and satisfaction with a chosen degree (Jansen & Suhre, 2010).

This study found no evidence in the reviewed literature of other programmes designed to specifically address poor study skills before new students arrive at higher education institutions. The JT initiative, however, has incorporated a study skills programme to assist participants in improving their study methods (skills). Participants in this course are encouraged to use the left- and right-halves of their brains in equal measures while studying. The JT initiative also developed a time management skills course to assist JuniorTukkies in improving their study skills – this aspect is discussed in the following section as a possible transitional factor.

Of the 47 participants to the focus group interviews, 34 (72.34%) felt that study skills were an influential factor in their transitioning experiences. Four of those participants explained why they believed study skills is a determining influence on new students' transitioning from high school to higher education:

> *"It [developed study methods] helped learners realise that it is more about understanding key concepts of the work rather than just going through and applying methods used in past papers."*
>
> *"It helped create a balance in terms of how to study for different modules [subjects]."*
>
> *"[It] helped the learners to study smarter in order to get the required marks for admission into higher education."*

"It helped match the study methods suitable for different personality types and this helped improve learners' marks."

The quoted comments underline the fact that the programme to develop learners' study skills helped them to understand key concepts in a study course; that understanding created a balanced approach in terms of varying techniques to study different subjects. Smarter methods of studying generate improved academic results, so it can be safely assumed that a skilled study regime will be an influential factor influencing transitions from high school to higher education.

Several researchers – such as Balduf (2009), Damico and Qucy (2009) and Jansen and Suhre (2010) – focused on the relationship between study skills and successful academic achievements. Success in a study career is achievable when the student's study and time-management skills are functional (Jansen & Suhre, 2010). The quantitative data and participants' comments in this research align with the perception that inadequate study skills can have a negative impact.

As shown in Table 6.2, the vast majority of participants (96.48%) in their responses to the questionnaire believed that the JT initiative's programme to develop their study skills contributed to their successful transitions, while 72.34% of participants in the qualitative research phase nominated this factor as a determining influence.

Table 6.2: ***Study methods (skills) as indicator of transitioning success***

	Percentage
Quantitative respondents	96.48
Qualitative participants	72.34

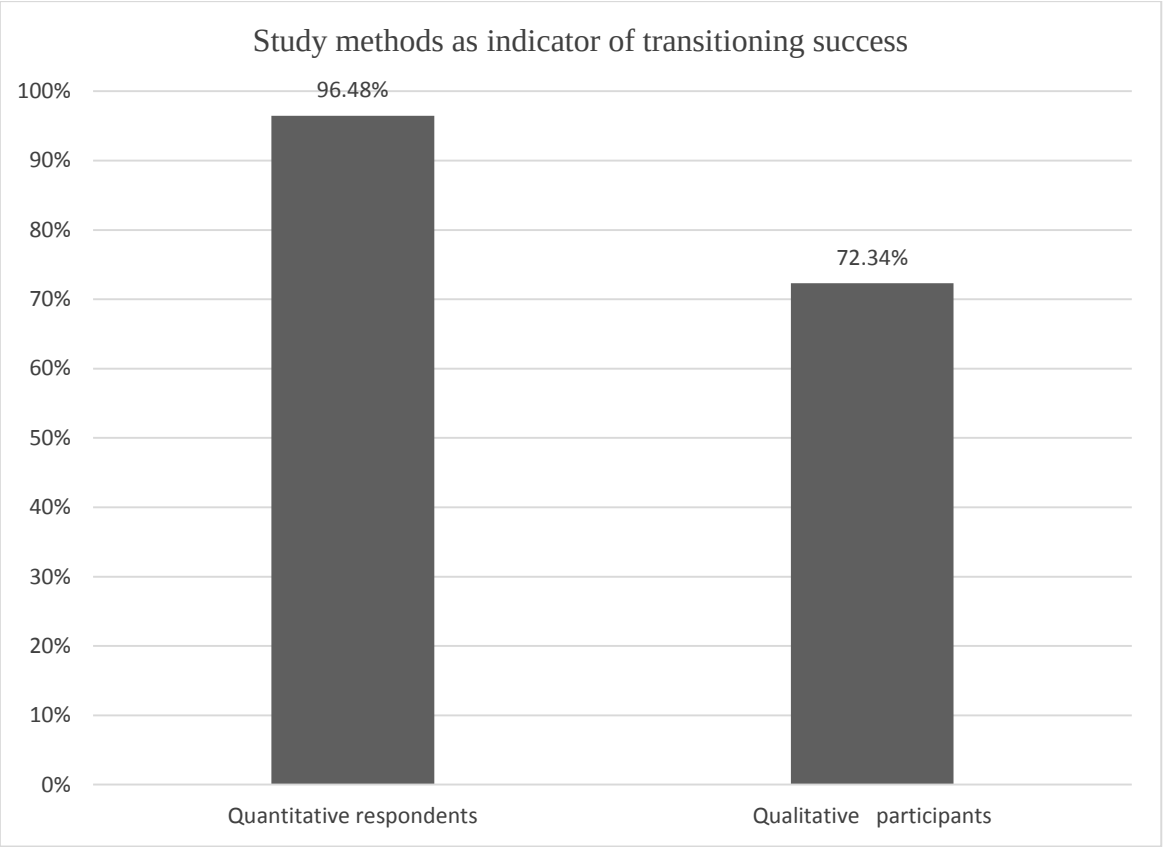

Figure 6-1: ***Study methods (skills) as indicator of transitioning success***

6.3 Language of teaching and learning

This study addresses the question whether the language of teaching and learning can act as a predictor of success in the transitioning from high school to higher education. Wedekind's study (2013) of South African universities suggests that a learner's academic success in the language used for learning and teaching at his/her school is a reliable predictor of academic success – in the same language – at higher education institutions. This view correlates with the thinking within the JuniorTukkie initiative as it acknowledges the role of language in overcoming certain obstacles to teaching and learning. South African learners and students receive educational instruction in different languages, with English and Afrikaans serving as the primary languages of instruction in high school. Although students receive lectures in Afrikaans and English in some higher education institutions, the majority of students prefer English as the medium of instruction. The JT initiative offers a LectorSA reading development programme to learners whose first language is not English, with the purpose of improving their language skills, reading speeds and comprehension skills.

Survey results obtained during the quantitative research phase revealed that 47.26% of respondents agreed that it would have eased their transitioning to higher education had they received instruction in their home languages at school (these details are also provided in Table 4.17).

Table 6.3: ***Respondents' views on whether home language tuition could have made a difference in their transitions from high school to higher education***

	Frequency	**Percentage**
Strongly disagree	40	16.88
Disagree	85	35.86
Agree	70	29.54
Strongly agree	42	17.72
Total	237	100.00
Frequency missing = 19		

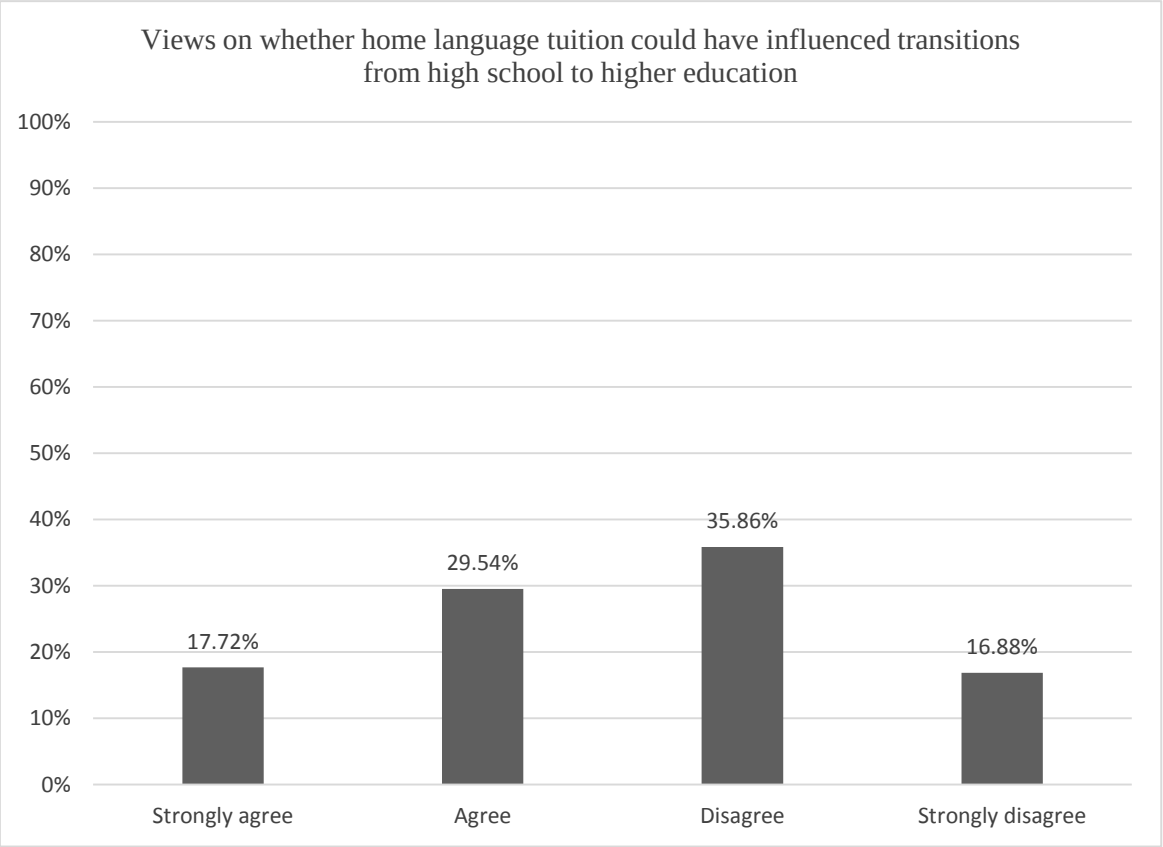

Figure 6-2: ***Respondents' views on whether home language tuition could have made a difference in their transitions from high school to higher education***

A high percentage of survey respondents (99.58%) had previously indicated that English was the medium of instruction and learning at their schools, and they believed that it could have positively influenced their transition from high school to an English-medium higher education. This supports the argument by Wedekind (2013) that when tertiary studies are conducted in the same language used for learning at school, then it serves as a good predictor of academic success at higher education institutions.

The survey also established whether the LectorSA reading development programme increased their reading speeds, and improved their comprehension skills and academic achievements. Those results are detailed in Table 4.19, and reproduced again below.

Results obtained from the focus group interviews revealed that 34 of the 47 participants (72.34%) indicated that the language of learning and teaching influenced their transitions to higher education. When asked to explain why they selected this factor as being influential, most participants mentioned the positive

influence that the LectorSA reading development programme had on their own development in terms of the language used in teaching and learning. These are a selection of comments made in this regard:

> *"Learners were at the advantage because it [LectorSA] assisted with understanding the terminology used in most subjects and those who don't necessarily have English as a home language were still able to understand what's going on."*
>
> *"It [LectorSA] helped the learners decipher what is required and understanding teachers and lecturers better and it bridged the communication gap."*
>
> *"The LectorSA reading development programme helped improve our literacy level, helped us to use the allocated time in tests and examinations effectively and we learn to read and write faster."*

The survey also established whether the LectorSA reading development programme increased their reading speeds, and improved their comprehension skills and academic achievements. These results are also detailed in Table 4.19.

Table 6.4: ***Influence of the LectorSA reading development programme***

	Frequency	**Percentage**
A. Increased reading speed	29	13.74
B. Improved comprehension	9	4.27
C. Improved academic achievement	2	0.95
A & B	76	36.02
B & C	11	5.21
A, B & C	84	39.81
Total	211	100.00
Frequency missing = 45		

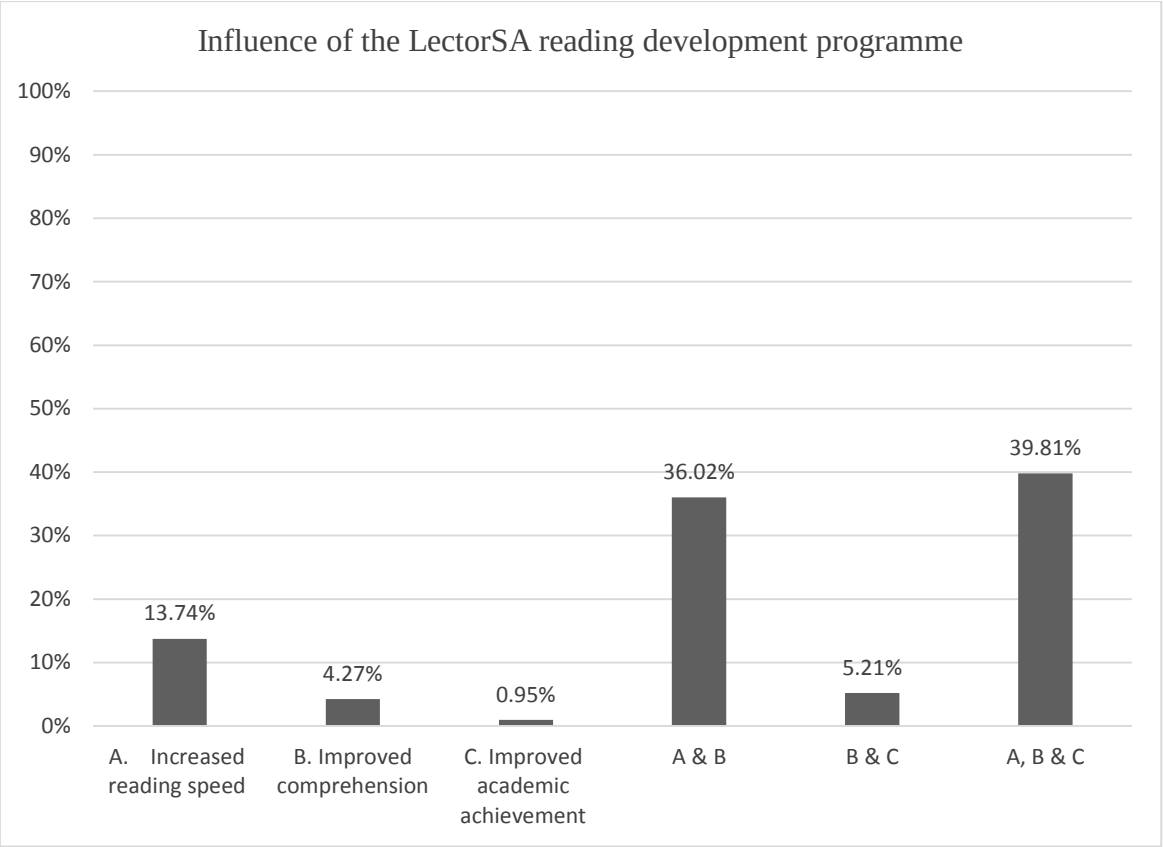

Figure 6-3: ***Influence of the LectorSA reading development programme***

Results obtained from the focus group interviews revealed that 34 of the 47 participants (72.34%) indicated that the language of learning and teaching influenced their transitions to higher education. When asked to explain why they selected this factor as being influential, most participants mentioned the positive influence that the LectorSA reading development programme had on their own development in terms of the language used in teaching and learning. These are a selection of comments made in this regard:

> *"Learners were at the advantage because it [LectorSA] assisted with understanding the terminology used in most subjects and those who don't necessarily have English as a home language were still able to understand what's going on."*
>
> *"It [LectorSA] helped the learners decipher what is required and understanding teachers and lecturers better and it bridged the communication gap."*

"The LectorSA reading development programme helped improve our literacy level, helped us to use the allocated time in tests and examinations effectively and we learn to read and write faster."

The LectorSA reading programme improved not only participants' literacy and comprehension skills, but also their time management and communication skills. LectorSA further assisted participants whose home language is not English to understand English better as a subject, and as a second or third language. When asked whether instruction in their home languages could have eased their transitions, slightly more questionnaire respondents disagreed than agreed (52.74% versus 47.26%).

The positive feedback given by a high number of interviewees regarding the influence that the LectorSA programme had on their language prowess, reflects the positive results of the questionnaire survey, as detailed in Table 4.19. All questionnaire participants indicated that the reading programme positively influenced one or more of the following aspects: increase in reading speeds, improved comprehension skills, and improved academic achievements.

6.4 Mathematics and Physical Science skills

New students' general lack of knowledge and experience in Mathematics may cause transitioning problems, as Mathematics is an important component of many study fields. The National Curriculum Statement (DBE, 2007, p. 51) clearly states:

> "The purpose of mathematics is the establishment of proper connections between mathematics as a discipline and application of mathematics in real world contexts. Mathematical modelling provides learners with the means to analyse and describe their world mathematically, and so allows learners to deepen their understanding of mathematics while adding to their mathematical tools for solving real world problems."

Mathematics and Physical Science are required subjects in study programmes at several faculties, including Health Sciences, Engineering, Natural and Agricultural Sciences, and Veterinary Science. The need to ensure high

standards of mathematical and scientific skills at high school is therefore clear. The JT initiative has endeavoured to recruit learners for scarce skills study fields that incorporate Mathematics and Physical Science as subjects. This criterion has since been changed to include English (as a subject). Although JuniorTukkie membership is available to all learners in Grades 10–12 with academic averages of 70% or more, amendments have been made to the selection criteria for certain JT programmes to accept learners (with potential) whose averages were between 60% and 69.99% in Mathematics, Physical Science and English. The purpose of this exception is to encourage these learners to improve their academic averages to 70% or higher.

Having participated in the JuniorTukkie initiative, 31 of the 47 participants (65.96%) in the seven focus groups indicated that their Mathematics and Physical Science skills (as an academic factor) could have influenced their transitions from high school to higher education. This result complements Arnold and Straten's research (2012) acknowledging the importance of mathematical readiness in the pursuit of successful higher education studies. The following comments were recorded during the interviews:

> *"It [Mathematics and Physical Science skills] helped with the current curriculum because it is included in most foundational courses of various degrees."*
>
> *"It gave learners background information and gave learners an advantage because the learners could reason logically, not only in their respective study fields but also in the daily lives."*
>
> *"It helped learners who choose study degrees which are related to Mathematics and Physical Science."*

During the quantitative research phase (online questionnaire), I tried to ascertain if participants benefited from the extra classes that they attended in Mathematics and Physical Science. Almost three-quarters of respondents (73.45%) agreed or strongly agreed that the extra classes contributed to their successful transitions from high school to higher education. The following comments were made concerning extra classes during the interviews:

"It [extra classes] not only improved our marks, but assisted us to have a better understanding of the content in the subjects [Mathematics, Physical Science and English]."

"The teachers who taught us [in extra classes] teaching style differs from our own teachers, and contribute to the better understanding of the content."

"In the extra classes, we had more time to grasp certain difficult concepts, because in school there is limited time to do revision."

"Extra classes prepared us for the exams every term and especially before the final matric exams."

6.5 Conclusion

In summary, the findings and results of the qualitative phase of research on the academic factors that could influence a transition from high school to higher education, are here tabled and graphically compared.

Table 6.5: ***Academic factors that influence transition from high school to higher education***

	Frequency	Percentage
Study methods (skills)	34	72.34
Language of learning and teaching	34	72.34
Mathematics and Physical Science as subject	31	65.96
High School curriculum	24	51.06
Difference between Grade 11 and Grade 12 results	21	44.68
Poor selection of study field	17	36.17
Teacher's training	15	31.91

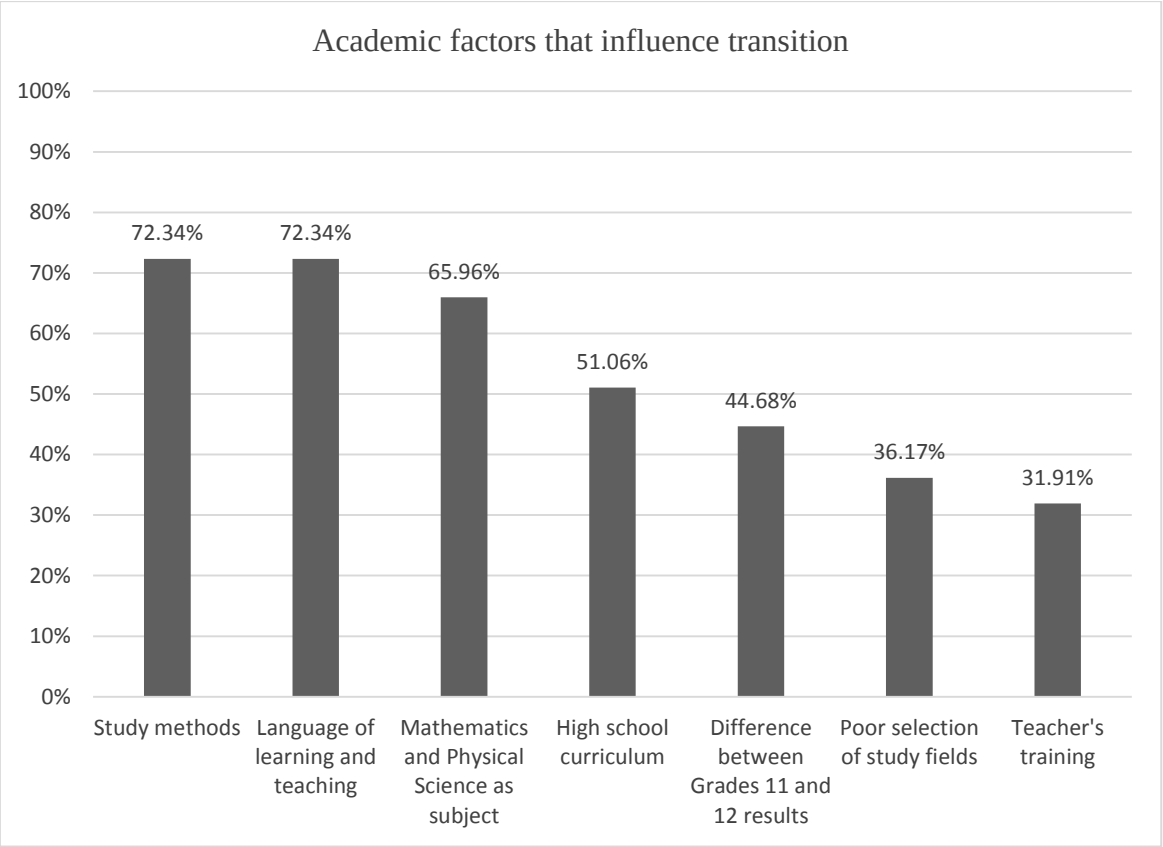

Figure 6-4: ***Academic factors that influence transition from high school to higher education***

According to the survey results, the interview participants believed that the three most influential factors to their transitions from high school to higher education were study methods, the language of teaching and learning (including reading skills), and Mathematics and Physical Science skills. The other factors such as school curriculum, differences between their Grade 11 and Grade 12 marks, poor selection of study fields and teachers' training also influenced some of the participants' transitions, but not to the same extent.

Data obtained from the quantitative research phase revealed that only one questionnaire respondent discontinued his/her studies because of poor study and career choices. As a high percentage of respondents (73.89%) indicated that they had successfully completed their first academic year in one calendar year, it can be assumed that those respondents largely made the correct study choices. The vast majority of respondents (85.66%) believed that their teachers had been adequately trained to teach their respective subjects, while a relatively low percentage of participants (31.91%) to the interview sessions (qualitative research) denoted this as a factor that influenced their transitions. Just over half of questionnaire

respondents (51.05%) believed that their Grade 12 results were good indicators of their following tertiary results, while just less than half of interview participants (44.68%) felt that the difference between their Grade 11 and Grade 12 results had any influential bearing on their transitions to higher education.

The majority of participants in both quantitative and qualitative research phases (96.48% versus 72.34%) selected study methods as an important contributor to successful transitioning. While answering and discussing questions related to the academic factor of the language of teaching and learning, respondents largely praised the associated influence of the LectorSA reading development programme. This programme successfully enhanced their reading speeds, and improved their comprehension skills and academic achievements (as evidenced in Table 4.19). Just less than half of the interview participants (47.26%) believed that a tutoring regime in their home languages would have made a positive difference to their transitioning experiences.

Almost two-thirds of interview participants (65.96%) denoted Mathematics and Physical Science skills as a contributing factor to successful transitions from high school to higher education. Questionnaire responses (quantitative) correlate well with focus group answers (qualitative) concerning the question whether extra classes in Mathematics and Physical Science during high school years contributed to successful transitions. The respective percentages of those research participants that believe the extra classes eased their transitioning are 71.49% (questionnaire) and 73.45% (focus groups).

CHAPTER 7: Non-academic factors that influence the transition from high school to higher education

7.1 Introduction

In this chapter, I will further analyse the non-academic factors that influence a transition from high school to higher education. Qualitative data obtained through focus group interviews complemented the quantitative data by providing statistics on the extent of the JuniorTukkie initiative's influence on participants' transitions. This discussion includes comparisons between the two research phases and respective data sets.

According to the reviewed literature, several non-academic factors can influence the transition from high school to higher education (Andrews, 2013; Bailey et al., 2010; Fike & Fike, 2008). This study's data set demonstrates, however, that the non-academic factors (as listed in Chapter 2) had varying influences on the transitioning experiences of JuniorTukkie programme participants. To explain this, I will discuss each non-academic factor and their related elements in this chapter. The four factors deemed the most influential – according to participants – are discussed first. Those factors are financial or socio-economic statuses (Fike & Fike, 2008; Ishitani, 2006; Johnson, 2008), differences between first- and second-generation students (Fike & Fike, 2008; Ishitani, 2006), co-curricular experiences (Andrews, 2103) and culture shocks (Kish, 2003). Discussion of the other mentioned influences, including emotional intelligence (Goleman, 1995), life skills (UNICEF, 2012), time management (Shipman, 1983), interpersonal relationships (Hinkley & Anderson, 1996), peer pressure (Astin, 1993), social skills (Walker, 1988) and extra-curricular activities (Eisenberg & Johnson, 2002), follow.

7.2 Financial factors

Data obtained will demonstrate that financial support is a very important transitional factor. Bourn (as cited in Jones et al., 2008, p. 29) suggests that a lack of funds can "easily lead to problems of achievement, by provoking anxiety and reducing the time available for study and socializing, which in turn might persuade a student to withdraw". This view correlates with the JT Student Recruitment Division's policy of

offering financial awards as incentives for prospective students. JT members are not only assisted financially, but they are also rewarded for academic achievements. Annually, 39 JT members who have obtained the highest Grade 12 final examination results (averages), each receive a special JT Empowerment Week Award, on the condition that they have registered for studies at the University of Pretoria. The JuniorTukkie Office also assists prospective students with possible bursaries from external companies.

Of the 47 participants to the focus groups interviews, 24 felt that financial factors could influence the transition from high school to higher education. Table 7.1 reveals a significant difference in the responses between the quantitative research respondents (88.43%) and the qualitative research participants (51.06%).

Table 7.1: ***Sample population differences regarding financial support as a transitional factor***

	Percentage
Quantitative research	88.43
Qualitative research	51.06

While the percentage selecting financial status as a factor that may determine the success of a transition to higher education is lower in the qualitative research population, the participants' recorded comments strengthened the view of finances as a deciding factor. Some interview participants highlighted positive as well as negative effects that bursaries may have on students.

> *"Getting a bursary can influence how you perform in your academics and you won't have to stress or worry where you are going to get funds."*
>
> *"Sometimes having a bursary may contribute to stress and thus affect a student negatively because of the pressure to perform well in order to maintain the bursary but on the other hand, however, it can motivate you to work harder in order to reward one."*

Interestingly, the interviewee stressed that the receiving of adequate funding for studies may motivate the student to improve his/her academic results, as such an achievement will place the student in a more advantageous position to be considered for further financial assistance – especially for financially needy students. Skilful financial advice and guidance become vital approaches in assisting students to manage their finances responsibly.

> *"Learners should know how to manage their finances and draw up a budget."*

Some researchers – such as Dunnett et al. (2011), Jones et al. (2008), Roble (2017) and Thomas (2002) – focused on the effects on students of having low-income parents and the difficulties faced by these students when they lack sufficient funds. A high percentage of participants in the focus group interviews (88.43%) felt that financial support, as well as their families' financial status, could influence the transition to higher education (Roble, 2017).

The comments recorded during this quantitative research phase covered both positive and negative aspects of received bursaries. The comments related to the positive influences of bursaries correlates with the view published in the Green Paper of 2012 (DHET), which states that a received bursary contributes significantly to a student's transition and completion of his/her studies.

Judging by the manner in which participants shared their views on the influence that finances may have on academic prowess, it becomes clear that a lack of sufficient funding can negatively influence the transitioning phase from high school to higher education.

7.3 Differences between first- and second-generation students

Heyman and Cornelissen (2011) describe a first-generation student as a student whose parents or guardians never earned a degree or diploma, while a second-generation student is a student whose parents or guardians have earned at least one tertiary qualification between them. Several researchers found that parents' expectations (Gonida et al., 2007), parents' socio-economic statuses (Alexander et al., 1997) and parents' education (Hornby, 2011) play elemental roles in learners'

development and their transitions from high school to higher education. Engle and Tinto (2008) argue that first-generation students are significantly less likely to graduate due to a lack of family support. The JT initiative maintains a strong support system to assist such first-generation students. All JT participants receive academic and emotional support from JT staff members and JT student ambassadors (senior students).

Nearly half of the sample population of the quantitative research phase (48.61%) were students whose parents (father and mother) never studied at tertiary institutions; just over a quarter of students (25.90%) had parents who both studied at tertiary institutions, while almost the same number of students (25.49%) had either a mother or father who studied at a tertiary institution. Only nine of the 47 participants (19.50%) among the seven focus groups (qualitative research phase) indicated that differences between first- and second-generation students could constitute a non-academic transitional factor. Those participants praised the positive contributions that their parent/s, who attended higher education institutions, made to prepare them for the transition to the tertiary sphere:

> *"It was easier for me because my parents were able to prepare financially for University because then you too attended a tertiary institution like one of your parents so they knew what would be expected not only from them but from me too."*

> *"My parents understood the stress that comes with being at a tertiary institution so they were able to prepare me for it."*

A first-generation participant, however, highlighted the intriguing possibility that having no parents with tertiary backgrounds may also positively affect a new student's transition from high school to tertiary education:

> *"If you are the first one to go to University in your family, it motivates others and they look up to you as a role model."*

The interview sessions revealed that only a minority of participants perceived that differences between first- and second-generation students could influence the transition from high school to higher education. Their statements

indicated that those students who had parent/s with tertiary backgrounds benefited in their efforts to transition successfully to higher education, thanks to their parents' knowledge regarding the demands of tertiary studies, as well as their financial readiness to support them. At the same time, an argument can be presented that first-generation students could be motivated, as role models, to achieve and hence encourage other family members to aim for higher education studies.

On balance, some comments aligned with the findings of Billson and Terry (1982) that there are no illustratable differences in the educational aspirations of first- and second-generation students. More than two decades later, however, Terenzini and Reason (2005) found that first-generation students generally had lower educational aspirations than their second-generation counterparts. Although many JuniorTukkies were first-generation learners, the relationships they had built and the support they had received through the initiative helped them to offset the relatively strong connections that first-generation students generally have with their homes. The statements made by other participants in relation to the positive effects of being a second-generation student corroborates the study by Pascarella and Terenzini (2005), who had found that students whose parents held a bachelor's degree or higher were five times more likely to earn a bachelor's degree than first-generation students.

While first-generation students could face certain disadvantages in comparison with other students, their parents may harbour higher expectations for their university-attending children, especially when their children had achieved high grades at school (Hamrick & Stage, 2004).

7.4 Culture shocks (school versus higher education)

Several researchers have investigated the culture shock that students can experience during their first years at tertiary institutions. McCoy et al. (2014) argue that high school learners are in need of a self-directing style of learning, especially with regards to time management – in contrast to the directive approach adopted by schools – to overcome the culture shock experience. Diversity within the education system ranks among the greatest challenges facing higher education institutions and may exacerbate students' transitional culture shocks (Kish, 2003).

The JT initiative values all activities that assist prospective students to become comfortable with diversity; not only to help students to manage situations of diversity relating to cultural practices, gender and language barriers, but also for students to obtain social- and interpersonal skills that will minimise the culture shock caused by the exposure to a new environment. The JT initiative takes positive as well as negative emotions or feelings of first-year students into account.

7.4.1 Positive emotions experienced in the first year at university

Results obtained from this qualitative research phase indicates that the majority of participants experienced positive emotions and feelings during their first year (Table 7.2), with the vast majority (91.63%) indicating that they felt excited about the new environment and challenges. The quantitative research data and discussion relating to the positive emotions are presented in Chapter 5 – the focus here is only on the views expressed by participants during the qualitative research phase.

Table 7.2: ***Positive emotions/feelings experienced during first study year***

	Percentage
Excitement	91.63
Confidence	77.09
A sense of belonging	73.57
Feeling part of a group	72.25

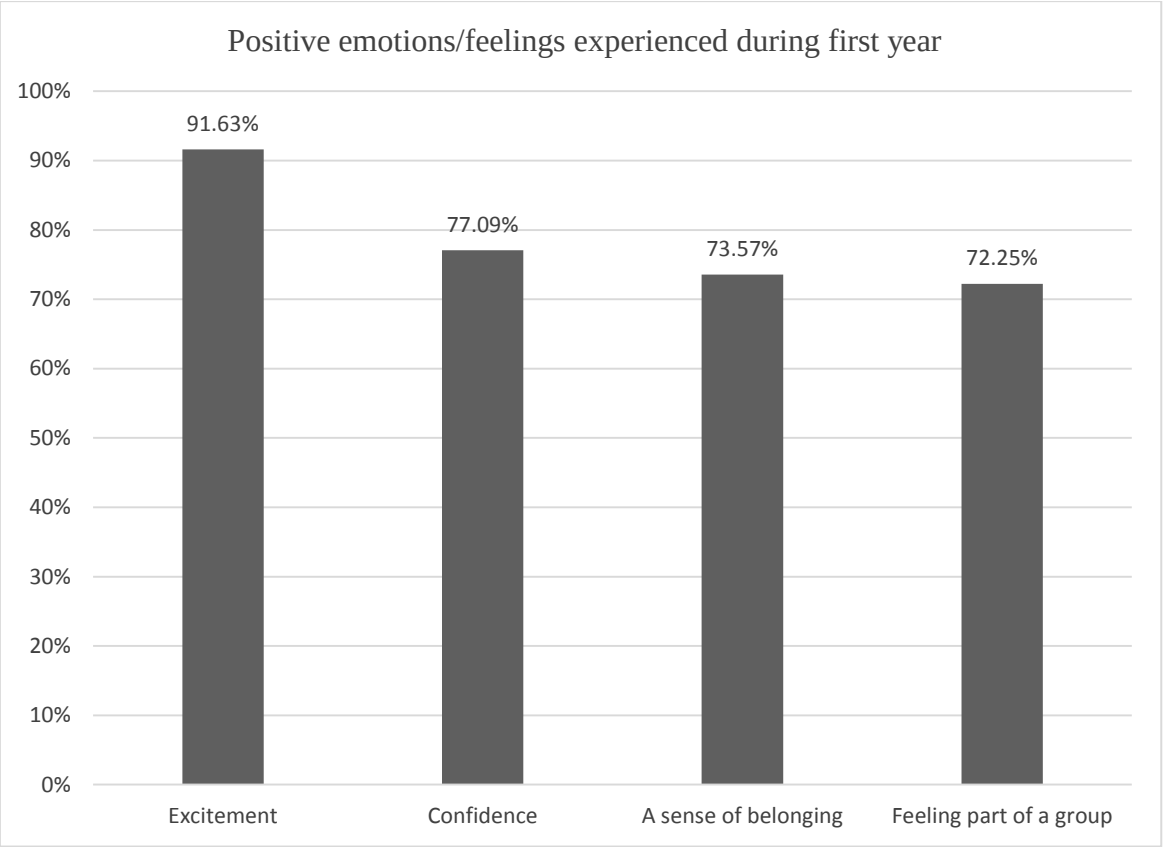

Figure 7-1: ***Positive emotions/feelings experienced during first study year***

The following comments related to the positive emotions experienced during their first year were recorded, and are presented and discussed in the next sections.

7.4.1.1 Excitement

"The new environment and vibe on campus as well as residence made me [feel] excited."

"The freedom at the university which [is] different from school where your life was organised by the sound of a bell made me excited."

"I was excited to attend modules I could choose."

"The challenges I experienced in first year excited me and assist[ed] me to make a success."

The qualitative research participants' comments regarding excitement, as a positive factor as experienced in their first year at university, support Pekrun et al.'s views (2014) on the positive aspects of emotions like excitement, hope and pride.

7.4.1.2 Confidence

> *"The fact that I know what I want[ed] to study made me confident."*
>
> *"The experience of the emotional intelligence development in the JuniorTukkie initiative gave me confidence and it helps me to prioritise the right thing."*
>
> *"The way I was raised by my parents give[s] me the confidence to be part of a group."*

The comments made by the participants in the qualitative research contrast the view of Parsons et al. (2011) who focused on the effects of a lack of confidence or self- efficiency on students' learning prowess. They correlate with Bandura's argument (1989) that confidence is considered as among the most influential motivators and regulators of behaviours of people's everyday lives.

7.4.1.3 A sense of belonging

> *"I felt a sense of belonging due to the fact that I met students from all over South Africa and had the opportunity to socialise with them."*
>
> *"To be still part of the JT initiative gave me confidence to belong to a supportive group of students."*
>
> *"The JT initiative helped us to build a family [away] from home."*
>
> *"I was able to make friends within the same study-field and it also helped in the sense that we were then able to help each other which give me a sense of belonging."*

The comments made by the participants illustrate Krause et al.'s findings (2005) that students in their first year feel that they belong and are part of a

community on campuses. They further support the view of Krafona (2014) who found that students generally feel connected to other students and the university community, and that this feeling of being connected creates the opportunity for them to develop a sense of belonging and to remain at their university for the longer term.

7.4.1.4 Feeling part of a group

> *"I felt part of a group when I become part of the JuniorTukkie initiative for first-years."*
>
> *"The JT initiative brings different culture groups together and we felt like 'family'."*
>
> *"My social skills improved because I saw and met familiar faces on campus."*

The participants' views support Tierney and Venegas's (2005) as well as Stein and Book's arguments (as cited in Mangal & Mangal, 2015, p. 238) that preparation programmes for higher education can provide a sense of community for academically orientated students, and also help the students to build and maintain positive relationships with other persons.

7.4.2 Negative emotions/feelings experienced during first-year studies

Table 7.3 reveals that the majority of participants also experienced negative emotions and feelings during their first years of study, all of which can contribute to the experience of a culture shock at higher education institutions. The vast majority of participants (85.91%) felt anxious or nervous at times, while 83.26% also felt overwhelmed by the new challenges and circumstances during their first years of attendance.

Table 7.3: ***Negative emotions/feelings experienced during first study year***

	Percentage
Anxiety or nervousness	85.91
Feeling overwhelmed	83.26
Loneliness	64.75
Uneasiness about meeting new people	64.75

Sadness or depression	57.95

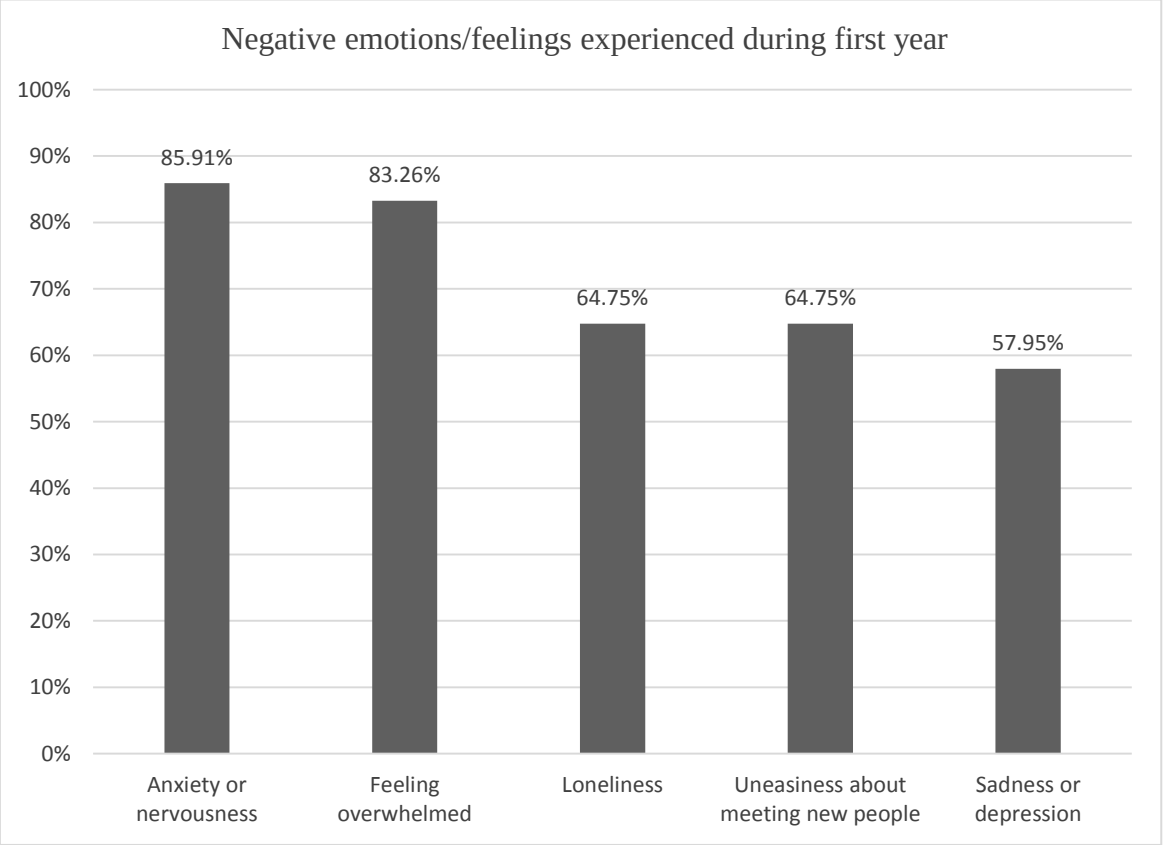

Figure 7-2: ***Negative emotions/feelings experienced during first study year***

7.4.2.1 Anxiety or nervousness

> *"I felt a sense of anxiety or nervousness during orientation week."*
>
> *"The amount of students in a class which differ from school, made me anxious."*
>
> *"The financial challenges led to anxiety that I will not cope."*
>
> *"I felt anxious due to the fact that I did not received the same amount of attention as I received in high school."*

Comments mentioning a sense of anxiety originating during orientation week and caused by concerns over the lack of funds align with Wangeri et al.'s statement (2012) that most new students harbour feelings of anxiety towards their

pending lives at higher education. The quoted comment above stating that financial challenges led to a participant's anxiety correlates Bourn's finding (as cited in Jones et al., 2008, p. 9) that the lack of funds provokes anxiety among students.

7.4.2.2 Feeling overwhelmed

> *"I felt overwhelmed with the amount of work which differ[s] from high school."*
>
> *"Living with more than 300 students in a residence overwhelmed me including the activities in res, on campus and in my social life."*
>
> *"Engineering week (for tests) is structured in such a way that it can be overwhelming."*

The feeling of being overwhelmed during a student's first year was among the findings in a study conducted by the American Health Association (as cited in Ramasubramanian, 2016, p. 309). This finding correlates with the remarks of the interview participants who mentioned becoming overwhelmed by the amount of work, sizes of classes and the numbers of test sessions in a week.

7.4.2.3 Loneliness

> *"I felt lonely because as a day student I did not have the [same] support system as those in residence."*
>
> *"I missed my family especially over weekends when everybody was away for a visit to their family."*

The arguments presented by respondents correlate with the research findings of Zepke and Leach (2005) and the CHE report (2010) stating that students can experience a lack of socialisation and become homesick during the academic year. They develop a feeling that they are not in step with other students, which exacerbates feelings of loneliness.

7.4.2.4 Uneasiness about meeting new people

"Coming from a rural area made me uneasy to meet so many new people."

"As a private person, I was uneasy in meeting new people."

"Due to a difference in culture beliefs I struggled to adapt to other culture groups."

These comments made by some participants in the qualitative research phase corroborate the findings of researchers like Wu, Garza and Guzman (2015) that students often have to deal with social isolation and cultural adjustments and, therefore, can experience feelings of uneasiness about meeting new people and socialising with them.

7.4.2.5 Sadness or depression

"After I failed a few subjects I felt sad and depressed."

"I felt sad to be so far from home [because] I could only go home at the end of the year due to the distance."

Keith et al. (as cited in Bisson, 2017, p. 10) argue that a student's state of sadness or depression can exacerbate his/her feelings related to academic pressure, inadequate social adaptation and stress. The participants' comments support such views.

Only ten of the 47 focus group participants (21.28%) selected 'culture shock' as a factor that can influence the transition from high school to higher education. The following statements, explaining how they experienced and dealt with the culture shock, were culled from those ten participants.

"They [higher education staff] don't give you the same amount of attention as they used to in high school which can sometimes lead to a nervous breakdown but this in a sense help[s] one grow to be independent."

"The way in which tests are structured can be a little overwhelming but helps manage time for studying effectively."

"Interaction [while at school] with current students urged the importance of being independent and thus prepared learners for student life."

Questionnaire respondents indicated during the quantitative research phase that they had experienced positive and negative emotions/feelings in almost equal measures during their first study years. Those results confirm the perception that students, while transitioning to a higher education institution that incorporates a cultural environment different from their own background, may experience a culture shock (Zhou et al., 2008). Interview participants in the qualitative research phase, contrastingly, did not put a high emphasis on culture shock as a non-academic factor to transition.

The increase in workloads and examining structures can be influential factors in transitioning. However, learners who interact with current students may be aware of the nature of the new environment and academic challenges, and hence be better prepared for the measure of independence required.

7.5 Co-curricular experiences

The reviewed literature sources – such as those provided by Andrews (2013) and Zia-ul-Islam et al. (2016), as included in Chapter 2 – support the view that students cannot rely only on academic skills to succeed in higher education. This research will determine if co-curricular activities are influential transitional factors as well. Although students are obliged to take responsibility for their own development, many learners and students need additional support to sustain their development. The JT initiative therefore focuses not only on recruitment but also on participants' development. Andrews (2013) states that learners and students should be encouraged to recognise the value of co-curricular activities such as sports, societies, part-time work, entrepreneurial schemes and volunteering.

While previous researchers – including Andrews (2013), Khan, Jamil, Khan and Kareem (2012), Prasad (2012) and Streb (2009) – highly regarded the

influence of co-curricular experiences (extra-curricular activities), Table 7.4 reveals that the JT participants also valued the influence of co-curricular activities on the transitional process, but to a lesser extent. Participants of the focus group interviews only commented on the extra-curricular experiences that were instrumental in their transitions.

Table 7.4: ***Comparison: quantitative and qualitative responses related to co-curricular activities***

	Percentage
Quantitative respondents:	
Extra classes	71.49
Culture	55.51
Sport	42.39
Qualitative participants:	
Co-curricular influence	44.68

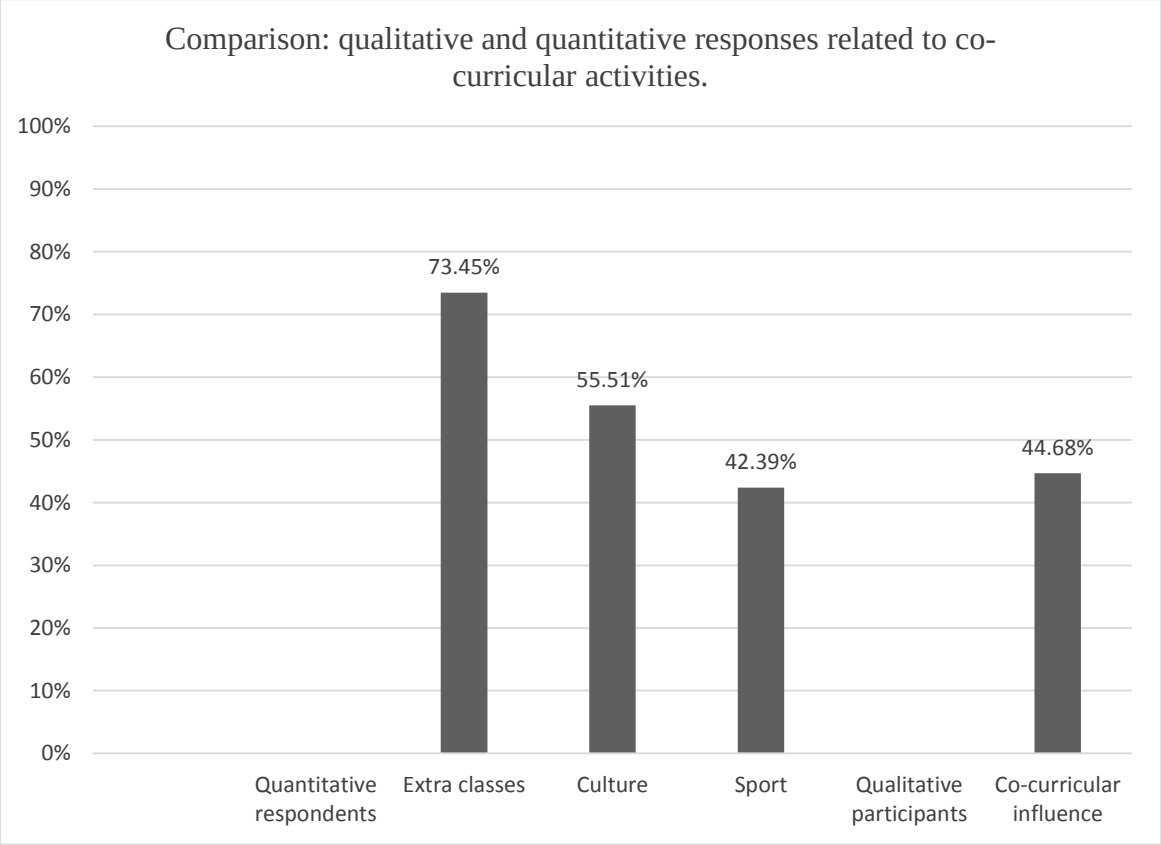

Figure 7-3: ***Comparison: quantitative and qualitative responses related to co-curricular activities***

Approximately half of the respondents in the quantitative research phase agreed that both sports and cultural activities at university assisted them during their transitions from high school to higher education. This result supports the research conducted by Prasad (2012), who found a positive correlation between sports participation and academic performance. Cultural activities, however, appeared to be more influential in transitioning than sports activities, according to the interviewees (55.51% versus 42.29%). Andrews (2013) feels that co-curricular activities (which includes cultural activities) should form part of students' activities, while Zia-ul-Islam et al. (2016) adds that the participation in co-curricular activities can help students to perform better academically.

The contribution that extra classes in subjects such as Mathematics and Physical Science could make to a successful transitioning from high school to higher education was an important focal point in the quantitative survey (Prinsloo, 2008; Santhi, 2011). Almost three-quarters of respondents (73.45%) agreed or strongly agreed that extra classes could be a supporting factor during transitions. This complements the views of Prinsloo (2008) and Santhi (2011) whose research indicated that extra classes could have a positive impact on prospective students if the classes facilitated the learning process, engaged and motivated learners and maximized their learning potential.

During the qualitative research phase, 21 of the 47 participants (44.68%) felt that extra-curricular experiences could have been influential transitioning factors. These were among the few comments recorded during the discussion of this factor:

> *"It [extra-curricular activities] helps to keep a balance with social and academic life."*
>
> *"Participation in sports help[s to] keep me sane."*

The lack of resources and opportunities to participate in sports and cultural activities could explain the low response rate of the focus group participants, with only 44.68% of participants having indicated that co-curricular activities could have made contributed to their transitioning experiences. Reasons that explain why many

of the participants felt those activities bore no influences on their transitioning are found in these recorded remarks:

> *"Due to a lack of resources in our community, we do not have the opportunity to participate in sports [at] school level."*
>
> *"I did not have the opportunity to participate in cultural activities as well as sports activities because I only focus on my academics."*
>
> *"Higher education focus[es] on academic achievements to select learners for university and therefore I spend my time on focusing on my academic skills."*

Although researchers such as Andrews (2013), Prasad (2012) and Zia-ul-Islam et al. (2016) argue that participants in sports and co-curricular activities achieved better grades than non-sports participants in general, a lower percentage of participants in the focus group interviews (44.68%) felt that those activities could have eased their transitions. No direct evidence revealed that non-participation in sports and co-curricular activities had a negative influence on the transition and academic achievement of any member in the focus groups.

Participants in the qualitative research phase viewed the attendance of extra classes in Mathematics and Physical Science as a co-curricular experience. Comparatively, more quantitative respondents than qualitative participants felt that the extra classes they attended could be an influenced their transitions. More respondents selected cultural activities rather than sport as a possible co-curricular factor to influence a transition from high school to higher education. Note that the low number of agreements in the qualitative group can be ascribed to the fact that many did not participate in sports or cultural activities as learners, and some prioritised academic achievements as the more vital endeavour in gaining admission to higher education.

7.6 Emotional intelligence

According to Goleman (1995), emotional intelligence (IE) is an important factor in securing a successful transition from high school to higher education. He proposes

the fostering of five characteristics to bolster emotional intelligence, namely self-awareness, emotional strength, motivation, empathy and teamwork capabilities.

The concept of self-awareness embraces emotional awareness and self-confidence. The managing of emotions involves self-control, trustworthiness, adaptability and innovation (Ciarrochi, Forgas & Mayer, 2001). Motivation refers to drive, commitment, initiative and optimism (Dwyer, 2012). Teamwork involves influence, leadership, catalyst change, conflict management, bond building, collaboration and cooperation (Goleman, 1995). The JuniorTukkie initiative focuses on self-awareness, adaptability, management of emotions, leadership, conflict management and teamwork as aspects of emotional intelligence (Goleman, 1995; Nawaz, Ghafoor & Manir, 2016).

Emotional intelligence as a non-academic factor was only incorporated in the (qualitative) focus group interview phase of research. Of the 47 participants, 19 (40.43%) agreed that emotional intelligence may be a factor in attaining transitional success at higher education institutions. Their comments confirmed Bar-On's view (2007) that the development of their respective emotional intelligence not only helped them to prioritise their activities in productive ways, but also assisted them to make responsible decisions regarding academic and social pursuits (Maree, 2015).

> *"The way in which you were brought up will contribute to making correct decisions regarding academics and social life."*
>
> *"It [emotional intelligence] helps to prioritise the right things."*
>
> *"Having previous students tell you their stories helped learners to prepare themselves emotionally for their journey throughout university life."*

Based on obtained data, it can be argued that, although less than half the participants selected emotional intelligence as a (non-academic) factor able to influence the transition from high school to higher education, the development of emotional intelligence early in life can be helpful in guiding new students to make responsible decisions regarding academic and social lives. Furthermore, it assists

them in prioritizing their activities (Maree, 2015). Other people who are experienced in terms of the demands of higher education can be just as instrumental in assisting a new student to develop his/her emotional intelligence.

7.7 Life skills

UNICEF (2012) defines life skills as “psychosocial abilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life”. In high school, life skills education is an integral element of the empowerment of learners; hence, it would be beneficial to learners if further life skills tuition is included in co-curricular activities. The JT initiative maintains a life skills intervention programme, which is a structured need- and outcome-based participatory learning programme that aims to increase positive and adaptive behaviour. The programme assists individuals to develop and practice psychosocial skills that minimise risk factors and maximise protective factors. The JT initiative primarily aims to enhance students’ abilities regarding time management (Hopson & Scally, as cited in Bender, 2002, p. 70), interpersonal relationships (Munsi & Guha, 2014), computer literacy (Eisenberg & Johnson, 2002) and social skills (Walker, 1988).

Table 7.5: ***Comparison: quantitative and qualitative responses related to life skills***

	Quantitative	**Qualitative**
Computer skills	96.92%	42.55%
Social skills	95.58%	59.57%
Interpersonal relationship	80.00%	59.57%
Time management	71.36%	53.19%

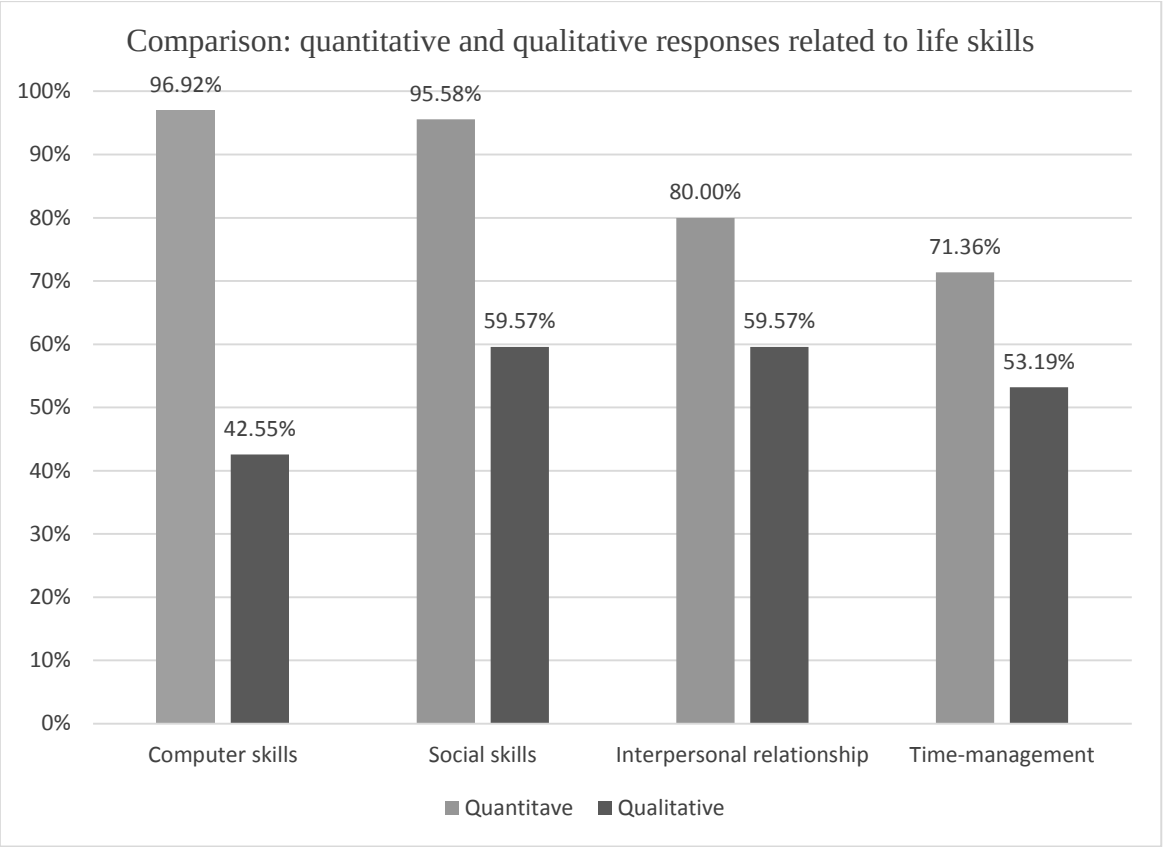

Figure 7-4**:** ***Comparison: quantitative and qualitative responses related to life skills***

Data obtained from the quantitative research phase revealed that the vast majority of respondents indicated a high regard for the influences of the JT initiative on their respective life skills. The qualitative research records reveal a lower degree of agreements, although more than half of participants still responded positively. Of the 47 participants in the focus group interviews, only 28 (59.57%) felt that life skills can be an influential transitional factor.

Most participants who selected life skills as a non-academic factor in transitions provided their reasons, but because of similarity, only a few statements are printed below. Those participants ascribed their positive experiences as members of the JT initiative to the guidance and encouragement received. They agreed that the initiative taught them how to address problems and manage the various dynamics at play on campuses, together with the new experiences associated with higher education.

"Different life skills helps with coping with various experiences and going through good and bad things helps you to handle different situations."

"It was motivating to have individuals in the JuniorTukkie initiative who came and told us about how they dealt with their struggles in life."

"Being able to deal with the pressures of everyday life and knowing how to cope was a skill I was taught during the initiative."

The potential of different life skills to help someone to handle different situations aligns with the research conducted by UNICEF (2012), which stated that life skills relate to the adaptive and positive behaviour that enables a person to cope with the demands and challenges of everyday life. Munsi and Guha's views (2014) on the development of personal skills management support a participant's comment that he/she was able to deal with the pressures of everyday life and knew how to cope, having been assisted by the JT initiative.

Comparatively, the largest section of the sample population regarded the non-academic factor of life skills as the most influential factor (among all factors listed in this research) in transitioning from high school to higher education.

7.8 Time management

New students may find the transition from high school to higher education stressful due to poorly developed time management skills. Therefore, a need exists to help learners – from a young age – to learn how to manage their time effectively and to prioritise their tasks to avoid becoming overwhelmed by the vast volumes of work (Crutsinger, 1994; Jones et al., 2008; Kelly, 2002).

The JuniorTukkie initiative established over time that prospective students, as well as students already at higher education institutions, generally do not employ efficient time management practices. In response, the JT initiative instituted time management training sessions to address this problem. The goal of these sessions is not only to guide learners how to manage their time effectively,

but also to teach them how to create daily, weekly, monthly, quarterly and annual study plans. Students are informed about the number of hours they need to spend on their studies per week; about various negative and time-wasting influences; about effective preparation strategies for tests and examinations; and how to maintain a healthy balance between sport, culture and academic pursuits.

During the quantitative research phase, 71.36% of the respondents indicated that time management practices were influential ('very' to 'highly') on their transitioning experiences from high school to higher education. Fewer participants – though still over half of the sample population – in the qualitative research phase (53.19%) felt that time management was a non-academic factor that influenced their transitions from high school to higher education.

All participants of three (among seven) focus groups selected time management as a possible influential transitioning factor.

> *"Time management encouraged prior planning of activities and it helped learners to learn how to deal with pressure should they be in a situation where they have too many subjects."*
>
> *"It [time management] helped manage time more effectively in order to create complete work and assignments when they are due as well as to create a balance between studies and all other aspects of life."*
>
> *"Time management helps prepare for things [tests and examinations] accordingly instead of doing things at the last minute."*

Participants' responses during the focus group interviews, together with the high percentage of survey respondents who had selected 'time management' as a transitional factor, indicate that time management can reasonably be regarded as an influential factor during transitioning. Time management is also essential for the maintaining of a healthy and productive balance between academia, sports, culture and other diverse pursuits. The participants' remarks correlated with the findings of several researchers – such as Crutsinger (1994), Jones et al. (2008) and Kelly

(2002) – that good time-management habits encourage the timely planning of activities, and help students to create a healthy balance between their studies and other aspects of their lives.

7.9 Interpersonal relationships

Researchers like Stein and Book (as cited in Mangal & Mangal, 2015, p. 238) describe an interpersonal relationship as a strong or close association or acquaintance between two or more people, ranging in duration from being brief to enduring. Interpersonal relationships, according to them, are formed in the contexts of social, cultural and other influences.

In this research, I focused on the building and developing of interpersonal relationships among students who were affiliated with JuniorTukkie programmes. I found different opinions regarding the types of skills needed for maintaining healthy interpersonal relationships in reviewed literature. I decided that the skill types as determined by Hinkley and Anderson in their research (1996) were the most suitable combination of skills in terms of my research aims. Hinkley and Anderson (1996) believe that new students' interpersonal skills need to be tended to while they are transitioning to higher education. Accordingly, the JT initiative incorporated the following skills as focal points in its approach: verbal communication, listening, problem solving, decision making and assertiveness. The only skill type that Hinkley and Anderson additionally focused on, but was not included in this research and the JT initiative's programmes, is the negotiation skill.

Table 7.6 reveal the percentages of survey respondents (quantitative research) who indicated that their various interpersonal skills were developed by the JT initiative, whether by smaller or larger measures.

Table 7.6: ***Respondents' agreements on personal skills enhanced by the JT initiative***

	Percentage
Problem solving	98.68
Listening skills	98.68
Assertiveness	98.24

	Percentage
Decision making	97.80
Verbal communication	96.92

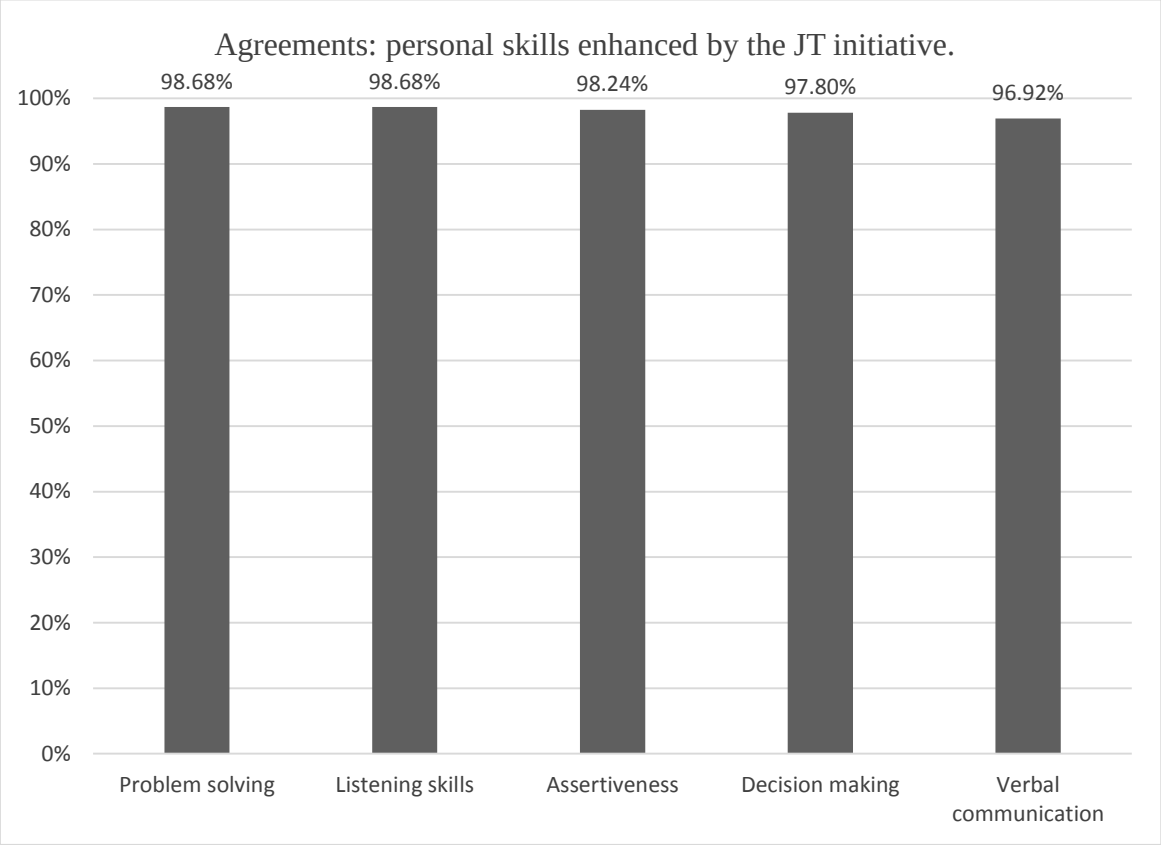

Figure 7-5: ***Respondents' agreements on personal skills enhanced by the JT initiative***

As illustrated, almost all the quantitative survey respondents agreed that the JT initiative enhanced their personal skills (the types included in this research) in one way or another. Problem solving and listening skills were the most frequently improved sets of skills, followed by assertiveness, decision making and verbal communication skills (Hinkley & Anderson, 1996).

Although only 28 of the 47 participants (59.57%) in the focus group interviews (qualitative research) regarded interpersonal relationships as an important transitional factor, the percentage still indicates that the JT initiative had been instrumental in the overall development of personal skills. Various participants supported this statement, as recorded. Some participants promoted the utilisation

of a personality test to help learners understand themselves better and to establish a healthy self-esteem.

The following participant-comments as recorded illuminate a conviction that sound interpersonal skills and relationships can help to lay the foundations for a successful study career.

> *"Interpersonal relationships with other students of different culture groups, family members and teachers at school are very important for success."*
>
> *"Good interpersonal relationships made the gap between matric and first year at higher education easier."*
>
> *"Meeting new friends in the initiative and develop good interpersonal relations with other participants helped a lot because it exposed me, as a learner, to more friends, their ideas and thus made me to be more open-minded towards things."*

Responses obtained from both quantitative and qualitative research phases reveal that the participants value interpersonal relationships as another of the (non-academic) factors that influence the transition from high school to higher education. Productive interaction, not only with peers and friends but also with other cultural groups, exposed them to new ideas and nurtured respect for other communities. The view of participants on the positive influence of interpersonal skills correlates with the arguments found in the research studies of Bar-On (as cited in Mangal & Mangal, 2015, p. 238), Hinkley and Anderson (1996), Mazarin (2014) and Tett et al. (2016).

7.10 Computer skills

Over the course of the development of the JuniorTukkie initiative, it became known that several participants lacked computer skills. Moursund (as cited in Eisenberg & Johnson, 2002, p. 2) states that the productive use of computers in general content areas of curricula is neglected or underdeveloped. In response, the JT initiative realised the need to elevate the levels of computer literacy among its members and developed a dedicated computer skills training programme. This course is included

in the LectorSA reading development programme and the new Mathematics and Physical Science e-learning programme for Grades 10–12 learners.

Almost all the respondents in the quantitative research phase (96.92%) believed that computer skills influenced their transitions from high school to higher education. About two-thirds of the respondents (67.84%) indicated that computer skills had a 'very high' to 'extreme' influence on their transitions.

Although a few members of each focus group (qualitative research) felt that computer skills amount to an important non-academic transitional factor, in total only 20 of the 47 participants (42.55%) indicated that it contributed to their own transitions. Only a few related participant-comments were recorded:

> *"It [computer skills] helps to get foundational knowledge in order to use it for other courses especially in Engineering."*
>
> *"[Computer skills] also helps with communication because most correspondence is computer based."*
>
> *"Everything is computer-based these days at higher education so this component gave background/foundational experience which enabled learners to navigate around a computer without any difficulty."*

The positive comments are encouraging when viewed in the light of Moursund's statement (as cited in Eisenberg & Jones, 2002, p. 2) that the productive utilisation of computers and computerised content is either neglected or underdeveloped in several schools. It complements the view of Eisenberg and Johnson (2002) who argued that development programmes for computer literacy develop skills that are best applied when meeting learning outcomes.

The positive nature of the responses in both quantitative and qualitative research phases indicates that computer skills and -literacy were important transitional factors for the participants, in both communicative and academic terms. Participants supported their arguments by referring to the reality that computer use had become pervasive in almost all aspects of life, including the educational spheres.

7.11 Social skills

Social skills constitute a set of competencies that allow an individual to initiate and maintain positive relationships, achieve peer acceptance and behave acceptably in the larger social environment (Walker, 1988, p. 27). The JuniorTukkie initiative promotes the role that advanced social skills can play in empowering learners and students in South Africa's multi-racial and -cultural environment. The initiative primarily guides learners and new students to develop mutual respect, acknowledge diversity, and to work together – while maintaining the various cultural realms – towards a successful future.

The vast majority of survey respondents (95.58%) during the quantitative research phase indicated that the JuniorTukkie initiative contributed to their social skills development, thereby positively influencing their transitions from high school to higher education. The majority (58.85%) even indicated that the JT initiative's programmes were 'very' to 'extremely' influential. During the qualitative research phase, 59.57% of respondents indicated that the JT initiative contributed to the development of their social skills, and hence positively influenced their transitions from high school to higher education. A few remarks from participants in the focus group interviews, explaining how the JT initiative helped them to develop their social skills, were recorded.

> *"Social skills improve learners on how to approach learners who they do not interact with on a regular basis or whom they would not be exposed to due to religious reasons."*
>
> *"It [social skills] exposed learners from disadvantaged backgrounds to various other learners and different culture groups."*
>
> *"The JuniorTukkie initiative focus[es] on social skills and empower us not only to develop social skills but also to use our social skills when we meet other culture groups."*
>
> *"The JuniorTukkie initiative taught me as an introvert to socialize more and to overcome my fear to be part of a group."*

The above comments regarding the influence of the development of social skills in the JT initiative align with Hinkley and Anderson's arguments (1996) that human beings have a need for acceptance by social groups, and that individuals may benefit through exposure to other persons with healthy self-beliefs. During the development of social skills – as practised by the JT initiative – the participants become exposed to other cultural communities, which can assist in fostering healthy and productive interactions within diverse groups (Mazarin, 2014; Tett et al., 2016).

The high percentages of participants in both quantitative and qualitative research phases who selected social skills as an influential (non-academic) transitional factor means that the participants largely acknowledged the role that developed social skills play in securing future successes. It is important to develop a person's social skills while still young to enable them to adapt quickly to new environments, and to interact productively with strangers of all personality types.

7.12 Conclusion

The various non-academic factors that may influence a student's transition from high school to higher education, and included in this study, are shown together in Table 7.7 with the percentages of focus group interview participants who had selected each factor as significant.

Table 7.7: ***Non-academic influential factors during transitions, as selected by participants***

	Percentage
Interpersonal relationships	59.57
Social skills	59.57
Time management	53.19
Financial or socio-economics	51.06
Co-curricular experiences	44.68
Computer skills	42.55
Emotional intelligence	40.43
Culture shock (school vs higher education)	21.28
Differences between first- and second-generation learners	19.50
Peer pressure	17.02

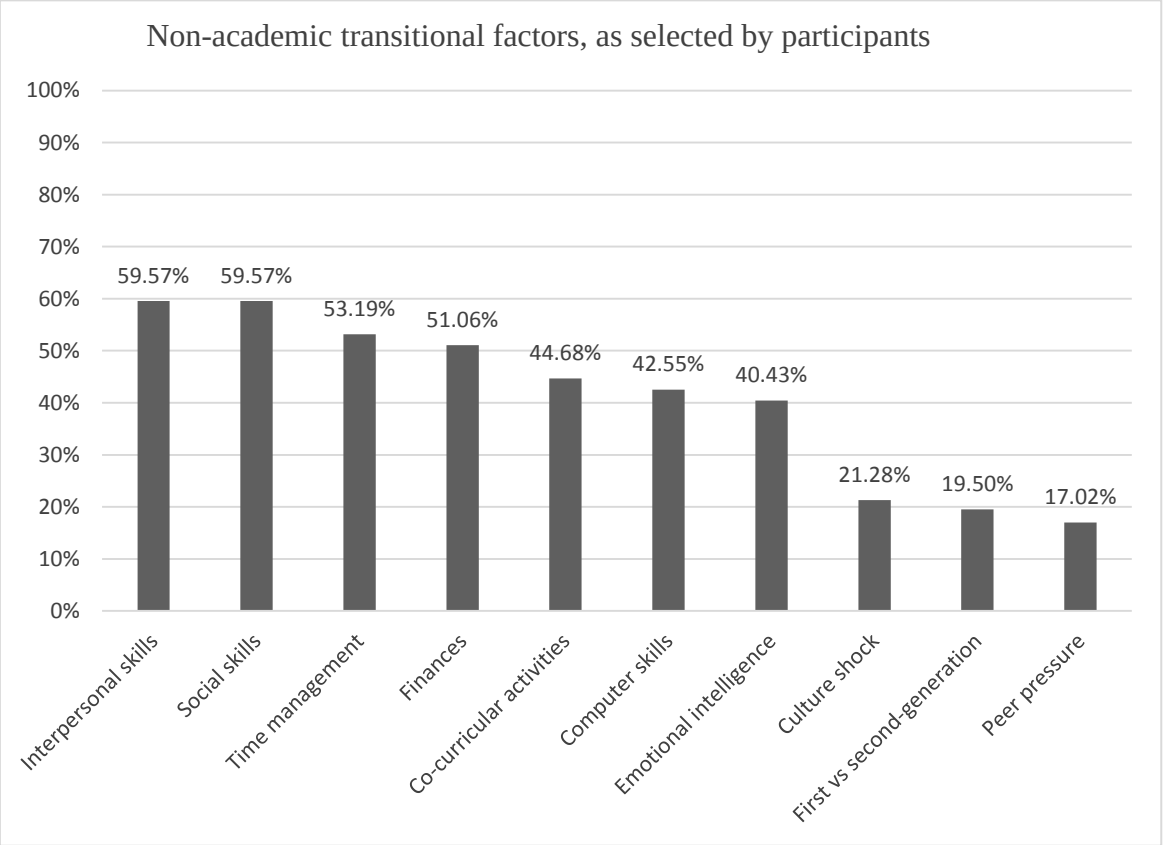

Figure 7-6: ***Non-academic influential factors during transitions, as selected by participants***

According to the responses obtained during the interview sessions, participants regarded interpersonal relationship skills and social skills as the two most significant factors that influenced their transitions from high school to higher education. Time management and financial aspects were selected by nearly 50% of the participants and were still regarded as two important factors, judging by their recorded comments. Emotional intelligence, computer skills and co-/extra-curricular experiences were estimated to be influential factors by just over 40% of interview participants.

Three factors, namely the differences between first- and second-generation learners, culture shock, and peer pressure did not receive as many votes from the 47 participants in the qualitative research phase. Nearly one in five participants regarded these respective factors as influential.

CHAPTER 8: Findings and recommendations

8.1 Introduction

In this concluding chapter, the findings from Chapters 4–7 are synthesized to allow me as the researcher to respond conclusively to the research question and to satisfy all research aims and objectives. First, I summarise the findings and analytical interpretations of data as presented in the preceding chapters. I then connect the findings to existing theories and previous research findings, as discussed in Chapter 2, to explain the nature of the contribution this study could make to the existing body of knowledge related to the research topic. Next, I compile the recommendations that the JuniorTukkie initiative may consider and incorporate into its programmes to ease new students' transitions from high school to higher education. This is followed by recommendations for further research. Finally, I note the limitations of this study and reflect on what I have learnt personally.

8.2 Aim and objective of the study

This study's aim was to investigate the factors that influence the successful transition of students from high school to higher education. The study focused on the JuniorTukkie members who became students at the University of Pretoria and other universities who have managed to successfully transition from high school to higher education. A central strategy of the study was to measure the degrees of transitional success of those students who participated in the JT initiative, particularly in their first year of study.

In Chapter 1, I described the study's background and defined the study's aim, which is to investigate both academic and non-academic factors that could determine the degree of success of a new student's transition from high school to higher education, while relating the subsequent findings to JuniorTukkie Empowerment programmes.

Chapter 2 is an overview of the literature and the conceptual framework that informed the study. The investigation of possible transitional factors was conceptualised through discussions of existing theories, including Bean's student attrition model (1980), Tinto's "attributes" model (1975), and Bean and Metzner's

conceptual model of nontraditional student attrition rates (1985). The list of possible factors (academic and non-academic) that could influence a learner's transition to higher education, and relevant to this study, was established in this chapter.

In Chapter 3, I discussed the research design and research method in detail and explained how data would be gathered and analysed. I based this study on the sequential mixed method, where I first collected the quantitative data through a survey questionnaire that focused on attributes that may account for students' success (or lack thereof) in transitioning from high school. I then conducted group interviews to understand why some factors, according to the questionnaire results, appeared to be more influential than other factors (Ivankova et al., 2006). The mixed method was selected as I realised that, had the research been conducted only on quantitative data, then it will be merely an evaluation report. By complementing the quantitative research with a qualitative research strategy, I could gain – from a researcher's perspective – a clearer understanding why participants selected certain factors in the questionnaire.

In chapter 4, I illustrated processed data representing academic factors that influenced the research participants' transition from high school to higher education. In Chapter 5, I focused on the positive and negative emotions or feelings that respondents experienced during their first years of study at the tertiary institutions they attended.

Analysis of the qualitative data – in correlation with the quantitative data set – commenced in Chapter 6. In this chapter, I presented the findings from the analysis of the academic factors that could influence a transition from high school to higher education, while keeping the literature review in mind. In Chapter 7, I discussed and illustrated the analysed data relating to the non-academic factors that could influence a student's transition from high school to higher education; still keeping in mind the literature review, as well as similarities and differences with the quantitative data set.

In Chapter 8, I present the synthesis and conclusion of my research, as well as the implications for further research.

In the context of high dropout rates among first-year students at South African universities, I argue that the value and justifications for this research project are supported by the fact that more than 73% of JuniorTukkie programme participants successfully completed their first year of study in their year of registration. These participants were the ideal sample population to provide valuable information about factors that enable successful transitions to higher education and resultant academic successes. Secondly, by studying participants' positive and negative emotions or feelings regarding their experiences within JuniorTukkie programmes, the initiative could establish how to customise its programme structures to minimise negative experiences and maximise positive experiences in the future.

In achieving these goals, I needed to find an answer to the primary research question: what factors determine the successful transitions from high school to higher education of JuniorTukkie participants at the University of Pretoria? Four sub-questions were posed: 1) What criteria are used to identify and select learners to participate in the JT programme? 2) What attributes do learners bring to the programme that contribute to their success? 3) What mechanisms are utilised to support these learners in their transitions from high school to higher education? 4) What factors positively influence or account for a successful transition from high school to higher education in South Africa?

My investigation, in Chapter 8, of the positive and negative experiences of participants in JuniorTukkie programmes with the purpose of establishing how the programme structures could be modified to better assist its participants, provided answers to the sub-questions. Answers to the various questions are summarised in the following section.

8.3 Summary of findings: main question and sub-questions

8.3.1 Primary research question

What factors determine the successful transitions from high school to higher education of JuniorTukkie participants at the University of Pretoria?

The variety of academic and non-academic factors were evaluated by research participants, and analyses and interpretations of collected data sets (obtained through an online questionnaire and focus group interview sessions) are presented in Chapters 4–7.

Academic factors – in order of importance as indicated by interview participants as contributing to their successful transition – are study methods, the language of teaching and learning, Mathematics and Physical Science skills, high school curriculum, differences between Grade 11 and 12 results, poor selection of study fields, and teacher training levels. Other related factors include reading and comprehension skills, completion of National Benchmark Tests, and extra classes outside of school hours.

Non-academic factors – in order of importance as regarded by interview participants – are interpersonal relationship skills, social skills, time management, financial aspects, extra-curricular and co-curricular experiences, computer skills, emotional intelligence, culture shocks, differences between first- and second-generation learners, and peer pressure.

8.3.2 Sub-questions

Comprehensive details, to complement the summarised answers below, are provided in Chapter 7.

8.3.2.1 What criteria are used to identify and select learners to participate in the JuniorTukkie programme?

Learners whose average Grade 10 results exceed 70%, or who achieve averages exceeding 60% in Mathematics, Physical Science and English, become eligible for participation in JT programmes. Data obtained during this research reveal that 76.11% of participants did not change their study programmes, while 73.89% successfully completed their first academic year in one calendar year. According to participant responses, the factors that contributed to their first-year academic successes were combinations of personal skills, academic support, discipline, hard work and perseverance.

8.3.2.2 What attributes do learners bring to the programme that contribute to their success?

Learners who had participated in the JT initiative's empowerment and skills development programmes brought several attributes to the initiative. Firstly, their collective motivation and interest in the initiative, as well as their willingness to learn, contributed to their successes as participants in JT programmes. Secondly, their dedication to completing the e-learning programmes, that included a reading skills development course, not only prompted them to improve their reading skills but notably their comprehension skills as well. This correlates with research conducted by Maree et al. (as cited in Maree, 2015, p. 402) who had found that reading abilities emerge as a credible predictor of studying success. Ball et al. (2014) – as mentioned in the literature review in Chapter 2 – argue that reading, writing and mathematics comprise the fundamental foundational skills for learning and reinforce aspects of life quality, personal wellbeing, national stability and prosperity.

Their willingness to continue learning beyond the duration of the JT programme, to keep employing enhanced study methods, and adopting newly acquired time management skills contributed to successful first years of higher education. As the new students adopted the study and social skill sets encouraged by the JT initiative, they became more confident during their transitional periods, enabling them to persist and meet the demands of a tertiary study career. This finding supports the research done by Balduf (2009) and Damico and Qucy (2009), who had concluded that inadequate study skills and poor time management negatively affected the transitioning process from high school to higher education. Jansen and Suhre (2010) agree that a successful study career is achievable only when the student's study and management skills are functional. The social skills developed by the participants (through the JT initiative) not only contributed to the forming of friendships but also guided them to become considerate of all other persons that they encounter. The participants cultivated a sense of belonging to the university and the campus environment on account of their positive relationships with fellow students and peers (Tett et al., 2016).

Although higher education institutions at the time were experiencing circumstantial changes in their environments, which presented many students with

unexpected challenges, their ability to use the skills they learned from the JT initiative helped them to adapt and remain in control of their academic and social pursuits. Their positive approaches, individually and collectively, and dedication to their responsibilities as students are attributes that contribute to the overall success of the JT Empowerment initiative.

The participants' comments and recommendations regarding the various transitional factors that made the successful completion of their first study years possible (in their views), prompted the JT initiative to adopt measures to streamline its processes and programme structures. The participants further contributed to the initiative's success by submitting their cultural and life experiences to the initiative, where several different cultural groups work towards a common goal. This correlates with the research conducted by Bar-On (as cited in Mangal & Mangal, 2015, p. 238) wherein he emphasised that persons who relate well to other people are able to establish mutually satisfying interpersonal relationships. The compiled data further complements the arguments of Stein and Book (as cited in Mangal & Mangal, 2015, p. 238) that the maintaining of healthy interpersonal relationships requires sensitivity towards other persons, and that a desire to build relationships will satisfy all the involved individuals.

Their advice and recommendations, such as that higher education should not only focus on academic skill sets but also soft skills, could be viewed as functional assets to the initiative. Such recommendations provided the initiative with insights in terms of present-day students' actual needs, which are necessary to realise the ambition of providing higher education institutions with well-balanced students.

8.3.2.3 What mechanisms are utilised to support these learners in their transitions from high school to higher education?

The JuniorTukkie Empowerment initiative grew from a membership of only two learners in 2005 to nearly 6 000 learners (from Grades 10–12) at the end of 2017. Programmes for Grades 10–12 learners centre mainly on interventions (pre-arrival activities) such as psychometric tests (PACE, CIP and Maree matrix), open days, career guidance, and e-learning programmes like the online Mathematics and

Physical Science course. The JT initiative has employed the LectorSA reading development programme with success over the preceding nine years, and has provided further assistance with the "Read to learn" programme. Skills development programmes devoted to enhancing time management, study methods, computer literacy and social interaction are other types of intervention that serve to support learners in transitioning from high school to higher education. According to research participants, the JT initiative contributed to the development of their personal skills, which include verbal communication and listening skills, problem solving, decision making and assertiveness. The JT initiative initiated a new programme in 2017, specifically designed to enhance personal skills. This programme is implemented in collaboration with the Industrial Psychology Department of the Faculty of Economic and Management Sciences at the University of Pretoria.

The JT initiative provided a vital service in recent years by assisting applicants to complete the online-only applications procedures at the University of Pretoria. Prospective students receive guidance through printed material and videos on the YouTube internet platform. Assistance related to financial matters (bursaries) and accommodation (residences) has been included in this service, easing the new students' transitions to higher education. Importantly, the JT initiative has implemented a highly functional communication strategy to reach and support all prospective students who are members of the JT initiative.

8.3.2.4 What factors positively influence or account for a successful transition from high school to higher education in South Africa?

Several types of intervention (pre-arrival activities) – such as the various psychometric tests (Maree matrix, CIP & PACE), open days at university, study (Sherefat & Murthy, 2016) and career guidance (Jansen & Suhre, 2010; Kennedy &Tuckman, 2013), sourcing of additional information regarding study fields from specialists in the field, job shadowing, contact with experienced students (Fox et al., 2010) and advice from parents and senior student advisors (Gniewosz et al., 2012) – all contributed in assisting the students to make responsible career-related decisions. It must be emphasised that the respondents all chose different activities (as illustrated in Chapter 4) when they could select combinations of two or more activities that were influential in their transitioning experiences. The standards of

teacher training (Makgato & Mji, 2006) and learners' Grade 12 results (Müller, 2013) were regarded as notable but lesser reliable indicators of higher education academic results, according to the research participants.

Collectively, survey respondents (quantitative research participants) did not regard the use of a first language (Yürekli, 2012) and the National Benchmark Test (Wedekind, 2013) as significant factors that contributed to their successful transitions. Instead, they indicated that the LectorSA reading development programme had a definite positive effect on their reading speeds and comprehension skills (Maree, 2015). The LectorSA programme therefore fundamentally assisted the students in improving their academic performances. The majority of participants felt that extra classes could have assisted their successful transitions from high school to higher education (Santhi, 2011). They deemed financial matters as another important transitional factor (Dunnett et al., 2011; Roble, 2017).

The focus group interview participants largely agreed that combinations of academic support, academic skills, personal skills (Bean & Metzner, 1985), discipline, hard work (Kim et al., 2010) and perseverance assisted them in their successful transitions from high school to higher education. They also indicated that the interventions as listed above (psychometric tests, open days, and others) contributed to the successful completion of courses in their respective first years at higher education institutions.

Even though only half of the research participants regarded their Grade 12 marks as accurate indicators of their higher education results, it cannot be discounted as a correlating factor. The JT initiative should still strive to instil disciplined study habits in Grades 10–12 learners. The vast majority of research participants believed that financial status and levels of financial support could be vital factors that determine degrees of success of transitioning experiences. The focus group interview participants believed that a few activities significantly influenced their transitions from high school to higher education, such as the influence of their peers (Tierney & Venegas, 2005), the JuniorTukkie initiative, and religious practices. Sport, cultural activities and the influence of their communities had a lesser significant influence on their transitioning efforts. The participants

largely agreed that the JT initiative contributed markedly to the development of their personal skills, which include verbal communications, listening skills, problem solving, decision making and assertiveness (Hinkley & Anderson, 1996).

Focus group participants regarded the following three academic factors as significant contributors to successful transitions: study methods (Balduf, 2009; Damico & Qucy, 2009), language of learning and teaching (Wedekind, 2013; Yürekli, 2012) and prowess in Mathematics (Makgato & Mji, 2006) and Physical Science (National Research Council, 2005). The influences of non-academic factors, however, were not equally important as transitional factors in their estimations. Slightly more than half of the participants selected only four factors – interpersonal relationships (Hinkley & Anderson, 1996; Mangal & Mangal, 2015), social skills (Mazarin, 2014), time management (Kelly, 2002; Shipman, 1983) and financial (Dunnett et al., 2011; Roble, 2017) or socio-economic issues (Fike & Fike, 2008; Jones et al., 2008; Paulson, 2012) – as significant transitional factors.

8.4 Contribution to the body of knowledge

Whereas former studies on student transitions – such as those conducted by Bowles et al. (2013), DHET (2013b) and Goldrick-Rab et al. (2017) – largely focused on types of assistance only when students have already arrived at higher education institutions, this study focused on factors and experiences of students before they entered higher education. At the core of this study lay the question how these factors prepared and assisted them in their successful transition from high school to higher education. This study's contribution to the body of knowledge is embodied in its endeavour to identify all the relevant academic and non-academic factors that influence the transition of students from the high school environment to higher education institutions. This was achieved through a focus on the JuniorTukkie Empowerment programmes in a South African context.

This study endeavoured to identify all relevant and significant factors that influence transitional experiences (the primary drivers of the main research question), and to investigate how these factors determine the successes (or failures) of new students' transitions from high school to higher education. As an integral element of the investigation, I first studied existing research literature containing

discussions of several transitional factors, including Tinto's "attributes" model (1975), Bean's student attrition model (1980), and Bean and Metzner's conceptual model of nontraditional student attrition rates (1985).

This study established that students, who have successfully transitioned from high school to higher education, were largely convinced that a variety of academic and non-academic factors could influence new students' transitional experiences and determine their successes. The research population denoted certain factors as highly influential, while other factors were not negligible but had less influence on transitions. Students that completed their first academic year within one calendar year indicated that combinations of factors (such as personal skills, academic support, academic skills, discipline, hard work and perseverance) contributed to their successful transitions and studies. The research population also regarded several types of intervention (such as psychometric tests, open days at universities, study and career guidance, job shadowing, contact with experienced students and advice received from parents and senior student advisors) as factors that assisted them in making responsible study and career decisions. It follows logically that a new student who has made an informed career decision is more likely to successfully transition to the tertiary domain.

Although the National Benchmark Test was not tested during research as a possible contributor to successful transitions, the online survey established that just over two-thirds of respondents indicated that they were selected for their courses based partly on their NBT results. Over 40% revealed that their NBT results were used during their admission processes. These facts indicate that higher education institutions value NBT results as a notable parameter in the selection of potentially successful student applicants for tertiary courses.

Several other outcomes of this study contribute new information to existing knowledge and literature. While it can be fairly assumed that standards of teacher training might affect learners' academic prowess at school, research participants did not select this factor as among the most important influences in transitioning to higher education. However, it should still be taken seriously as a possible contributor to successful transitions. The study further revealed that a high percentage of learners' (who had been participants in JT programmes) marks improved from

Grade 11 to Grade 12, with the majority of them believing that their improved academic efforts in Grade 12 supported their transitional efforts into higher education environments.

The vast majority of students (81.99%), who have successfully transitioned and participated in this research, valued a reading development programme (such as LectorSA) as a vital contributor to transitional success. While most participants received financial support through either bursaries, parents or achievement awards, hence contending with few financial problems, they (89.43%) overwhelmingly argued that a lack of financial support would negatively influence a transition to higher education. It was evident to them, collectively, that a student's transitional and academic endeavours would be challenged when financial obstacles cannot be satisfactorily overcome. The research population largely regarded time management skills as a vital factor in their successful completion of first academic years at universities (71.36%), consequently contributing to successful transitioning efforts as well. Most participants further argued that new students need contributions from other role players (parents, their communities, empowerment initiatives like JuniorTukkies, peers, senior students and career advisors) to ease their transitions to the tertiary sphere.

Conclusively, this study's contribution to new knowledge amounts not only to the data analysis outcomes reflecting the respective influences of academic and non-academic factors on transitioning experiences; recorded comments also revealed how the various factors influenced the research participants' behaviour, and whether those factors encouraged positive emotions and feelings. Negative emotions or experiences should be avoided by addressing potential problems before the year of transition, while learners are in their final school years.

A reasonable assessment, provided by this study, is that a well-functioning support system combined with programmes to aid the development of various skill sets (academic, social and personal) could secure new students their successful transitions from high school to higher education. Consequently, the study investigated and explained the nature of a variety of possible contributing factors that determine the success rates of transitioning and study successes. Ultimately, this study confirmed the necessity of skills development programmes that initiatives

have to utilise if they aspire to ease new students' transitional experiences, and support them academically, socially and personally.

8.5 Limitations of the study

As the researcher, I acknowledge the following limitations inherent to this research, and circumstantial problems experienced:

- Ideally, the research population could have been larger, to obtain an even broader sample data set. Many former JuniorTukkie members had changed their contact information, however, and hence could not be reached. Several students never responded to invitations to participate in the research, while others were never admitted (or applied) to tertiary institutions.
- Several students and former students, who had indicated that they would participate in the focus group interview sessions, did not arrive to participate in the interview sessions.
- Due to the demands of completing the doctoral study on a part-time basis while being a full-time employee, keeping the literature source list updated with the latest references often became problematic. The online questionnaire consumed much of my time and efforts due to respondents' inertia or inactivity. Many respondents began to complete the questionnaire without finishing. In the event, many respondents did not complete the questionnaire at all, since the Qualtrics software required the respondents to submit their completed questionnaires within a period of 30 days after starting. I then had to delete their first contributions and request those respondents to provide answers to the entire questionnaire.
- The possibility of researcher bias existed since I had to conduct the initial testing operations of the online questionnaire as well as the testing procedures of the focus group interviews in my personal capacity. However, I had been transparent regarding all my intentions and actions, and I sincerely believe all participants in this research endeavour were honest in their responses and actions.
- The mixed method approach (using both online questionnaires and focus group interviews for obtaining data) became challenging to uphold, as some survey questions and interview questions did not completely correlate with each other. I discovered this issue while being involved with data analysis procedures. To

overcome this problem I had to analyse the responses to those questions in a different (yet still valid) manner.

- Varying perceptions of the different factors (whether academic or non-academic) among students in different stages of their studies, or who have completed their studies, could have influenced the outcomes to an extent.
- An additional investigation, to determine the percentage of participants who managed to graduate in the minimum amount of years, could have added valuable data to further our understanding of successful transitioning practices. Such an investigation could have provided more information to test the assertions of the participants in the programme regarding the role and influence of the JuniorTukkie initiative on their successful transition to higher education.

8.6 Possibilities for further research

This study's findings helped me to appreciate the importance of sufficiently preparing high school learners for their pending transitions to higher education (especially learners identified as prospective students in South Africa's public schools), and to keep supporting and encouraging them to complete their first academic year within one calendar year. As the scope of this study was limited to the factors that enable successful transitions (with a resultant focus on JT participants who achieved academic successes in their first years), a new area of wider research could be developed that will complement this study's findings. A new study could, for instance, determine the factors that led to the success of those students who had transitioned well and completed not only their first years successfully, but who had graduated in the minimum amount of time.

A second new area of investigation could involve participants who had attended the JT initiative's programmes at their high schools in 2014 and 2015, then completed their first years at universities in 2016 and 2017. This new study would establish if the changes and additions implemented by the JT initiative (as a consequence of this study) had any greater effects on new students' transitional and academic successes at higher education.

As a third suggestion, since the JT initiative incorporated extra e-learning programmes and escalated its focus on the development of personal skills, the

degrees of influence that these specific programmes had on students' transitioning and academic successes could be investigated in the near future.

8.7 Final reflections

Successful transitioning from high school to higher education is paramount for learners and students in the South African context. School preparation is inadequate for securing a successful transitional period; new students usually find it difficult to remain in control of their transitions and studies without the necessary preparation, skills or motivation. Therefore, pre-intervention programmes should target prospective students from as early as Grade 9. The purpose of interventions should be to assist learners in making responsible career decisions, and to teach them the skills needed to successfully transition to higher education and complete their studies in the minimum number of allocated years per course.

This research emphasised the importance of pre-arrival programmes and activities, as well as the necessity of assisting students when they have arrived at higher education institutions. Many new students need assistance in adapting to an environment that may be foreign to their own cultural backgrounds – an environment that harbours new types of challenges they have to meet. Literature consulted during this research revealed the possibility that the high dropout rates of first-year students could be related to the fact that interventions normally target students after (and not before) they have entered the realms of higher education. With this research project, I endeavoured to understand the participants' perspectives on the various academic and non-academic factors that could contribute to successful transitions, and just as importantly, to establish what attributes they (as participants to JT programmes) brought to the initiative that made the programmes successful.

The participants' recommendation that the JT initiative should expand to include more learners throughout South Africa is sensible. The initiative will consider other recommendations, such as providing more information regarding accommodation and bursaries to prospective students, and communicating more efficiently with public schools and all JT programme participants. The participants argued, with justification, that higher education institutions should be cognizant of the varying academic skills of participants who have grown up in different

communities. The JT initiative could assist by implementing new strategies for the institutions to accommodate such differences among students. The JuniorTukkie initiative employs a model designed to assist learners in Grades 9–12, but needs to expand to reach all South African communities, and identify and assist more prospective students. The aim is not solely to facilitate successful transitions to higher education, but to enhance the level of education across the entire South African region.

From a personal perspective, being involved with the JuniorTukkie Empowerment initiative is a meaningful and enriching experience. It is a privilege to be involved in the successes of many students over a period of eight years, and to learn from the attributes that these learners brought to the initiative. It is a humbling experience, and I have gained on personal levels during the conducting and writing of this research. It also confirmed to me that transitions from high school to higher education are complex processes that require the involvement of positive role models – not only in communities but also in higher education environments.

The findings of this research revealed that the challenges associated with the period of transition between high school and higher education require initiatives (like JuniorTukkies) to implement various interventions and programmes that address all academic and non-academic transitional factors. The initiatives' operating models need to empower learners with the abilities to manage successful study- and professional careers. Although such pursuits will always be challenging and demanding, such noble goals can be achieved through dedication, determination, perseverance, hard work and adequate support.

REFERENCES

ACT. (2007*). Issues in college success. The role of non-academic factors in college readiness and success.* Retrieved from http://files.eric.ed.gov/fulltext/ED501273.pdf

Alexander, K. L., Entwistle, D. R., & Horsey, C. S. (1997). From first grade forward early foundations in high school dropout. *Sociology of education, 70*(2), 87-107*.*

Allen, I. E., & Seaman, C. A. (2007). *Likert scales and data analyses*. Quality Progress. Retrieved from http://rube.asq.org/quality-progress/2007/07/statistics/likert-scales-and-data-analyses.html

American Heritage Dictionary of the English Language. (2000). Fourth edition. Houghton Milton Company. Retrieved from http://thefreedictionary.com

Anderson, G. (1990). *Fundamentals of educational research.* London: Paline Press.

Andrews, M. (2013). Why our students need co-curricular, not extra-curricular, activities. In: Higher Education Network blog*. The Guardian.* Retrieved from https://www.theguardian.com/higher-education-network/blog/2013/jan/22/student-development-university-curriculum-design

Armstrong, C. A. (1999). *A constructivist critique of outcomes-based education.* University of Witwatersrand, Johannesburg. Retrieved from http://wiredspace.wits.ac.za/bitstream/handle/10539/14052/Armstrong%20C%20A%201999-001.pdf

Arnold, I. J. M., & Straten, J. T. (2012). Motivation and maths skills as determinants of first-year performance in economics. *The Journal of Education, 43*(1), 33-47*.*

Astin, A. W. (1993). *What matters in college: four critical years revisited.* San Francisco, CA: Jossey-Bass.

Astone, N. M., & McLanahan, S. S. (1991). Family structure, parental practices and high school completion. *American Sociological Review. 56*(93), 309-320.

Bailey, T., Jeong, D. W., & Cho, S. (2010*).* Referral, enrollment, and completion in developmental education sequences in community colleges*. Economics of Education Review, 29*(2), 255-270*.*

Baker, R., McNeil, O., & Siryk, B. (1985). Expectation and reality in freshman adjustment to college. *Journal of Counseling Psychology, 32*(1), 94-103.

Baker, R., & Siryk, B. (1986). Measuring adjustment to college*. Journal of Counseling Psychology, 33*, 31-38.

Balduf, M. (2009). Underachievement among college students. *Journal of Advanced Academics. 20(*2) 274-294*.*

Ball, J., Paris, S., & Govinda, R. (2014). Literacy and numeracy skills among children in developing countries. In D. Wagner (Ed.), *Learning and education in developing countries: Research and policy for the post-2015 UN development goals* (pp. 26-41). New York, NY: Palgrave MacMillan.

Bandura, A. (1989). Social cognitive theory. In R. Vasta (Ed.), *Annals of child development. Volume 6. Six theories of child development* (pp. 1-60). Greenwich, CT: JAI Press.

Bangser, M. (2008). *Preparing high school students for successful transitions to postsecondary education and employment.* Retrieved from https://www.mdrc.org/sites/default/files/PreparingHSStudentsforTransition_073108.pdf

Bar-On, R. (2007). The Bar-On model of emotional intelligence: A valid, robust and applicable EI model. *Organisations and People*, *14*, 27-34.

Bateman, H. V., Dewey, G. C., & Muriel, D. C. (2013). *Adolescent peer culture – gangs, parents' role.* Retrieved from http://education.stateuniversity.com/pages/1738/Adolescent-Peer-Culture.html

Bean, J. P. (1980). Dropouts and turnover: The synthesis and test of a causal model of student attrition*. Research in Higher Education, 12*(2), 155-187.

Bean, J. P., & Metzner, B. S. (1985). A conceptual model of nontraditional undergraduate student attrition. *Review of Educational Research, 55*(4), 485-540.

Beatty, A., Greenwood, M. R. C., & Linn, R. L. (1999). *Myths and trade-offs: the role of tests in undergraduate admissions. Steering committee for the workshop on Higher Education admissions*. Retrieved from https://trove.nla.gov.au/work/35446356?q&versionID+44085860

Behi, R., & Nolan, M. (1995). Ethical issues in research. *British Journal of Nursing, 4*(12), 712-716. Retrieved from https://www.researchgate.net/publication/15619212_Ethical_issues_in_research

Bender, C. J. G. (2002). *A life skills programme for learners in the senior phase: a social work perspective* (MA dissertation, University of Pretoria). Retrieved from https://repository.up.ac.za/handle/2263/29679

Bernstein, A. (2015). *Teachers in South Africa: Supply and demand 2013–2025.* Retrieved from http://www.cde.org.za/wp-content/uploads/2015/03/Final-Revised-ES-TeacherSupplyandDemand2025.pdf

Bertram, D. (2008). *Likert scales …are the meaning of life*. Retrieved from http://poincare.matf.bg.ac.rs/~kristina//topic-dane-likert.pdf

Billson, J. M., & Terry, B. T. (1982). In search of the silken purse: Factors in attrition among first-generation students. *College and University, 58*, 57–75.

Bisson, K. H. (2017). *The effect of anxiety and depression on college students' academic performance: Exploring social support as a moderator*. (Digital Commons @ ACU, *Electronic Theses and Dissertations*. Paper 51.) Retrieved from https://digitalcommons.acu.edu/etd/51/

Bone, E. K., & Reid, R. J. (2011). Prior learning in biology at high school does not predict performance in the first year at university. *Higher Education Research and Development, 30*(6), 709-724.

Botha, H. L., Brand, H. J., Cilliers, C. D., Davidow, A., De Jager, A. C., & Smith, D. (2005). Student counselling and development services in higher education institutions in South Africa. *South African Journal of Higher Education, 19*(1), 73-88.

Bourdabat, B., & Montmarquette, C. (2007). *Choice of field of study of Canadian university graduates: The role of gender and their parents' education*. Discussion Paper, No.2252. Retrieved from http://ftp.iza.org/dp2552.pdf

Bowles, A., Fischer, R., McPhail, R., & Rosentreich, D. (2013). *Staying the distance: students' perception of enablers of transition to higher education.* Retrieved from http://www.tandfonline.com/doi/abs/10.1080/07294360.2013.832157

Bowling, A. (1997). *Research methods in health: Investigating health and health services*. Buckingham: Open University Press.

Bragg, D. (2011). *Better alignment needed between high schools, community colleges.* University of Illinois. Retrieved from https://news.illinois.edu/blog/view/6367/205577

Braxton, J., Sullivan, A., & Johnson, R. (1997). Appraising Tinto's theory of college student departure. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (pp. 107-158). New York, NY: Agathon.

Briggs, A. R. J., Clark, J. J., & Hall, I. (2012). Building bridges: understanding student transition to university. *Quality in Higher Education, 18*(1), 3-21. Retrieved from: https://doi.org/10.1080/13538322.2011.614468

Brijlall, D., & Ndlovu, Z. (2013). High school learners' mental construction during solving optimisation problems in Calculus: a South African case study*. South African Journal of education, 33*(2), 1-18. Retrieved from http://www.sajournalofeducation.co.za/index.php/saje/article/viewFile/679/345

Burns, N., & Grove, S. K. (1997). *The practice of nursing research: Conduct, critique, and utilization*. Philadelphia, PA: W.B. Saunders.

Bursztyn, L. & Jensen, R. (2015). How does peer pressure affect educational investments? *The Quarterly Journal of Economics*, 130(3), 1329–1367. Retrieved from https://doi.org/10.1093/qje/qjv021

Cabrera, A. F., Castañeda, M. B., Nora, A., & Hengstler, D. (1992). The convergence between two theories of college persistence. *The Journal of Higher Education, 63*(2), 143-164.

Calcagno, J.C., Crosta, P. M., Bailey, T., & Jenkins, D. (2007). Stepping stones to a degree: The impact of enrollment pathways and milestones on community college student outcomes. *Research in Higher Education, 48,* 775. doi:10.1007/s11162-007-9053-8

Carter, E. W., Swedeen, B., & Kurkowski, C. (2008). *Friendship matters: Fostering social relationships in secondary schools*. Retrieved from https;//www.waisman.wisc.edu/naturalsupports/pdf/TASH_friendship_matters_2008.pdf

CHE. (2010). Access and throughput in South African Higher Education: Three case studies. Pretoria: Council on Higher Education.

Choy, S. (2001). *Students whose parents did not go to college: Postsecondary access, persistence, and attainment*. Retrieved from https://nces.ed.gov/pubs2001/2001126.pdf

Ciarrochi, J., Forgas, J. P., & Mayer, J. D. (2001). *Emotional intelligence in everyday life: A scientific inquiry*. Philadelphia, PA: Psychology Press.

Claessens, B.J.C., Van Eerde, W., Rutte, C.G., & Roe, R.A. (2007). A review of the time management literature, *Personnel Review, 36*(2), 255-276. doi:10.1108/00483480710726136

Clark, C., Poulton, L., & McCoy, E. (2011). *Literacy: A route to addressing child poverty?* National Literacy Trust Review, Oct 2011. Retrieved from http://learning.gov.wales/docs/learningwales/publications/140211-national-literacy-trust-en.pdf

Clarke, N. (2005). *Emotional intelligence training: A case of caveat emptor*. University of Southampton. Retrieved from www.ufhrd.co.uk/wordpress/wp-content/uploads/2008/06/1-2_clarke.pdf

Coertjens, L., Brahm, T., Trautwein, C., & Lindblom-Ylänne, S. (2016). *Students' transition into higher education from an international perspective*. doi:10.1007/510734-016-0092-y

Coertjens, L., Donche, V., De Maeyer, S., & Van Petegem, P. (2017). The growth trend in learning strategies during the transition from secondary to higher education in Flanders*. Higher Education, 73*(3), 499-518. doi:10.1007/s10734-016-0093-x

Coetzee, A. (2012). Presentation: NCS to CAPS by the Gauteng Department of Education. *Paper presented in seminar on NCS to CAPS*. Kgorong Hall, UNISA, 31 May.

Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education.* London: Routledge. Retrieved from https://islmblogblog.files.wordpress.com/2016/05/rme-edu-helpline-blogspot-com.pdf

Collins English Dictionary. (2003). HarperCollins Publishers. Retrieved from https://en.oxforddictionaries.com/definition/us/computer-literature

Creswell, J. W. (1994). *Research design: Qualitative & quantitative approaches.* Thousand Oaks, CA: Sage.

Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five approaches.* Thousand Oaks, CA: Sage.

Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches*. 2nd edition. Thousand Oaks, CA: Sage.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative and mixed methods approaches.* 4th edition. University of Nebraska-Lincoln: Sage.

Creswell, J. W., & Plano Clark, V. L. (2006). *Designing and conducting mixed methods research.* Thousand Oaks, CA: Sage.

Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research*. 2nd edition. Los Angeles, CA: Sage.

Crosling, G., Heagney, M., & Thomas, L. (2009). Improving student retention in higher education. *Australian Universities' Review, 51*(2). Retrieved from www.universityworldnews.com/filemgmt_data/files/AUR_51-02_Crosling.pdf

Crutsinger, C. (1994). *Thinking smarter: skills for academic success.* Carrollton, TX: Brainworks.

Damico, A. M., & Qucy, S. E. (2009). Learning to learn: What matters to first-year college students? *Journal on Excellence in College Teaching, 20*(1), 101-120.

Demetriou, C., & Schmitz-Scibarski, A. (2011). Integration, motivation, strengths and optimism: Retention theories past, present and future. In R. Hayes (Ed.), *Proceedings of the 7th National Symposium on Student Retention, 2011, Charleston*. Norman, OK: The University of Oklahoma.

Denscombe, M. (2007). *The good research guide: for small-scale research projects.* 3rd edition. New York, NY: McCran-Hill

Department: Basic Education. (2007). *Guidelines for responding to learner diversity in the classroom through curriculum and assessment policy statements.* National Curriculum Statement. Republic of South Africa. Retrieved from https://www.education.gov.za/Portals/0/Documents/Publications/GUIDELINES FOR RESPONDING TO LEARNER DIVERSITY THROUGH CAPS (FINAL).pdf?ver=2016-02-24-110910-340

Department: Basic Education. (2014). *The ministerial task team report on the National Senior Certificate (NSC).* Republic of South Africa. Retrieved from http://www.accountabilitynow.org.za/pdf/ANNEXURE%20Z%201%20-%20Ministerial%20Task%20Team%20Report.pdf

Department: Higher Education and Training. (2012). *Green paper for post-school education and training*. Republic of South Africa. Retrieved from: https://heaids.org.za/site/assets/files/1267/green-paper-for-post-school-education-and-training_2012.pdf

Department: Higher Education and Training. (2013a). *Statistics on post-school education and training in South Africa: 2010*. Pretoria: Department of Higher Education and Training.

Department: Higher Education and Training. (2013b). *White paper for post-school education and training*. Republic of South Africa. Retrieved from:

http://www.dhet.gov.za/SiteAssets/Latest%20News/White%20paper%20for%20post-school%20education%20and%20training.pdf

Department of Education. (1997). *Education White Paper 3: A programme for the transformation of higher education.* Pretoria: Government Gazette. Retrieved from http://www.che.ac.za/sites/default/files/publications/White_Paper3.pdf

Department of Education. (2009a). *Challenges facing education in South Africa.* Centre of Education Policy Development. Retrieved from http://www.cepd.org.za/files/pictures/The%20Challenges%20Facing%20Education%20Interview%20Nov%2009.pdf

Department of Education. (2009b). *Trends in education. Macro-indicators: South Africa*. Pretoria: Department of Education. Retrieved from http://pmg-assets.s3-website-eu-west-1.amazonaws.com/docs/100108report.pdf

Department of Education: National Committee on Education Support Services. (1997). *Quality education for all - Overcoming barriers to learning and development*. Pretoria. Retrieved from http://www.education.gov.za/Portals/0/DoE%20Branches/GET/Inclusive%20Education/Overcoming%20barriers%20to%20learning%20and%20development.pdf?ver=2008-03-05-104546-000

Dhunpath, R. D., & Vithal, R. (2014). *Alternative access to higher education: Underprepared students or underprepared institutions?* Cape Town: Pearson Education.

DiRamio, D., & Jarvis, K. (2011). Veterans in higher education: When Johnny and Jane come marching to campus*. ASHE Higher education Report, 37*(3). San Francisco, CA: Jossey-Bass. doi:10.1002/ache.3703

Dlomo, Z., Jansen, A., Moses, M., & Yu, D. (2011). Investigating the significance of the 2008 matric curriculum on first-year economics performance. *South African Journal of Higher Education, 25*(4), 696-709.

Driscoll, D. L., Appiah-Yeboah, A., Salib, P., & Rupert, D. J. (2007). Merging qualitative and quantitative data in mixed methods research: How to and why not. *Ecological and Environmental Anthropology, 3*(1). Retrieved from http://digitalcommons.unl.edu/icwdmeea/18

Du Plessis, E. (2013). *Introduction to CAPS. Curriculum & instructional studies.* University of South Africa. Retrieved from https://www.education3sixty.co.za/wps/wcm/connect/multiplyedu/c1f2fa92-0f3b-

4972-8d24-db27bc7cda44/Introductiont+to+CAPS.pdf?MOD=AJPERES&CONVERT_TO=url&CACHEID=c1f2fa92-0f3b-4972-8d24-db27bc7cda44

Duchovicova, J., & Petrova, G. (2015). Diversity of school population and its perception in terms of a teacher's didactic competence. *International Journal of Science Commerce and Humanities, 3*(5), 37-44. Retrieved from https://www.ijsch.com/journaluk/images/frontImages/DIVERSITY_OF_SCHOOL_POPULATION_AND_ITS_PERCEPTION_IN_TERMS_OF_A_TEACHER_S_DIDACTIC_COMPETENCE.pdf

Dunlop, A., & Fabian, H. (2007). *Informing transitions in the early years: research, policy and practice.* Berkshire: Open University Press.

Dunnett, A., Moorhouse, J., Walsh, C., & Barry, C. (2012). Choosing a university: A conjoint analysis of the impact of higher fees on students applying for university in 2012. *Tertiary Education and Management, 18*(3), 199-220.

Dwyer, J., (2012). *Communication for business and the professions: Strategies and skills*. Australia: Pearson Higher Education.

Ebert, E.S. II, Ebert, C., & Bentley, M.L. (2011*).* Defining Curriculum. In: *The Educator's Field Guide: From organization to assessment (and everything in between).* Retrieved from https://www.education.com/reference/article/curriculum-definition/

Ecclestone, K. (2008). The impact of assessment on pedagogy can have damaging consequences. In I. Nash, S. Jones, K. Ecclestone, & A. Brown (Eds.), *Challenge and change in further education*. London: Teaching and Learning Research Project.

Edwards, S., & Minton, A. (2009). Re-thinking the retention of students in part-time distance learning. In D. Young & J. Garnett (Eds.), *Work-based learning futures III*. Bolton: University Vocational Awards Council.

Eisenberg, M. B., & Johnson, D. (2002). *Learning and teaching information technology – Computer skills in context.* Syracuse, NY: Eric Clearinghouse on Information & Technology. Retrieved from http://www.ericdigests.org/2003-1/skills.htm

Engle, J., & Tinto, V. (2008). *Moving beyond access: College success for low-income, first-generation students.* Washington: Pell Institute for the Study of Opportunity in Higher Education. Retrieved from https://eric.ed.gov/?id=ED504448

Fike, D. S., & Fike, R. (2008). Predictors of first-year student retention in the community college. *Community College Review, 36*(2), 68-88.

Fischler, A. S. (2014). *Mixed Methods.* Nova Southeastern University. Retrieved from http://staff.estem-uc.edu.au/taipham/files/2013/01/mixed_methods.pdf

Florini, B. M. (1983). Computer Literacy: Teach Yourself. *To Improve the Academy, 32*, 141–150. doi:10.1002/j.2334-4822.1983.tb00039.x

Fox, A., Stevenson, L., Connelly, P., Duff, A., & Dunlop, A. (2010). Peer-mentoring undergraduate accounting students: The influence on approaches to learning and academic performance. *Active Learning in Higher Education*, *11*(2), 145-156. doi:10.1177/1469787410365650

Gibson, M. A., Gándara, P., & Koyama, J. P. (2004). The role of peers in the schooling of U.S. Mexican youth. In M. A. Gibson., P. Gándara, & J. P. Koyama (Eds.), *School connections: U.S. Mexican youth, peers, and school achievement* (pp. 1-17). New York, NY: Teachers College Press.

Gniewosz, B., Eccles, J. S. & Noack, P. (2012), Secondary school transition and the use of different sources of information for the construction of the academic self-concept. *Social Development, 21*(3), 537–557. doi:10.1111/j.1467-9507.2011.00635.x

Goldrick-Rab, S., Carter, D. F., & Wagner, R. W. (2007). What Higher education has to say about the transition to college. *Teachers College Record, 109*(10), 2444-2481. Retrieved from http://torcschools.hshs.schooldesk.net/Portals/Torcschools/Hshs/docs/Pearlman/Collegearticle1.pdf

Goleman, D. (1995). *Emotional intelligence – why it can matter more than IQ.* New York, NY: Bantam Books.

Gonida, E. N., Kiosseoglou, G., & Voulala, K. (2007). Perceptions of parent goals and their contribution to student achievement goal orientation and engagement in the classroom: Grade-level differences across adolescence. *European Journal of Psychology of Education, 22*(1), 23-39. doi:10.1007/BF03173687.

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook* of *qualitative research* (pp. 105-117). Thousand Oaks, CA: Sage.

Guler, O. (2004). Methods of business research: an introduction. In D. Coldwell & F. Herbst (Eds.), *Business research* (pp. 1-24). Cape Town: Juta Academic.

Hall, R. (2012). Mixed methods: In search of a paradigm. In T. Lê & Q. Lê (Eds.), *Conducting research in a changing and challenging world* (pp. 71-78). Hauppauge, NY: Nova Science Publishers.

Hamrick, F. A., & Stage, F. K. (2004). College predisposition at high-minority enrolment, low-income schools. *The Review of Higher Education, 27*(2), pp. 151-168.

Haus, L. S. (2006). *Higher education marketing concern: Factors influencing Malaysian students' intention to study at higher educational institutions*. (Thesis, University of Malaysia, Kuala Lumpur, Malaysia). Retrieved from http://repository.em.edu.my/686/1/Tesis20%20%20Final/%20Vrsion.pdf

Hearne, L. (2013). *Ethical Research in Guidance Counselling*. University of Limerick: National Centre for Guidance in Education. Retrieved from http://schoolguidancehandbook.ncge.ie/docs/000004/ethical-research-in-guidance-counselling.pdf

Hernandez, C. Y. (2014). College bound: factors that influence first generation college student process. *Theses, dissertations and projects*, Paper 788. Retrieved from http://scholarworks.smith.edu/cgi/viewcontent.cgi?article=1865&context=theses

Heyman, L. & Carolissen, R. (2011). The concept of 'first-generation student' in the literature: implications for South African higher education. *South African Journal of Higher Education 25*(7), 255-274.

Hinkley, K., & Anderson, S. M. (1996). The working self-concept in transference: significant-other activation and self change. *Journal of Personality and Social Psychology, 71*(6), 1279-1295.

Hofmeyr, J. (2010). Is this the new curriculum I see before me? *Independent Education*, Spring 2010 Edition. Retrieved from http://www.ieducation.co.za/is-this-a-new-curriculum-i-see-before-me/

Hornby, G. (2011). *Parental involvement in childhood education. Building effective school-family partnerships.* New York, NY: Springer-Verlag.

Howie, S. J., Combrinck, C., Roux, K., Tshele, M., Mokoena, G. M., & McLeod Palane, N. (2017). *PIRLS literacy 2016: South African highlights report*. Pretoria: University of Pretoria. Retrieved from: http://www.up.ac.za/media/shared/164/ZP_Files/pirls-literacy-2016-hl-report-3.zp136320.pdf

Hudson, P. & Miller, C. (1997). The treasure hunt: Strategies for obtaining maximum response to a postal survey. *Evaluation and Research in Education*, 11(2), 102-112.

Ingersoll, R. M., & Perda, D. (2009). The mathematics and science teacher shortage: Fact and myth. *CPRE Research Report #RR-62*. Retrieved from http://www.cpre.org/images/stories/cpre_pdfs/math%20science%20shortage%20paper%20march%202009%20final.pdf

Ishitani, T. T. (2006*).* Studying attrition and degree completion behavior among first-generation college students in the United States*. Journal of Higher Education, 77* (5), 861-885. Available at https://www.iwu.edu/first-generation/Ishitan.pdf

Ivankova, N. V., Creswell J. W., & Stick, S. L. (2006). Using mixed-methods sequential explanatory design: From theory to practice*. Field Methods, 18*(1), 3-20. doi:10.1177/1525822X05282260

Jansen, E. P., & Suhre, C. J. (2010). The effect of secondary school study skills preparation on first-year university achievement. *Educational Studies, 36*(5), 569-580.

Jansen, J. D. (2008). *Input from Vice-chancellor. Challenges facing education in the next decade.* Department: Higher Education and Training. Retrieved from https://www.dhet.gov.za/portals/0/Documents/GreenPaper.pdf

Jansen, J. D. (2010, July 22). The enduring legacy of OBE. *Times Live*. Retrieved at https://www.timeslive.co.za/ideas/2010-07-21-jonathan-jansen-the-enduring-legacy-of-obe/

Jansen, J., & Taylor, N. (2003). *Educational change in South Africa 1994-2003: case studies in large-scale education reform*. Education Reform and Management Publication series, 2(1). Washington, DC: World Bank. Retrieved from http://documents.worldbank.org/curated/en/129941468778149162/pdf/282500PAPER0Ed1outh0Africa01Public1.pdf

Jerald, C. D., & Ingersoll, R. (2002). All talk no action: Putting an end to out-of-field teaching. *The Education Trust*, Aug 2002, 1-14. Retrieved from http://repository.upenn.edu/cgi/viewcontent.cgi?article=1142&context=gse_pubs

Johnson, I. (2008). Enrolment, persistence and graduation of in-state students at a public research university: Does high school matter*? Research in Higher Education, 49*(8), 776-793.

Jones, B., Coetzee, G., Bailey, T., & Wickham, S. (2008). *Factors that facilitate success for disadvantaged higher education students: An investigation into approaches used by REAP, NSFAS and selected higher education institutions*. Retrieved from www.reap.org.za/pieces/reports/pdf/tracking_reports/2008_June_factors_that_facilitate_success.pdf

Keith, T. (2010). Depression and its negative effect on college students. East Carolina University. *Undergraduate Research Journal for the Human Sciences, 9*. Retrieved from http://www.kon.org/urc/v9/keith.html

Kelly, W. E. (2002). No time to worry: the relationship between worry, time structure, and time management. *Personality and Individual Differences, 35,* 1119-1126. Retrieved from http://isiarticles.com/bundles/Article/pre/pdf/6562.pdf

Kennedy, G. J., & Tuckman, B. W. (2013). An exploration into the influence of academic and social values, procrastination, and perceived school belongingness on academic performance. *Social Psychology of Education, 16*(3), 435-470. Retrieved from https://link.springer.com/article/10.1007/s11218-013-9220-z

Khalil, I. A. (2015). *The influence of social, religious, institutional, and cultural factors on postsecondary education transition of Arab American and Muslim students in Northern New Jersey* (Dissertation, Seton Hall University, South Orange, NJ). Retrieved from http://scholarship.shu.edu/dissertations/2126/

Khan, M.Y., Jamil, A., Khan, U.A. & Kareem, U. (2012). Association between participation in sports and academic achievement of college students. *International Journal of Academic Research in Business and Social Sciences, 2*(8). Retrieved from www.hrmcrs.com/admin/pics/1137.pdf

Khasawneh, M. & Yaseen, A. B. (2017). Critical success factors for e-learning satisfaction, Jordanian Universities' experience. *Journal of Business & Management, 5*(1), 56-69. Retrieved from http://www.centreofexcellence.net/J/JBM/Vol5/No1/Article4,pp56-69.pdf

Kim, E., Newton, F. B., Downey, R. G., & Benton, S. L. (2010). Personal factors impacting college student success: constructing College Learning Effectiveness Inventory (CLEI). *College Student Journal, 44*(1), 112-125. doi:1984269161.

Kirkup, C., Wheater, R., Schagen, I., Morrison, J., & Whetton, C. (2009). *Use of an aptitude test in university entrance: A validity study. 2008 update: Further analyses*

of SAT®. London: Department for Innovation, Universities and Skills. Retrieved from https://www.nfer.ac.uk/publications/VAU03/VAU03.pdf

Kish, A. (2003). Managing culture shock: Supporting first-generation transitions to higher education. *The Vermont Connection: Vol. 24*, Article 2. Retrieved from http://scholarworks.uvm.edu/tvc/vol24/iss1/2

Klasik, D. (2012). The college application gauntlet: A systematic analysis of the steps to four-year college enrollment. *Research in Higher Education, 53*(5), 506-549.

Kobrin, J. L., Sathy, V., & Shaw, E. J., (2007). *A historical view of subgroup performance differences on the SAT Reasoning Test*. New York, NY: College Board.

Koch, E., & Foxcroft, C. (2003). A developmental focus to admissions testing: Admissions and placement standards development. *South African Journal of Higher Education, 17*(3): 192-208.

Koch, E., Foxcroft, C., & Watson, A. (2001). A developmental focus to student access at the University of Port Elizabeth: Process and preliminary insights in placement assessment. *South African Journal of Higher Education, 15*(2): 126-131.

Krafona, K., (2014). A sense of belonging in a university community: A study of undergraduate students, *International Journal of Psychology and Behavioral Sciences*, 4(1), 16-20. doi: 10.5923/j.ijpbs.20140401.03

Krause, K. L., Hartley, R., James, R. & McInnis, C. (2005). *The first year experience in Australian universities: findings from a decade of natural studies.* University of Melbourne: Centre for the Study of Higher Education. Retrieved from http://pandora.nla.gov.au/pan/53649/20051111-0000/www.dest.gov.au/sectors/higher_education/publications_resources/profiles/FYEFinalReportforWebsiteMay06.pdf

Kvale, S. (1996*). Interviews: An introduction to qualitative research interviewing.* Thousand Oaks, CA: Sage.

Latief, A. (2005). *Throughput of UWC students who did at least one semester of third-year Statistics* (MSC Thesis, University of Western Cape).

Laxton, D. (2004). The research process. In D. Coldwell & F. Herbst (Eds.), *Business research* (pp. 25-91). Cape Town: Juta Academic.

Le Roux, N., & Sebolai, K. (2017). The National Benchmark Test of quantitative literacy: Does it complement the Grade 12 Mathematical Literacy examination?.

*South African Journal of Education, 37(*1), 1-11. Retrieved from https://dx.doi.org/10.15700/saje.v37n1a1350

Lee, J. J. (2002). Religion and college attendance: Change among students. *The Review of Higher Education, 25*(4), 369-384. Retrieved from http://muse.jhu.edu/article/30160/pdf

Lichtman, M. (2011). *Understanding and evaluating qualitative educational research.* Thousand Oaks, CA: Sage.

Luehrmann, A. (1982, March). Computer literacy. *The Computing Teacher*, pp. 24-26.

Lynch, S. A., & Simpson, C. G. (2010). Social skills: Laying the foundation for success. *Dimensions of Early Childhood, 38*(2), 3-11.

Macan, T. H., Shahani, C., Dipboye, R. L., Phillips, A. P. (1990). College students' time management: Correlations with academic performance and stress. *Journal of Educational Psychology, 82*(4), 760-768.

Makgato, M., & Mji, A. (2006). Factors associated with high school learners' poor performance: a spotlight on mathematics and physical science. *South African Journal of Education, 26*(20), 253-266. Retrieved from http://www.sajournalofeducation.co.za/index.php/saje/article/viewFile/80/55

Mangal, S. K., & Mangal, S. (2015). *Emotional intelligence: Managing emotions to win in life.* Delhi: PHI Learning.

Maree, J. G. (2015). Barriers to access to and success in higher education: Intervention guidelines. *South African Journal of Education, 29*(1), 390-411. Retrieved from http://www.repository.up.ac.za/dspace/bitstream/handle/2263/49810/Maree_Barriers_2015.pdf

McCoy, S., Smyth, E., Watson, D., & Darmody, M. (2014). *Leaving school in Ireland: A longitudinal study of post-school transitions*. Dublin: The Economic and Social Research Institute. Retrieved from https://www.esri.ie/pubs/RS36.pdf

McGhie, V. (2017). Entering university studies: identifying enabling factors for a successful transition from school to university*. Higher Education, 73*(3), 407–422.Retrieved from https://link.springer.com/article/10.1007/s10734-016-0100-2

McLeod, S. A. (2008). *Likert scale.* Retrieved from http://www.simplypsychology.org/likert-scale.html

Mendoza, H. J. B., & Hontiveros, E. P. (2017). Academic achievement, emotional intelligence and fluid intelligence as predictors of intrinsic career success of graduate students: Basis for career development program. *Asian Journal of Social Sciences and Humanities, Vol. 6*(1), 9-20. Retrieved from http://www.ajssh.leena-luna.co.jp/AJSSHPDFs/Vol.6(1)/AJSSH2017(6.1-02).pdf

Mertens, D. M. (1998). *Research methods in education and psychology: Integrating diversity with quantitative & qualitative approaches.* Thousand Oaks, CA: Sage.

Mertens, D. M. (2008). *Transformative research and evaluation.* New York: Guilford.

Mertens, D. M. (2010). *Research and evaluation in education and psychology: Integrating diversity with quantitative, qualitative, and mixed methods* (3rd edition). Thousand Oaks, CA: Sage.

Morrison, A., & Cowley, K. (2017). An exploration of factors associated with student attrition and success in enabling programs. *Issues in Educational Research, 27*(2) 330-346. Retrieved from http://www.iier.org.au/iier27/morison.pdf

Moser, C. A., & Kalton, G. (1971). *Survey methods in social investigation.* Aldershot: Gower.

Müller, A. (2013). *The predictive of Grade 12 and university access tests results for success in higher education* (Thesis, Stellenbosch University). Retrieved from http://scholar.sun.ac.za/bitstream/handle/10019.1/80235/muller_predictive_2013.pdf

Munsi, K., & Guha, D. (2014). Status of life skill education in teacher education curriculum of SAARC countries: A comparative evaluation. *Journal of Education & Social Policy, 1*(1) 93-99. Retrieved from http://jespnet.com/journals/Vol_1_No_1_June_2014/13.pdf

Murray, M. (2014). Factors affecting graduation and student dropout rates at the University of KwaZulu-Natal. *South African Journal of Science, 110*(11/12), 1-6. Retrieved from www.sajs.co.za/sites/default/files/publications/pdf/Murray_Research%20Article.pdf

Naidoo, P., Motala, N., & Joubert, R. W. E. (2013). Matriculation cored as an indicator of academic success in an Occupational Therapy Education Programme. *South Africa Journal of Occupational Therapy, 43*(1), 21-24. Retrieved from www.scielo.org.za/pdf.

National Research Council. (2005). *America's lab report: Investigations in high school science*. Washington, DC: The National Academies Press. Retrieved from https://doi.org/10.17226/11311

Nawaz, A., Ghafoor, M. M., & Manir, Y. (2016). The impact of project leadership and team work on project success. *International Journal of Humanities and Social Science, 6*(11), 270-278.

Nel, C., Troskie-de Bruin, C., & Bitzer, E. (2009). Students' transition from school to university: Possibilities for a pre-university intervention*. South African Journal of Higher Education, 23*(5), 974-991.

Norton, J. (2010). *Critiquing emotional intelligence in leadership studies*. Retrieved from https://jonathannorton.wordpress.com/2010/07/07/ctitiquing-emotional-intelligence-in-leadership-studies/

Olivier, B. (2009). Why OBE has not worked in South Africa. *Mail & Guardian*. Retrieved from http://thoughtleader.co.za/bertolivier/2009/09/05/why-obe-has-not-worked-in-South-Africa/

Onwu, G. O. M., & Sehoole, C. T. (2014). *Why teachers matter: Policy issues in the professional development of teachers in South Africa.* University of Pretoria. Retrieved from http://aadcice.hiroshima-u.ac.jp/e/publications/sosho4_2-10.pdf

Oppenheim, A. N. (1992). *Questionnaire design, interviewing and attitude measurement*. London: Bloomsbury.

Parker, J. D., Hogan, M. J., Eastabrook, J. M., Oke, A., & Wood, L. M. (2006). Emotional intelligence and student retention: Predicting the successful transition from high school to university. *Personality and Individual Differences*, *41*(7), 1329-1336.

Parry, A. (2012). *Poor throughput rates at university: a teaching or learning problem?* Retrieved from http://www.skillsportal.co.za/page/education/universities/1406474-Poor-throughput-rates-at-university-a-teaching-or-learning-problem

Parsons, S., Croft, T., & Harrison, M. (2011). Engineering students' self-confidence in mathematics mapped onto Bandura's self-efficacy. *Engineering Education, 6*(1), 52-61. Retrieved from: https://doi.org/10.11120/ened.2011.06010052

Pascarella, E. T., Pierson, C. T., Wolniak, G. C., & Terenzini, P. T. (2004). First-generation college students: Additional evidence on college experiences and outcomes. *The Journal of Higher Education*, *75*(3), 249-284. Retrieved from https://studentsuccess.unc.edu/files/2016/02/75.3pascarella-1.pdf

Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students: A third decade of research.* San Francisco, CA: Jossey-Bass.

Pasensie, K. (2012). *Barriers to access in higher education*. Briefing Paper 299, South African Catholic Bishops' Conference, September 2012.

Patton, M. Q. (1990). *Qualitative evaluation and research methods.* Newbury Park, CA: Sage.

Patton, M. Q. (2001). *Qualitative research and evaluation methods* (3rd edition). Thousand Oaks, CA: Sage.

Paulson, A. M. (2012) *Transition to college: Nonacademic factors that influence persistence for underprepared community college students* (Unpublished dissertation). University of Nebraska, Lincoln, NE. Retrieved from http://digitalcommons.unl.edu/cehsedaddiss/110

Pedro, Y. V. (2017). *Experiences and perceptions of life orientation teachers in guiding learners about nursing as a career of choice* (Doctoral dissertation, Stellenbosch University). Retrieved from http://scholar.sun.ac.za/bitstream/handle/10019.1/101302/pedro_experiences_2017.pdf

Pekrun, R., Cusack, A., Murayama, K., Elliot, A. J., Thomas, K. (2014). The power of anticipated feedback: Effects on students' achievement goals and achievement emotions. *Learning and Instruction, 29*, 115-124. Retrieved from http://eprints.bournemouth.ac.uk/21339/1/Learning%20and%20Instruction%20paper%20(Pekrun%20et%20al.,%202013).pdf

Prasad, V. V. (2012). *Students and sports: the association between participation in sports and academic achievement* (Doctoral dissertation, Massey University, Albany, New Zealand). Retrieved from https://mro.massey.ac.nz/bitstream/handle/10179/3352/02_whole.pdf

Pike, G. R., & Kuh, G. D. (2005). First –and-second-generation college students: a comparison of their engagement and intellectual development. *The Journal of Higher education, 76*(3), 276-300.

Price, M. (2008). Input from Vice-Chancellor. *Insight - Higher Education South Africa*. Retrieved from http://www.usaf.ac.za/wp-content/uploads/2016/09/HESA-Insight-No-1_October-20091.pdf

Prince, R. (2010). 'The National Benchmark Tests Project: 2010 Intake Report', presented at the Higher Education South Africa Consultative Forum, May 2010. Johannesburg.

Prinsloo, C. H. (2008). 'Extra classes, extra marks?': Report on the PlusTime project. Western Cape Education Department: Education Science and Skills Development (ESSD) Research Programme. Retrieved from http://repository.hsrc.ac.za/bitstream/handle/20.500.11910/5275/5411.pdf

Rahman, F., Jumani, N. B., Akhter, Y., Chisthi, S., & Ajmal, M. (2011). Relationship between training of teachers and effectiveness teaching. *International Journal of Business and Social Science, 2*(4), 150-160. Retrieved from http://www.ijbssnet.com/journals/Vol._2_No._4%3B_March_2011/18.pdf

Ramasubramanian, S. (2016). Mindfulness, stress coping and everyday resilience among emerging youth in a university setting: a mixed methods approach. *International Journal of Adolescence and Youth, 22*(3), 308-321. Retrieved from: https://doi.org/10.1080/02673843.2016.1175361

Rankin, N., Schoer, V., Sebastiao, C., & Van Walbeek, C. (2012). Predictors of academic performance: National Senior Certificate versus National Benchmark Test. *South African Journal of Higher Education, 26*(3), 564-583.

Rehman, A. U. (2016). Academic anxiety among higher education students of India, causes and preventive measures: An exploratory study. *International Journal of Modern Social Sciences, 5*(2), 102-116.

Rendón, L. I., Jalomo, R. E., & Nora, A. (2000). Theoretical considerations in the study of minority student retention in higher education. In J. M. Braxton (Ed.), *Reworking the student departure puzzle* (pp. 127-156). Nashville, TN: Vanderbilt University Press.

Robbins, S. B., Lauver, K., Le, H., Davis, D., Langley, R., Carlstrom, A. (2004). Do psychosocial and study skill factors predict college outcomes? A meta-analysis. *Psychological Bulletin, Vol 130*(2), 261-288. Retrieved from http://dx.doi.org/10.1037/0033-2909.130.2.261

Roble, J. (2017). *Poverty fact sheet: Financial barriers to college completion*. Institute for Research on Poverty, University of Wisconsin-Madison. Retrieved from https://www.irp.wisc.edu/publications/factsheets/pdfs/FactSheet12-CollegeBarriers.pdf

SACE (South African Council for Educators). (2010). *A review of teacher demand and supply.* Retrieved from http://sace.org.za/assets/documents/uploads/sace_29250-2016-08-31-A review on teacher demand and supply in South Africa.pdf

Santhi, N. (2011). Are extra classes the success behind high performance and marks?. *Educational Research and Reviews*, *6*(18), 935.

Schall, J., Wallace, T. L., & Chhuon, V. (2016). 'Fitting in' in high school: how adolescent belonging is influenced by locus of control beliefs. *International Journal of Adolescence and Youth, 21*(4), 462-475. Retrieved from https://doi.org/10.1080/02673843.2013.866148

Schlafly, P. (1993). What's wrong with Outcome-Based Education?. *The Phyllis Schlafly Report, 26*(10), 1-3.

Scott, I. (2014). Access, success and curriculum: Aspects of their relationship. In R. D. Dhunpath & R. Vithal (Eds.), *Alternative access to higher education: Underprepared students or underprepared institutions?* (pp. 149-165). Cape Town: Pearson Education.

Sevinç, S., & Gizir, C. A. (2014). Factors negatively affecting university adjustment from the views of first-year university students: The case of Mersin University. *Educational Sciences: Theory and Practice, 14*(4), 1301-1308. Retrieved from https://eric.ed.gov/?id=EJ1045063

Shelton, E. N. (2003). Faculty support and student retention. *The Journal of Nursing Education, 42*(2), 68-76.

Sherefat, R., & Murthy, C. G. V. (2016). A study of study habits and academic achievement among secondary and senior secondary school students of Mysore City. *The International Journal of Indian Psychology, 3*(2), 161-170. Retrieved from http://oaji.net/articles/2016/1170-1453806341.pdf

Shipman, N. J. (1983). *Effective time-management techniques for school administrators*. Englewood Cliffs, NJ: Prentice-Hall.

Smith, L. (2010). *Adoption of first year curriculum principles in support of an enhanced CSU student experience.* Bathurst: Charles Sturt University. Retrieved from http://www.csu.edu.au/student/transition/doc/introducing%20fye%20principles.pdf

Smith, W. L., & Zhang, P. (2010). The impact of key factors on the transition from high school to college among first- and second-generation students*. Journal of the First-Year Experience & Students in Transition, 22*(2), 49-70.

Stewart, A. N. (2016). *An assessment comparing community college students' computer self-efficacy and task based computer knowledge* (PhD dissertation, University of Southern Mississippi, Hattiesburg, MI). Retrieved from http://aquila.usm.edu/dissertations/354

Stewart, S. F. (2010). *An examination of pre-entry and academic performance factors that predict persistence for academically underprepared students at a public research university* (PhD dissertation, University of Oklahoma, Norman, OK). Retrieved from https://pqdtopen.proquest.com/doc/305218255.html?FMT=ABS

Steyn, M. G., Harris, T., & Hartell, C. G. (2014). Institutional factors that affect black South African students' perceptions of early childhood teacher education. *South African Journal of Education, 34*(3), 1-7. Retrieved from http://dx.doi.org/10.15700/201409161107

Streb, A. G. (2009). *A study of the association between high school student participation in co-curricular activities and academic achievement*. St. Louis, MI: University of Missouri-Saint Louis Press.

Strydom, J. F., Kuh, G., & Mentz, M. (2010). Enhancing success in South Africa's higher education: measuring student engagement. *Acta Academica, 42*(1), 259–278. Retrieved from http://scholar.ufs.ac.za:8080/xmlui/bitstream/handle/11660/2849/academ_v42_n1_a10.pdf

Tashakkori, A., & Teddlie, C. (1998). *Mixed methodology: Combining qualitative and quantitative approaches.* Thousand Oaks, CA. Sage.

Terenzini, P. T., & Reason, R. D. (2005, November). *Parsing the first year of college: A conceptual framework for studying college impacts.* Paper presented at the Annual Conference of the Association for the Study of Higher Education. Philadelphia, PA.

Terre Blanche, M., & Durrheim, K. (1999). Social constructionist methods. In M. Terre Blanche & K. Durrheim (Eds.), *Research in practice: Applied methods for the social sciences* (pp. 147-177). Cape Town: University of Cape Town Press.

Tett, L., Cree, V. E., & Christie, H. (2016). From further to higher education: Transition as an on-going process. *Higher Education, 73*(3), 389-406. doi:10.1007/s10734-016-0101-1

Thomas, L., Herbert, J. & Teras, M. (2014). A sense of belonging to enhance participation, success and retention in online programs. *The International Journal of the First Year in Higher Education, 5*(2), 69-80. doi:10.5204/intjfyhe.v5i2.233

Thomas, S. L. (2002). Ties that bind: a social network approach to understanding student integration and persistence*. Journal of Higher Education, 71*(5), 591-615. doi:10.2307/2649261

Tichapondwa, S. M. (2013). *Preparing your dissertation at a distance: A research guide.* Vancouver: Virtual University for Small States of the Commonwealth. Retrieved from http://www.sadc.int/files/3713/7821/2867/Dissertation_PDF.pdf

Tierney, W. G., & Venegas, K. M. (2005, April). The cultural ecology of financial aid*.* Paper presented at the annual meeting of the American Education Research Association, Montreal, Canada.

Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research, 45*(1), 89-125.

Tinto, V. (1993*).* Taking retention seriously: Rethinking the first year of college. *NACADA Journal, 19*(2), 5-9.

Trautwein, C., & Bosse, E. (2016). The first year in higher education – critical requirements from the student perspective. *Higher Education, 73*(3), 371–387. Retrieved from https://link.springer.com/article/10.1007/s10734-016-0098-5

Treynor, W. (2009). *Towards a general theory of social psychology: Understanding human cruelty, human misery and perhaps a remedy (a theory of the socialization process).* Redondo Beach, CA: Euphoria Press.

Trudeau, F., & Shepard, R. J. (2008). Physical education, school physical activity, school sports and academic performance. *International Journal of Behavioral Nutrition and Physical Activity, 5*(1), 10. Retrieved from https://doi.org/10.1186/1479-5868-5-10

Trusty, A., & Richetta, R. (2013). Poor training for new teachers does permanent harm to students. *The Baltimore Sun*. Retrieved from http://www.baltimoresun.com/news/opinion/oped/bs-ed-teacher-training-20130624-story.html

Tshiredo, L. L. (2013). *The impact of the curriculum change in the teaching and learning of science: A case study in under-resourced schools in Vhembe District.* Pretoria: University of South Africa. Retrieved from http://hdl.handle.net/10500/11893

UNICEF. (2003). *Definition of terms: life skills.* Retrieved from https://www.unicef.org/lifeskills/index_7308.html

UNICEF. (2012). *Global evaluation of life skills education programmes.* Retrieved from https://www.unicef.org/evaldatabase/index_66242.html

Veldman, F. J., De Wet, M. A., Mokhele, N. E. I., & Bouwer, W. A. J. (2012). *Can South African higher education institutions afford to avoid problem-based learning?* Bloemfontein: Central University of Technology.

Verma, S. (2015). *Development of life skills II*. New Delhi: Vikus Publishing. Retrieved from ISBN: 978-93259-8243-7

Walker, H. M. (1988). *The Walker social skills curriculum: The ACCESS program, adolescent curriculum for communication and effective social skills.* Austin, TX: Pro-Ed.

Walliman, N. (2005). *Research methods: the basics.* London: Taylor & Francis. Retrieved from https://edisciplinas.usp.br/pluginfile.php/2317618/mod_resource/content/1/BLOCO%202_Research%20Methods%20The%20Basics.pdf

Wangeri, T., Kimani, E., & Mutweleli, S. M. (2012). Transitional challenges facing university first year students in Kenyan public universities: a case of Kenyatta University. *Interdisciplinary Review of Economics and Management, 2*(1), 41-50. Retrieved from http://www.ku.ac.ke/schools/humanities/images/stories/docs/Research/trannsitional-challenges-facing-first-year-students.pdf

Wedekind, V. (2013). *Cut them off at the pass!* A discussion document for Umalusi on the NSC pass mark. Pretoria: Umalusi.

Wilson, N. W., & McClean, S. I. (1994). *Questionnaire design: a practical introduction*. Ulster: University of Ulster.

Wilson-Strydom, M. (2010). Traversing the chasm from school to university in South Africa: A student perspective. *Tertiary Education and Management, 16*(4), 313-325.

Wingate, U. (2007). A framework for transition: Supporting 'learning to learn' in higher education. *Higher Education Quarterly, 61*(3): 391–405. doi:10.1111/j.1468-2273.2007.00361.x

Wood, L. A., & Olivier, M. A. J. (2004). A self-efficacy approach to holistic student development. *South African Journal of Education, 24*(4), 289-294. Retrieved from https://www.ajol.info/index.php/saje/article/view/25003

Wormeli, R. (2006). Accountability: Teaching through assessment and feedback, not grading. *American Secondary Education, 34*(3), 14-27.

Wu, H., Garza, E., & Guzman, N. (2015). International student's challenge and adjustment to college. *Education Research International,* (2015), 1-9. Retrieved from http://dx.doi.org/10.1155/2015/202753

Yeld, N. (2009). *National benchmark tests project as a national service to higher education: Summary report, June 2009*. Pretoria: Higher Education South Africa.

Yürekli, A. (2012). An analysis of curriculum renewal in EAP context. *International Journal of Instruction, 5*(1), 49-68. Retrieved from http://www.e-iji.net/dosyalar/iji_2012_1_3.pdf

Zepke, N., & Leach, L. (2005). Integration and adaptation: Approaches to the student retention and achievement puzzle. *Active Learning in Higher Education, 6*(1), 46-59. doi:10.1177/1469787405049946

Zepke, N., & Leach, L. (2010). Improving student engagement: Ten proposals for action. *Active Learning in Higher Education, 11*(3), 167-177. Retrieved from https://doi.org/10.1177/1469787410379680

Zhou, Y., Jindal-Snape, D., Topping, K., & Todman, J. (2008). Theoretical models of culture shock and adaptation in international students in higher education. *Studies in Higher Education, 33*(1), 63-75. doi:10.1080/03075070701794833

Zia-ul-Islam, S., Khan, S., & Khan, A. (2016). Parental constraints in the way of sports participation among the secondary students of Khyber Pakhtunkhwa, Pakistan. *Journal of Physical Education Research, 3*(3), 66-72.

Zikhali, J., & Bokana, K. G. (2014). Critical reflections on management studies' access initiative. In R. D. Dhunpath & R. Vithal (Eds.), *Alternative access to higher education: Underprepared students or underprepared institutions?* (pp. 149-165). Cape Town: Pearson Education.

ANNEXURES

ANNEXURE A: Online questionnaire

Dear JuniorTukkie. Thank you for agreeing to be part of my PhD research, and for allowing me to conduct my research. I am investigating the factors that influence the transition from high school to higher education: the case of the JuniorTukkie programme. Due to the fact that you were part of the JuniorTukkie Development week, currently known as the Empowerment week, your participation in the completion of the online questionnaire will assist me in completing my research, and assist us in defining the programme for future JuniorTukkies. The questionnaire consists of several questions, and the entire survey should take approximately 10 minutes to complete. Remember your participation is very important and greatly appreciated.

Question 1: Gender

- ❍ Male
- ❍ Female

Question 2: Age in January 2016

- ❍ 17
- ❍ 18
- ❍ 19
- ❍ 20
- ❍ 21
- ❍ 22
- ❍ 23
- ❍ 24
- ❍ 25 or older

Question 3: Please indicate if you are a South African citizen.

- ❍ YES
- ❍ NO

If YES is selected, then skip to: 'Please provide us with your ID number'
If NO is selected, then skip to: 'Please provide us with your passport number'

Question 4: Please provide us with your ID number (South African citizens). (Please check that you typed your correct ID number.)

If 'Please provide us with your ID Number' is displayed, then skip to who of your parents studied at a tertiary institution.

Question 5: Please provide us with your passport number (non-South African). (Please re-check that you typed the correct passport number.)

If 'Please provide us with your passport number' is displayed, then skip to who of your parents studied at a tertiary institution.

Question 6: Which of your parents studied at a tertiary institution?

- ❍ Mother
- ❍ Father
- ❍ Both
- ❍ No one

Question 7: Please indicate your home language

- ❍ Afrikaans
- ❍ English
- ❍ Ndebele
- ❍ Northern Sotho
- ❍ Sotho
- ❍ Swazi
- ❍ Tsonga
- ❍ Venda
- ❍ Xhosa
- ❍ Zulu
- ❍ Tswana
- ❍ Chinese
- ❍ Other

Question 8: Indicate if English is your ……

- ❍ Home Language
- ❍ First Additional Language
- ❍ Second Additional Language
- ❍ Third Additional Language

Question 9: In which year did you attend the JuniorTukkie Grade 11 Development (Empowerment) week at the University of Pretoria?

- ❍ 2009
- ❍ 2010
- ❍ 2011
- ❍ 2012
- ❍ 2013

Question 10: With regards to tertiary studies, please indicate your current status:

- ❍ Busy with undergraduate studies
- ❍ I completed my degree
- ❍ Busy with postgraduate studies
- ❍ I discontinued my studies and I am working
- ❍ I did apply for tertiary studies but was unsuccessful with my application.
- ❍ I never applied for tertiary studies at higher education.

If 'Busy with undergraduate studies' is selected, then skip to: Indicate the tertiary institution you are busy studying at. If 'I completed my degree' is selected, then skip to: Indicate the tertiary institution you are busy studying at. If 'Busy with postgraduate studies' is selected, then skip to: Indicate the tertiary institution you are busy studying at. If 'I discontinued my studies and I am working' is selected, then skip to: If you discontinued your studies after. If 'I did apply for tertiary studies...' is selected, then skip to: If you applied for undergraduate studies. If 'I never applied for tertiary studies...' is selected, then skip to: If you never applied for studies at a...

Question 11: If you applied for undergraduate studies but were unsuccessful with your application, indicate the reason(s) why you were unsuccessful.

- ❍ I did not meet the minimum requirements to study for a degree or diploma at a higher education institution.
- ❍ I did not meet the minimum National Benchmark Test (NBT) requirements set by the faculty.
- ❍ My application was unsuccessful because no space was available in the study field I wanted to study.

If 'I did not meet the minimum requirements to study for a degree or diploma at a higher education institution' is selected, then skip to end of survey. If 'I did not meet the minimum National Benchmark Test (NBT) requirements set by the faculty' is selected, then skip to end of survey. If 'My application was unsuccessful because no space was available in the study field I wanted to study' is selected, then skip to end of survey.

Question 12: If you never applied for studies at a tertiary institution, indicate the reason why you did not apply.

- ❍ Due to financial constraints
- ❍ I did not meet the minimum NSC/IEB requirements to study for a degree or diploma at a tertiary institution.
- ❍ I did not meet the faculty specific requirements to study my preferred study programme.
- ❍ Other: Please specify _____

If 'Due to financial constraints' is selected, then skip to end of survey. If 'I did not meet the minimum NSC/IEB requirements to study for a degree or diploma at a tertiary institution' is selected, then skip to end of survey. If 'I did not meet the faculty specific requirements to study my preferred study programme' is selected, then skip to end of survey. If 'Other: Please specify' is not empty, then skip to end of survey.

Question13: Indicate the tertiary institution you are busy studying at:

- ❍ University of Pretoria (1)
- ❍ University of Cape Town (2)
- ❍ University of Stellenbosch (3)
- ❍ Wits (4)
- ❍ Medunsa (5)
- ❍ KwaZulu-Natal (6)
- ❍ Limpopo (7)
- ❍ North West (8)
- ❍ Unisa (9)
- ❍ Other: Please specify (10) _____

If 'University of Pretoria' is selected, then skip to: Please indicate your first choice of study. If 'University of Cape Town' is selected, then skip to: Please indicate your first choice of study. If 'University of Stellenbosch' is selected, then skip to: Please indicate your first choice of study. If 'Wits' is selected, then skip to: Please indicate your first choice of study. If 'Medunsa' is selected, then skip to: Please indicate your first choice of study. If 'KwaZulu-Natal' is selected, then skip to: Please indicate your first choice of study. If 'Limpopo' is selected, then skip to: Please indicate your first choice of study. If 'North West' is selected, then skip to: Please indicate your first choice of study. If 'Unisa' is selected, then skip to: Please indicate your first choice of study. If 'Other: Please specify' is selected, then skip to: Please indicate your first choice of study.

Question 14: Indicate the tertiary institution you graduated from if you completed your study.

- ❍ University of Pretoria (1)
- ❍ University of Cape Town (2)
- ❍ University of Stellenbosch (3)
- ❍ Wits (4)
- ❍ Medunsa (5)
- ❍ KwaZulu-Natal (6)
- ❍ Limpopo (7)
- ❍ North West (8)
- ❍ Unisa (9)
- ❍ Other: Please specify (10)

If 'University of Pretoria' is selected, then skip to: Please indicate your first choice of study. If 'University of Cape Town' is selected, then skip to: Please indicate your first choice of study. If 'University of Stellenbosch' is selected, then skip to: Please indicate your first choice of study. If 'Wits' is selected, then skip to: Please indicate your first choice of study. If 'Medunsa' is selected, then skip to: Please indicate your first choice of study. If 'KwaZulu-Natal' is selected, then skip to: Please indicate your first choice of study. If 'Limpopo' is selected, then skip to: Please indicate your first choice of study. If 'North West' is selected, then skip to: Please indicate your first choice of study. If 'Unisa' is selected, then skip to: Please indicate your first choice of study. If 'Other: Please specify' is selected, then skip to: Please indicate your first choice of study.

Question15: Indicate the tertiary institution you studied at if you discontinued your studies:

- ❍ University of Pretoria (1)
- ❍ University of Cape Town (2)
- ❍ University of Stellenbosch (3)
- ❍ Wits (4)
- ❍ Medunsa (5)
- ❍ KwaZulu-Natal (6)
- ❍ Limpopo (7)
- ❍ North West (8)
- ❍ Unisa (9)
- ❍ Other: please specify (10)

Question16: Please indicate your first choice of study that you applied for at a tertiary institution.

- BAdmin (Public Management) (2)
- BCom (3)
- BCom Option: Supply Chain Management (4)
- BCom (Accounting Sciences) (5)
- BCom (Agribusiness Management) (6)
- BCom (Business Management) (7)
- BCom (Communication Management) (8)
- BCom (Econometrics) (9)
- BCom (Economics) (10)
- BCom (Entrepreneurship) (11)
- BCom (Financial Sciences) (12)
- BCom (Human Resource Management) (13)
- BCom (Informatics) (14)
- BCom (Investment Management) (15)
- BCom (Law) (16)
- BCom (Marketing Management) (17)
- BCom (Recreation and Sport Management) (18)
- BCom (Statistics) (19)
- MBChB – Bachelor of Medicine and Surgery (20)
- BChD – Bachelor of Dentistry (21)
- BCur – Bachelor of Nursing Science (22)
- BDietetics – Bachelor of Dietetics (23)
- BOccTher – Bachelor of Occupational Therapy (24)
- BOH – Bachelor of Oral Hygiene (25)
- BPhysT – Bachelor of Physiotherapy (26)
- BRad – Bachelor of Radiography (27)
- BClinical Medical Practice – Bachelor of Clinical Medical Practice (28)
- BA Sport and Leisure Studies Option: Sport and Recreation Management (29)
- BSportSci – Bachelor of Sport Sciences Option: Sport Psychology (30)
- BSportSci – Bachelor of Sport Sciences Option: Sport and Leisure in Society (31)
- BSportSci – Bachelor of Sport Sciences Option: Sport Coaching Sciences (32)
- BDiv – Bachelor of Divinity (for admission to MDiv studies) (33)
- BTh – Bachelor of Theology (34)
- DipTheol – University Diploma in Theology (35)
- BConsumer Science (Hospitality Management) (36)
- BConsumer Science (Clothing: Retail Management) (37)
- BConsumer Science (Foods: Retail Management) (38)
- BSc (Actuarial and Financial Mathematics) (39)
- BScAgric (Agricultural Economics/Agribusiness Management) (40)
- BScAgric (Animal Science) (41)

- BScAgric (Animal Science/Pasture Science) (42)
- BScAgric (Applied Plant and Soil Sciences) (43)
- BScAgric (Food Science and Technology) (44)
- BScAgric (Plant Pathology) (45)
- BSc (Applied Mathematics) (46)
- BSc (Biochemistry) (47)
- BSc (Biological Sciences) (48)
- BSc (Biotechnology) (49)
- BSc (Chemistry) (50)
- BSc (Ecology) (51)
- BSc (Entomology) (52)
- BSc (Environmental and Engineering Geology) (53)
- BSc (Environmental Sciences) (54)
- BSc (Food Management) (55)
- BSc (Food Science) (56)
- BSc (Genetics) (57)
- BSc (Geography) (58)
- BSc (Geoinformatics) (59)
- BSc (Geology) (60)
- BSc (Human Genetics) (61)
- BSc (Human Physiology) (62)
- BSc (Human Physiology, Genetics and Psychology) (63)
- BSc (Mathematical Statistics) (64)
- BSc (Mathematics) (65)
- BSc (Medical Sciences) (66)
- BSc (Meteorology) (67)
- BSc (Microbiology) (68)
- BSc (Nutrition) Nutritional Sciences (69)
- BSc (Physics) (70)
- BSc (Plant Science) (71)
- BSc (Zoology) (72)
- BA Languages (73)
- BA (Drama) (74)
- BA Fine Arts (75)
- BSocSci (Philosophy, Politics and Economics) (76)
- BA Information Design (77)
- BA (Law) (78)
- BA (Music) (79)
- BA – General (80)
- BA (Visual Studies) (81)
- BPolSci (International Studies) (82)
- BPolSci (Political Studies) (83)
- BA (Audiology) (84)
- BA (Speech-Language Pathology) (85)

- BHCS (Heritage and Cultural Tourism) (86)
- BMus (87)
- BSW – Bachelor of Social Work (88)
- BSocSci (Industrial Sociology and Labour Studies) (89)
- BA Sport and Leisure Studies Option: Sport and Recreation (90)
- BA Sport and Leisure Studies Option: Sport Psychology (91)
- BA Sport and Leisure Studies Option: Sport and Leisure in Society (92)
- BA Sport and Leisure Studies Option: Sport Coaching Sciences (93)
- BEng (Chemical Engineering) (94)
- BEng (Civil Engineering) (95)
- BEng (Computer Engineering) (96)
- BEng (Electrical Engineering) (97)
- BEng (Electronic Engineering) (98)
- BEng (Industrial Engineering) (99)
- BEng (Mechanical Engineering) (100)
- BEng (Metallurgical Engineering) (101)
- BEng (Mining Engineering) (102)
- BIT – Bachelor of Information Technology (103)
- BIS (Information Science) (104)
- BIS (Multimedia) (105)
- BIS (Publishing) (106)
- BScArch – Architecture (107)
- BSc (Computer Science) (108)
- BSc Construction Management (109)
- BScInt – Interior Architecture (110)
- BSc IT (Information and Knowledge Systems) (111)
- BScLArch – Landscape Architecture (112)
- BSc – Quantity Surveying (113)
- BSc Real Estate (114)
- BT&RP – Bachelor of Town and Regional Planning (115)
- LLB (116)
- BEd (Early Childhood Development and Foundation Phase) – Pre-primary to Grade 3 (117)
- BEd (Intermediate Phase) – Grades 4-6 (118)
- BEd (Senior Phase) – Grades 7-9 (119)
- BEd (FET) (General) – Grades 10-12 (120)
- BEd (FET) (Human Movement Sciences and Sport Management) – Grades 10-12 (121)
- BEd (FET) (Natural Sciences) – Grades 10-12 (122)
- BEd (FET) (Economic and Management Sciences) – Grades 10-12 (123)
- BVSc (Bachelor’s degree in Veterinary Science) (124)
- DipVetNurs (Diploma in Veterinary Nursing) (125)
- Other: Please specify (128)

Question 17: Please indicate your second study choice that you applied for at a tertiary institution.

- ❍ BAdmin (Public Management) (2)
- ❍ BCom (3)
- ❍ BCom Option: Supply Chain Management (4)
- ❍ BCom (Accounting Sciences) (5)
- ❍ BCom (Agribusiness Management) (6)
- ❍ BCom (Business Management) (7)
- ❍ BCom (Communication Management) (8)
- ❍ BCom (Econometrics) (9)
- ❍ BCom (Economics) (10)
- ❍ BCom (Entrepreneurship) (11)
- ❍ BCom (Financial Sciences) (12)
- ❍ BCom (Human Resource Management) (13)
- ❍ BCom (Informatics) (14)
- ❍ BCom (Investment Management) (15)
- ❍ BCom (Law) (16)
- ❍ BCom (Marketing Management) (17)
- ❍ BCom (Recreation and Sport Management) (18)
- ❍ BCom (Statistics) (19)
- ❍ MBChB – Bachelor of Medicine and Surgery (20)
- ❍ BChD – Bachelor of Dentistry (21)
- ❍ BCur – Bachelor of Nursing Science (22)
- ❍ BDietetics – Bachelor of Dietetics (23)
- ❍ BOccTher – Bachelor of Occupational Therapy (24)
- ❍ BOH – Bachelor of Oral Hygiene (25)
- ❍ BPhysT – Bachelor of Physiotherapy (26)
- ❍ BRad – Bachelor of Radiography (27)
- ❍ BClinical Medical Practice – Bachelor of Clinical Medical Practice (28)
- ❍ BA Sport and Leisure Studies Option: Sport and Recreation Management (29)
- ❍ BSportSci – Bachelor of Sport Sciences Option: Sport Psychology (30)
- ❍ BSportSci – Bachelor of Sport Sciences Option: Sport and Leisure in Society (31)
- ❍ BSportSci – Bachelor of Sport Sciences Option: Sport Coaching Sciences (32)
- ❍ BDiv – Bachelor of Divinity (for admission to MDiv studies) (33)
- ❍ BTh – Bachelor of Theology (34)
- ❍ DipTheol – University Diploma in Theology (35)
- ❍ BConsumer Science (Hospitality Management) (36)
- ❍ BConsumer Science (Clothing: Retail Management) (37)
- ❍ BConsumer Science (Foods: Retail Management) (38)
- ❍ BSc (Actuarial and Financial Mathematics) (39)
- ❍ BScAgric (Agricultural Economics/Agribusiness Management) (40)
- ❍ BScAgric (Animal Science) (41)

- BScAgric (Animal Science/Pasture Science) (42)
- BScAgric (Applied Plant and Soil Sciences) (43)
- BScAgric (Food Science and Technology) (44)
- BScAgric (Plant Pathology) (45)
- BSc (Applied Mathematics) (46)
- BSc (Biochemistry) (47)
- BSc (Biological Sciences) (48)
- BSc (Biotechnology) (49)
- BSc (Chemistry) (50)
- BSc (Ecology) (51)
- BSc (Entomology) (52)
- BSc (Environmental and Engineering Geology) (53)
- BSc (Environmental Sciences) (54)
- BSc (Food Management) (55)
- BSc (Food Science) (56)
- BSc (Genetics) (57)
- BSc (Geography) (58)
- BSc (Geoinformatics) (59)
- BSc (Geology) (60)
- BSc (Human Genetics) (61)
- BSc (Human Physiology) (62)
- BSc (Human Physiology, Genetics and Psychology) (63)
- BSc (Mathematical Statistics) (64)
- BSc (Mathematics) (65)
- BSc (Medical Sciences) (66)
- BSc (Meteorology) (67)
- BSc (Microbiology) (68)
- BSc (Nutrition) Nutritional Sciences (69)
- BSc (Physics) (70)
- BSc (Plant Science) (71)
- BSc (Zoology) (72)
- BA Languages (73)
- BA (Drama) (74)
- BA Fine Arts (75)
- BSocSci (Philosophy, Politics and Economics) (76)
- BA Information Design (77)
- BA (Law) (78)
- BA (Music) (79)
- BA – General (80)
- BA (Visual Studies) (81)
- BPolSci (International Studies) (82)
- BPolSci (Political Studies) (83)
- BA (Audiology) (84)
- BA (Speech-Language Pathology) (85)

- BHCS (Heritage and Cultural Tourism) (86)
- BMus (87)
- BSW – Bachelor of Social Work (88)
- BSocSci (Industrial Sociology and Labour Studies) (89)
- BA Sport and Leisure Studies Option: Sport and Recreation (90)
- BA Sport and Leisure Studies Option: Sport Psychology (91)
- BA Sport and Leisure Studies Option: Sport and Leisure in Society (92)
- BA Sport and Leisure Studies Option: Sport Coaching Sciences (93)
- BEng (Chemical Engineering) (94)
- BEng (Civil Engineering) (95)
- BEng (Computer Engineering) (96)
- BEng (Electrical Engineering) (97)
- BEng (Electronic Engineering) (98)
- BEng (Industrial Engineering) (99)
- BEng (Mechanical Engineering) (100)
- BEng (Metallurgical Engineering) (101)
- BEng (Mining Engineering) (102)
- BIT – Bachelor of Information Technology (103)
- BIS (Information Science) (104)
- BIS (Multimedia) (105)
- BIS (Publishing) (106)
- BScArch – Architecture (107)
- BSc (Computer Science) (108)
- BSc Construction Management (109)
- BScInt – Interior Architecture (110)
- BSc IT (Information and Knowledge Systems) (111)
- BScLArch – Landscape Architecture (112)
- BSc – Quantity Surveying (113)
- BSc Real Estate (114)
- BT&RP – Bachelor of Town and Regional Planning (115)
- LLB (116)
- BEd (Early Childhood Development and Foundation Phase) – Pre-primary to Grade 3 (117)
- BEd (Intermediate Phase) – Grades 4-6 (118)
- BEd (Senior Phase) – Grades 7-9 (119)
- BEd (FET) (General) – Grades 10-12 (120)
- BEd (FET) (Human Movement Sciences and Sport Management) – Grades 10-12 (121)
- BEd (FET) (Natural Sciences) – Grades 10-12 (122)
- BEd (FET) (Economic and Management Sciences) – Grades 10-12 (123)
- BVSc (Bachelor’s degree in Veterinary Science) (124)
- DipVetNurs (Diploma in Veterinary Nursing) (125)
- Other: Please specify (127)
- Did not select a second choice of study career (128)

Question 18: For which study field did you register after you were admitted?

- ❍ BAdmin (Public Management) (2)
- ❍ BCom (3)
- ❍ BCom Option: Supply Chain Management (4)
- ❍ BCom (Accounting Sciences) (5)
- ❍ BCom (Agribusiness Management) (6)
- ❍ BCom (Business Management) (7)
- ❍ BCom (Communication Management) (8)
- ❍ BCom (Econometrics) (9)
- ❍ BCom (Economics) (10)
- ❍ BCom (Entrepreneurship) (11)
- ❍ BCom (Financial Sciences) (12)
- ❍ BCom (Human Resource Management) (13)
- ❍ BCom (Informatics) (14)
- ❍ BCom (Investment Management) (15)
- ❍ BCom (Law) (16)
- ❍ BCom (Marketing Management) (17)
- ❍ BCom (Recreation and Sport Management) (18)
- ❍ BCom (Statistics) (19)
- ❍ MBChB – Bachelor of Medicine and Surgery (20)
- ❍ BChD – Bachelor of Dentistry (21)
- ❍ BCur – Bachelor of Nursing Science (22)
- ❍ BDietetics – Bachelor of Dietetics (23)
- ❍ BOccTher – Bachelor of Occupational Therapy (24)
- ❍ BOH – Bachelor of Oral Hygiene (25)
- ❍ BPhysT – Bachelor of Physiotherapy (26)
- ❍ BRad – Bachelor of Radiography (27)
- ❍ BClinical Medical Practice – Bachelor of Clinical Medical Practice (28)
- ❍ BA Sport and Leisure Studies Option: Sport and Recreation Management (29)
- ❍ BSportSci – Bachelor of Sport Sciences Option: Sport Psychology (30)
- ❍ BSportSci – Bachelor of Sport Sciences Option: Sport and Leisure in Society (31)
- ❍ BSportSci – Bachelor of Sport Sciences Option: Sport Coaching Sciences (32)
- ❍ BDiv – Bachelor of Divinity (for admission to MDiv studies) (33)
- ❍ BTh – Bachelor of Theology (34)
- ❍ DipTheol – University Diploma in Theology (35)
- ❍ BConsumer Science (Hospitality Management) (36)
- ❍ BConsumer Science (Clothing: Retail Management) (37)
- ❍ BConsumer Science (Foods: Retail Management) (38)
- ❍ BSc (Actuarial and Financial Mathematics) (39)
- ❍ BScAgric (Agricultural Economics/Agribusiness Management) (40)
- ❍ BScAgric (Animal Science) (41)
- ❍ BScAgric (Animal Science/Pasture Science) (42)

- BScAgric (Applied Plant and Soil Sciences) (43)
- BScAgric (Food Science and Technology) (44)
- BScAgric (Plant Pathology) (45)
- BSc (Applied Mathematics) (46)
- BSc (Biochemistry) (47)
- BSc (Biological Sciences) (48)
- BSc (Biotechnology) (49)
- BSc (Chemistry) (50)
- BSc (Ecology) (51)
- BSc (Entomology) (52)
- BSc (Environmental and Engineering Geology) (53)
- BSc (Environmental Sciences) (54)
- BSc (Food Management) (55)
- BSc (Food Science) (56)
- BSc (Genetics) (57)
- BSc (Geography) (58)
- BSc (Geoinformatics) (59)
- BSc (Geology) (60)
- BSc (Human Genetics) (61)
- BSc (Human Physiology) (62)
- BSc (Human Physiology, Genetics and Psychology) (63)
- BSc (Mathematical Statistics) (64)
- BSc (Mathematics) (65)
- BSc (Medical Sciences) (66)
- BSc (Meteorology) (67)
- BSc (Microbiology) (68)
- BSc (Nutrition) Nutritional Sciences (69)
- BSc (Physics) (70)
- BSc (Plant Science) (71)
- BSc (Zoology) (72)
- BA Languages (73)
- BA (Drama) (74)
- BA Fine Arts (75)
- BSocSci (Philosophy, Politics and Economics) (76)
- BA Information Design (77)
- BA (Law) (78)
- BA (Music) (79)
- BA – General (80)
- BA (Visual Studies) (81)
- BPolSci (International Studies) (82)
- BPolSci (Political Studies) (83)
- BA (Audiology) (84)
- BA (Speech-Language Pathology) (85)
- BHCS (Heritage and Cultural Tourism) (86)

- BMus (87)
- BSW – Bachelor of Social Work (88)
- BSocSci (Industrial Sociology and Labour Studies) (89)
- BA Sport and Leisure Studies Option: Sport and Recreation (90)
- BA Sport and Leisure Studies Option: Sport Psychology (91)
- BA Sport and Leisure Studies Option: Sport and Leisure in Society (92)
- BA Sport and Leisure Studies Option: Sport Coaching Sciences (93)
- BEng (Chemical Engineering) (94)
- BEng (Civil Engineering) (95)
- BEng (Computer Engineering) (96)
- BEng (Electrical Engineering) (97)
- BEng (Electronic Engineering) (98)
- BEng (Industrial Engineering) (99)
- BEng (Mechanical Engineering) (100)
- BEng (Metallurgical Engineering) (101)
- BEng (Mining Engineering) (102)
- BIT – Bachelor of Information Technology (103)
- BIS (Information Science) (104)
- BIS (Multimedia) (105)
- BIS (Publishing) (106)
- BScArch – Architecture (107)
- BSc (Computer Science) (108)
- BSc Construction Management (109)
- BScInt – Interior Architecture (110)
- BSc IT (Information and Knowledge Systems) (111)
- BScLArch – Landscape Architecture (112)
- BSc – Quantity Surveying (113)
- BSc Real Estate (114)
- BT&RP – Bachelor of Town and Regional Planning (115)
- LLB (116)
- BEd (Early Childhood Development and Foundation Phase) – Pre-primary to Grade 3 (117)
- BEd (Intermediate Phase) – Grades 4-6 (118)
- BEd (Senior Phase) – Grades 7-9 (119)
- BEd (FET) (General) – Grades 10-12 (120)
- BEd (FET) (Human Movement Sciences and Sport Management) – Grades 10-12 (121)
- BEd (FET) (Natural Sciences) – Grades 10-12 (122)
- BEd (FET) (Economic and Management Sciences) – Grades 10-12 (123)
- BVSc (Bachelor’s degree in Veterinary Science) (124)
- DipVetNurs (Diploma in Veterinary Nursing) (125)
- Other: Please specify (127)

Question 19: Are you still a registered student?

- ❍ Yes (3)
- ❍ No (4)

If 'Yes' is selected, then skip to: If you are still an undergraduate student. If 'No' is selected, then skip to: If you discontinued your studies after...

Question 20: If you are still a registered student, please select one of the following:

- ❍ I am an undergraduate student (1)
- ❍ I am a postgraduate student (2)

If 'I am an undergraduate student' is selected, then skip to: If you are still an undergraduate student. If 'I am a postgraduate student' is selected, then skip to: If you are busy with postgraduate studies.

Q21: If you are still an undergraduate student, in which year of study are you currently?

- ❍ First year (1)
- ❍ Second year (2)
- ❍ Third year (3)
- ❍ Fourth year (4)
- ❍ Fifth year or more (5)

If 'First year' is selected, then skip to: Please indicate which of the following. If 'Second year' is selected, then skip to: Please indicate if you changed your studies. If 'Third year' is selected, then skip to: Please indicate if you changed your studies. If 'Fourth year' is selected, then skip to: Please indicate if you changed your studies. If 'Fifth year or more' is selected, then skip to: Please indicate if you changed your studies.

Question 22: If you are busy with postgraduate studies, in which year of study are you currently?

- ❍ First year (1)
- ❍ Second year (2)
- ❍ Third year (3)
- ❍ Fourth year (4)

If 'First year' is selected, then skip to: Please indicate which of the following. If 'Second year' is selected, then skip to: Please indicate if you changed your studies. If 'Third year' is selected, then skip to: Please indicate if you changed your studies. If 'Fourth year' is selected, then skip to: Please indicate if you changed your studies.

Question 23: If you discontinued your studies after registration, what was the reason?

- ❍ Financial reasons (1)
- ❍ Wrong study choice (2)
- ❍ Did not pass the required subjects (3)
- ❍ Personal reasons (4)
- ❍ Other: Please specify (5) _____

If 'Financial reasons' is selected, then skip to end of survey. If 'Wrong study choice' is selected, then skip to end of survey. If 'Did not pass the required subjects' is selected, then skip to end of survey. If 'Personal reasons' is selected, then skip to end of survey.

Question 24: Please indicate if you changed your study programme during your undergraduate study years.

- ❍ Yes (1)
- ❍ No (2)

If 'Yes' is selected, then skip to: Please indicate in which year you changed your study programme. If 'No' is selected, then skip to: Indicate the number of years it took you to successfully complete your first year of your undergraduate studies.

Question 25: Please indicate in which year you changed your study programme.

- ❍ First (1)
- ❍ Second (2)
- ❍ Third (3)
- ❍ Fourth (4)

Question 26: Indicate the number of years it took you to successfully complete your first year of your undergraduate studies.

- ❍ One year (1)
- ❍ Two years (2)
- ❍ Three years (3)
- ❍ Four or more years (4)

If 'One year' is selected, then skip to: Name 3 (three) factors that contribute to the successful completion of your first year of studies in year ONE. If 'Two years' is selected, then skip to: Please indicate which of the following interventions (pre-arrival activities) assisted you in making the correct study or career choice. If 'Three years' is selected, then skip to: Please indicate which of the following interventions (pre-arrival activities) assisted you in making the correct study or career choice. If 'Four or more years' is selected, then skip to: Please indicate which of the following interventions (pre-arrival activities) assisted you in making the correct study or career choice.

Question 27: Name 3 (three) factors that contributed to the successful completion of your first year of studies in year ONE.

- ❑ Click to write factor 1 (1) _____
- ❑ Click to write factor 2 (2) _____
- ❑ Click to write factor 3 (3) _____

Question 28: Please indicate which of the following interventions (pre-arrival activities) assisted you in making the correct study or career choice. You may choose one or more applicable answers.

- ❑ Advice by a Life Orientation teacher at high school (1)
- ❑ Advice by parents (2)
- ❑ Advice by a senior student advisor (3)
- ❑ Open days at tertiary institution (4)
- ❑ Psychometric testing done by a psychologist (5)
- ❑ Career Interest Profiler test (CIP) during the JT initiative (6)
- ❑ PACE career test (7)
- ❑ Sourced additional information regarding my study field from specialists in the field (8)
- ❑ Contact with students at university (9)
- ❑ Job shadowing (10)

Question 29: Please indicate to what extent you agree with the following statement:

	Strongly disagree (1)	Disagree (2)	Agree (3)	Strongly Agree (4)
My Grade 10-12 teachers had adequate training in all subjects they taught. (1)	❍	❍	❍	❍
My Grade 10-12 Mathematics teachers had adequate training in teaching the subject. (2)	❍	❍	❍	❍
My Grade 10-12 Physical Science teachers had adequate training in teaching the subject. (3)	❍	❍	❍	❍
My Grade 10-12 English teachers had adequate training in teaching the subject. (4)	❍	❍	❍	❍

Question 30: Please indicate your end of year examination results in:

Grade 11 (1) _____

Grade 12 (2) _____

Question 31: Please indicate to what extent you agree with the following statement: "I feel that my Grade 12 year end examination results are/were a good indicator of my study results at tertiary level."

- ❍ Strongly agree (1)
- ❍ Agree (2)
- ❍ Disagree (3)
- ❍ Strongly disagree (4)

Question 32: Please indicate in which language you were taught in high school.

- ❍ Afrikaans (1)
- ❍ English (2)
- ❍ Other: Please indicate (3) _____

Question 33: If you were taught in your home language, it could have made a difference in your transition from high school to tertiary education.

- ❍ Strongly agree (1)
- ❍ Agree (2)
- ❍ Disagree (3)
- ❍ Strongly disagree (4)

Question 34: Did you write the National Benchmark test?

- ❍ Yes (1)
- ❍ No (2)

If 'Yes' is selected, then skip to: Please complete the following question regarding the National Benchmark Test. If 'No' is selected, then skip to: Did you participate in the LectorSA reading skills development programme of the JuniorTukkie initiative in Grade 11?

Question 35: Please complete the following questions regarding the National Benchmark Test (NBT).

	YES (1)	NO (2)
Did you write the test more than once? (2)	❍	❍
Did you write both the Mathematics (MAT) and Academic (AL & QL) tests? (3)	❍	❍
Were your NBT test results used in your selection process? (4)	❍	❍
Did the institution admit you based on your NBT results? (5)	❍	❍
Did you receive any assistance from your teacher on the NBT test? (6)	❍	❍
Did you receive assistance from any other person on the NBT test? (7)	❍	❍

Question 36: Did you participate in the LectorSA reading skills development programme of the JuniorTukkie initiative in Grade 11?

- ❍ No (1)
- ❍ Yes (2)

If 'No' is selected, then skip to: If you answered No please indicate why you did not select the LectorSA reading skills development programme. If 'Yes' is selected, then skip to: If you answered Yes, please indicate to what extent you agree with the following statement. The LectorSA reading skills and development programme…

Question 37: If you answered Yes, please indicate to what extent you agree with the following statement. The LectorSA reading skills and development programme:

- ❍ A. Increased my reading speed. (1)
- ❍ B. Improved my comprehension ability. (2)
- ❍ C. Assisted me to improve my academic achievement. (3)
- ❍ A & B (4)
- ❍ A & C (5)
- ❍ B & C (6)
- ❍ A & B & C (7)

If 'A. Increased my reading speed' is selected, then skip to: Which of the following subjects did you take in Grade 11 and 12. If 'B. Improved my comprehension' is selected, then skip to: Which of the following subjects did you take in Grade 11 and 12. If 'C. Assisted me to improve my academic achievement' is selected, then skip to: Which of the following subjects did you take in Grade 11 and 12. If 'A & B' is selected, then skip to: Which of the following subjects did you take in Grade 11 and 12. If 'A & C' is selected, then skip to: Which of the following subjects did you take in Grade 11 and 12. If 'A & B & C' is selected, then skip to: Which of the following subjects did you take in Grade 11 and 12.

Question 38: If you answered No please indicate why you did not complete the LectorSA reading skills and development programme.

- ❍ Due to a lack of time. (1)
- ❍ I did not have internet access at school or home. (2)
- ❍ Other (3) _____

Question 39: Which of the following subjects did you take in Grade 11 and 12?

	YES (1)	No (2)
Mathematics in Grade 11 (1)	❍	❍
Physical Science in Grade 11 (2)	❍	❍
Mathematics in Grade 12 (3)	❍	❍
Physical Science in Grade 12 (4)	❍	❍
Mathematical Literacy in Grade 11 (5)	❍	❍
Mathematical Literacy in Grade 12 (6)	❍	❍

Question 40: Please indicate in which of the following subjects you attended extra classes/Saturday school classes in your Grade 11 and or 12 years.

	YES (1)	NO (2)
Mathematics in Grade 11 (1)	❍	❍
Physical Science in Grade 11 (2)	❍	❍
Mathematics in Grade 12 (3)	❍	❍
Physical Science in Grade 12 (4)	❍	❍
Mathematical Literacy in Grade 11 (5)	❍	❍
Mathematical Literacy in Grade 12 (6)	❍	❍

Question 41: Please indicate to what extent you agree with the following statement: The extra classes/Saturday school classes improved my marks.

- ❍ Strongly disagree (1)
- ❍ Disagree (2)
- ❍ Agree (3)
- ❍ Strongly agree (4)

Question 42: Please indicate which of the following bursaries you received to finance your studies.

- ❍ A bursary from NSFAS (1)
- ❍ A company bursary (2)
- ❍ Both (3)
- ❍ None (4)

Question 43: Please indicate which of the following financial sources you also used to finance your studies.

- ❑ Sponsorship from my parents (3)
- ❑ A study loan (4)
- ❑ Merit award/s from my tertiary institution (5)
- ❑ Other: Please indicate (6) _____

Question 44: Please indicate whether you experienced problems with the bursary if you received one (NSFAS or company bursary).

	YES (1)	No (2)
The bursary was inadequate i.e. not cover accommodation, textbook, etc. (1)	❍	❍
The bursary was complicated to apply for. (2)	❍	❍
The feedback on my bursary application was poor. (3)	❍	❍
The bursary was paid into my student account too late. (4)	❍	❍

Question 45: Please indicate to what extent you agree with the following statement: Finances can influence a student's successful transition from high school to tertiary education.

- ❍ Strongly disagree (1)
- ❍ Disagree (2)
- ❍ Agree (3)
- ❍ Strongly agree (4)

Question 46: Which of the following positive emotions or feelings did you experience during your first year of study at your tertiary institution? Please indicate your emotions/feelings on the following five-point scale.

	Never	Rarely	Sometimes	Often	All the time
Excitement	❍	❍	❍	❍	❍
Confidence	❍	❍	❍	❍	❍
Felt part of the group	❍	❍	❍	❍	❍
A sense of belonging	❍	❍	❍	❍	❍

Question 47: Which of the following negative emotions or feelings did you experience during your first year of study at your tertiary institution? Please indicate your emotions/feelings on the following five-point scale.

	Never	Rarely	Sometimes	Often	All the time
Anxious or nervous	❍	❍	❍	❍	❍
Unsure about meeting people	❍	❍	❍	❍	❍
Overwhelmed	❍	❍	❍	❍	❍
Sad or depressed	❍	❍	❍	❍	❍
Lonely	❍	❍	❍	❍	❍

Question 48: To what extent did the following influence your transition from high school to higher education?

	Not at all	Slightly	Somewhat	Very	Extremely
JuniorTukkie initiative	❍	❍	❍	❍	❍
Sport activities	❍	❍	❍	❍	❍
Culture activities	❍	❍	❍	❍	❍
My community	❍	❍	❍	❍	❍
Religion	❍	❍	❍	❍	❍
Peers	❍	❍	❍	❍	❍
Time management	❍	❍	❍	❍	❍
Computer skills	❍	❍	❍	❍	❍
Social skills	❍	❍	❍	❍	❍
Study methods	❍	❍	❍	❍	❍

Question 49: Please indicate to which level your personal skills were developed during the JuniorTukkie.

	Not at all	Slightly	Somewhat	Very	Extremely
Verbal communication	❍	❍	❍	❍	❍
Listening skills	❍	❍	❍	❍	❍
Problem solving	❍	❍	❍	❍	❍
Decision making	❍	❍	❍	❍	❍
Assertiveness (communicate your values, ideas, beliefs, opinions, needs and wants)	❍	❍	❍	❍	❍

I will appreciate it if you can answer all the questions. Thank you for participating in this survey. I appreciate the time and effort you spend on the questionnaire. Good luck with your future endeavours.

ANNEXURE B: Focus group interview

(Groups will consist of 8-10 persons.)

Introduction by facilitator

Hello, my name is [facilitator name] and I will conduct the focus group interview on behalf of Petrus Lombard, the JuniorTukkie Project manager. My assistant will be [assistant name] from the University of Pretoria. Thank you for taking the time to participate in discussions regarding the factors that influence transition from high school to higher education: a case of the JuniorTukkies initiative. This focus group is part of a group of 50 students at the University of Pretoria and the aim is to understand your thinking on the JuniorTukkie Empowerment initiative, and to hear if you have ideas about how we can improve the programme.

We already did an online research with many JuniorTukkies who attended the Grade 11 Empowerment Week in their Grade 11 year, and who successfully transitioned from high school to higher education. We would like to hear from you about the ways in which the JuniorTukkie initiative assisted you in your transition, and changes you would suggest so that the initiative could *better* other students' transition to higher education.

During this focus group, I will ask questions and facilitate a conversation about how the JuniorTukkie Empowerment initiative assisted you in your transition to higher education, and helped you to achieve your career objectives through the programme. Please keep in mind that there are no "right" or "wrong" answers to any of the questions I will ask. The purpose is to stimulate conversation and hear the opinions of everyone in the room. I hope you will be comfortable speaking honestly and sharing your ideas with us.

Please note that this session will be recorded to ensure we adequately capture your ideas during the conversation. Be aware, the comments from the focus group will remain confidential and your name will not be attached to any comments you make. Do you have any questions before we begin?

Focus group questions

Let us do a quick round of introductions. Can each of you tell the group your name, if you are still study or working, what courses you have taken to advance your career, and if you graduated, which career are you following?

First, we would like to hear about the JuniorTukkie initiative and if it enhanced your skills to make a successful transition from high school to higher education.

1. When did you become part of the JuniorTukkie initiative?

    1.1 In what ways was the JuniorTukkie initiative helpful to you?

    1.2 In what ways do you feel that the JuniorTukkie initiative fell short in helping you to make a successful transition?

Two groups of factors could influence one's transition from high school to higher education: academic and non-academic factors.

The following academic factors were researched in the online questionnaire: high school curriculum, poor selection of study fields, teacher training, difference between grade 11 and 12 results, study methods (habits), language of learning and teaching as well as reading skills, and lastly mathematics and science skills.

The non-academic factors were financial issues, differences between first- and second-generation learners, culture shock (school versus higher education), co-curricular experiences, emotional intelligence, life skills, time management, interpersonal relationships, computer literacy, social skills, peer pressure and extra-curricular experiences.

2. What are the academic factors that you feel influenced or contributed positively to your transition from high school to higher education?

3. What are the non-academic factors that you feel influenced or contributed positively to your transition from high school to higher education?

In the JuniorTukkie initiative, the following skills were taught to you: life skills, computer skills, reading skills, mathematical reasoning, study methods, time management, and so forth.

4. What skills development programmes will you consider in designing an initiative like JuniorTukkies? What aspects are you sure would attract people like yourself to this initiative?

Probe: Remember, these can be in many areas: the programme, personal or interpersonal development, the duration of the initiative, time of the year, online options, promoting of intergenerational interactions, or anything else you can think of that would be useful.

5. We would now like to hear about the career services – tests, study advice, career guidance, etcetera – that you have participated in.

5.1 In what ways were the services helpful to you?

5.2 In what ways do you feel that the services fell short in helping you reach your goals?

6. Imagine that you are part of the JuniorTukkie office designing the JuniorTukkie Empowerment initiative for people in the high school group (Grades 10–12). Which factors will you definitely consider in designing this initiative? Which aspects are you sure would attract learners to this initiative?

Probe: Remember, these can involve many factors: the programme, types of career services offered, types of skills development, approach of programme presenters, or anything else you think would be valuable.

7. We would like to hear your thoughts about how transitions can be made easier for new students.

7.1 Which interventions do you suggest the university should offer to make it easier for first-years to successfully transition into campus life?

Probe: This can include a wide range of services: new student orientation, tests, career advice, transportation, assistance with access to financial aid, or anything else you can think of.

7.2 What should higher education keep in mind to ensure the high quality of these services?

8. Is there anything else we have not discussed that you think is important for the JuniorTukkie initiative to know about, so they can tailor their programmes to make the initiative more attractive for prospective students?

9. Thank you so much for your time**!**

ANNEXURE C: Permissions to conduct the research

Prof Niek Grové and Dr Karen Lazenby

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Market Research Office

Survey Application Form

Requests to conduct a survey within the scope of the Survey Coordination Committee approval process must be submitted by using this form. The form should be completed by the proponent or their delegate. The Market Research Office will evaluate the information provided in this form against survey policy and will then make a recommendation on the proposed survey to the Survey Coordination Committee.

1. Survey Information

Name of survey:

Factors that influence the transition from high school to higher education: a case study of the JuniorTukkie programme.

Name of the organisational unit that will administer the survey:

Doctoral degree on the JuniorTukkie programme by Petrus Lombard.

What are the primary aims of the survey?

The primary aim of the survey will be to use the data of the JuniorTukkies who took part in the Grade 11 Empowerment Week from 2009 to 2012 and who made a successful transition from high school to higher education to determine if the JuniorTukkie initiative is successful in recruiting equity students and to prepare them for higher education. Their marks in the database and their success in their studies will be part of the data needed from UP's database.

How does the survey fit into the strategic objectives of the University's strategic plan?

Part of the University's strategic plan is to recruit more equity students who can make a successful transition from high school to higher education. This survey (research) and findings may lead to the development of a "School-level Model for Higher Education" as well as to lower dropout rates of students in higher education.

What type of survey is it? (Market quantification, client satisfaction, etc)

Survey for market quantification and PhD research.

How will the participants be informed about the survey?

Contact will be made through sms, email and social media.

How is the survey to be distributed? (Paper base, electronically etc.).

The survey will be done through an online questionnaire on 1 000 JuniorTukkies as well as focus group interviews on 50 JuniorTukkies.

---

2. Survey Methodology

Is it a one time survey?

Yes: *YES*

If no, what is the survey cycle?

Not applicable

Anticipated survey administration schedule?

Start date: *1 October 2014*

End date: *31 December 2014*

Are the dates flexible?

YES, depending on the ethic clearance from the Education Ethics Committee

Who is your target population?

1 000 JuniorTukkies who attended the Grade 11 Empowerment Week from 2009 to 2014 as well as 50 JuniorTukkies from the same group for focus group interviews.

What is your sample size?

1 000 JuniorTukkies

How will you select your participants?

Participants will be selected from the JuniorTukkie database.

How do you plan to analyse your data and who will conduct the analysis?

The qualitative survey phase which includes the online electronic survey will be administered through the Market Research Office in the Department of Institutional Planning. Carlien Neil, the head of Market Research will lead the online survey. She has 20 years of experience in conducting and handling market research projects as well as six years experience in the development and management of online surveys. Carlien Neil will sign a confidentiality form.

For the intervention of the focus group interviews, a professional and independent moderator will be contracted by the Market Research Office which can lead the groups in all three languages of the University of Pretoria, Afrikaans, English and Sepedi. The moderator will be thoroughly briefed about the project's scope and objectives and will also be provided with the necessary background information regarding the topic and target group. The moderator will use a structured discussion guideline in the focus groups in order to ensure that all the themes are discussed in the groups. The moderator will sign a confidentiality form.

For the focus group interviews, please refer to the attached interview schedule (5 groups).

What resources will be used for conducting this survey?

The Internet as well as a conference room at UP will be used for conducting the survey.

How will you report back on the survey results? (formal report, presentation etc.)

Feedback will be given as follows:

- *An article will be written.*
- *The findings will be included in my PhD dissertation.*
- *A formal report will be written..*
- *A PowerPoint presentation will be prepared for the CSC.*

Describe the way in which results will be used?

The results will be used to determine if the JuniorTukkie initiative is successful and the data will be used for future planning.

Will the results be made public? *YES*

If yes where?

In my PhD dissertation as well as in a research publication.

3. Contact Details

Survey Sponsor: *Private (own funds)*

(Faculty, Department, Committee etc)

Contact Name of Person responsible for survey:

Name: *Petrus J.P. Lombard*

Phone number: *082 857 7912*

Email: *petrus.lombard@up.ac.za*

Signature of Dean / Director Dr Karen Lazenby

Submit the electronic copy of the survey proposal application as well as the survey instrument to carlien.nell@up.ac.za

Approved

PROF N. J GROVÉ

5/9/2014

ANNEXURE E

Time table for online questionnaire.

Sms and email will be sending out to learners.

Questions will be on an online questionnaire and a link will be sent to the participants.

Participants will have 2 weeks to complete the questionnaire and a notice will be sent to all participants to remind them to complete the questionnaire. Permission to participate will be sought from them and they will sign a permission form to participate.

DAY	ACTION
Day 1 (2 weeks)	Permission letters will be sent to participants and they will complete it online and submit it.
	The final list of participants will be compiled.
Day 2 (2 weeks)	A sms and emails will be sent to participants.
	A reminder will be sent after a week.
Day 3 (1 day)	Thank you letters and an sms will be sent to the participants.

Focus group interviews

Due to the fact that students attend classes during the day, a name list will be compiled and the group will each be given a chance to select their dates and times. Two days will be set aside to fit in all FIVE focus group (30-40 minutes per interview).

DAY	GROUP	INTERVIEW TIMES
Day 1	Group 1	12:00–13:00 (20 minutes for admin)
	Group 2	14:00–15:00 (20 minutes for admin)
Day 2	Group 3	10:00–11:00 (20 minutes for admin)
	Group 4	12:00–13:00 (20 minutes for admin)
	Group 5	14:00–15:00 (20 minutes for admin)
These times may change.		

Prof Irma Eloff – Dean of Faculty of Education (UP)

29 August 2014

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Fakulteit Opvoedkunde
Kantoor van die Dekaan

Petrus Lombard
Junior Tukkie Project Manager

Dear mr Lombard,

REQUEST TO CONDUCT RESEARCH

Your request to conduct research in the study as explained in your correspondence on 20 August 2014 refers, e.g. 'The factors that influence the transition from high school to higher education: the case of the JuniorTukkie programme at the University of Pretoria'.

Permission to conduct the study is granted.

This research project focuses on an important field and I wish you all the best on the completion of the study.

Kind regards,

Prof Irma Eloff

Dean of Education

cc. ***Prof C Sehoole, HoD: EMPS***

Prof L Ebersöhn, Chair of Ethics Committee

Universiteit van Pretoria
PRETORIA 0002
Republiek van Suid-Afrika

Tel. +27 (0)12 420 5721
Faks. +27 (0)12 420 4215

http://www.up.ac.za

ANNEXURE D: Ethics clearance certificate

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA
Faculty of Education

RESEARCH ETHICS COMMITTEE

CLEARANCE CERTIFICATE	CLEARANCE NUMBER: **EM 14/10/01**
DEGREE AND PROJECT	PhD Factors that influence the transition from high school to higher education: the case of the Junior Tukkie Programme
INVESTIGATOR	Mr Petrus Lombard
DEPARTMENT	Education Management and Policy Studies
APPROVAL TO COMMENCE STUDY	27 March 2015
DATE OF CLEARANCE CERTIFICATE	3 May 2018

CHAIRPERSON OF ETHICS COMMITTEE: Prof Liesel Ebersöhn

CC
Ms Bronwynne Swarts
Prof Chika Sehoole

This Ethics Clearance Certificate should be read in conjunction with the Integrated Declaration Form (D08) which specifies details regarding:

- Compliance with approved research protocol,
- No significant changes,
- Informed consent/assent,
- Adverse experience or undue risk,
- Registered title, and
- Data storage requirements.