Male consumers' pro-environmental motivation and intent to acquire eco-friendly apparel in South Africa

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Dissertation

M Consumer Science (Clothing Retail Management)

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by

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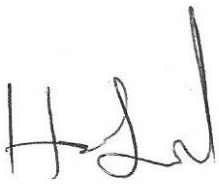
July 2015

DECLARATION

I, **Hanri Taljaard**, declare that this dissertation, which I hereby submit for the degree of **M in Consumer Science: Clothing Retail Management** 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. I also confirm that all reference material in the dissertation has been duly acknowledged.



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SUMMARY

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Over the past few years, humans' consumption patterns have increased in such a way that natural resources are being depleted and pollution of the environment continuously increases because of the way they are living. The textile and apparel industry is also a big contributor to numerous environmental problems as it is one of the most polluting industries in the world. Both the consumers as well as the textile and apparel industry have neglected the necessity of pro-environmental behaviour in recent years and therefore it has not yet become a familiar concept in terms of apparel acquisitions. This research study focuses on exploring and describing male consumers' pro-environmental motivation and intent to acquire eco-friendly apparel in the South African market. The intention was to introduce empirical evidence that could contribute to addressing the factors that influence pro-environmental intent with regards to apparel in the South African context. Therefore the research hypotheses as well as the framework of the research study focus on the various components or constructs from the Norm-Activation Theory (NAT) and the Theory of Planned Behaviour (TPB) as influencing factors for acquiring eco-friendly apparel in a pro-environmental manner. The relevant concepts of the NAT (i.e. awareness of consequences, moral norms) together with all the applicable concepts related to

the TPB (i.e. social norms, attitude, perceived behavioural control, and behavioural intent) were included into the conceptual framework for this research study. Perceived behavioural control in particular, was extended and separated into two sub-components, namely perceived self-efficacy and controllability. For this research study, the apparel acquisition methods included apparel acquisition limits as well as apparel acquisitions based on pro-environmental attributes.

The research study was conducted in the Gauteng province with a sample of 305 male consumers. Male consumers were specifically selected as it has been found that pro-environmental behaviour seems to be less popular amongst male consumers. There also seems to be limited research regarding male apparel consumers and their apparel consumption behaviours in the South African context, contrary to female consumers and their apparel consumption behaviours. A quantitative research approach was used, with a cross-sectional survey design, for exploratory research purposes and respondents were reached by means of non-probability, convenience and snowball sampling methods. Respondents completed online as well as paper-based questionnaires that were developed according to the constructs and hypotheses of the research study. Lastly, the data was captured and coded by the researcher, and then analysed by statisticians of the University of Pretoria by making use of descriptive and inferential statistics.

The results indicated that the respondents seem to be quite aware of the consequences that the apparel industry and consumers have on the environment. It also appears to influence their overall behavioural intent quite significantly. However, it would seem that the male consumers that participated in this research study are not significantly influenced by their social and moral norms while making decisions regarding the process of acquiring eco-friendly apparel in a pro-environmental manner. The male consumers' attitudes and self-efficacy regarding pro-environmental apparel behaviour contributed significantly to their pro-environmental intent. Controllability was not seen as a significant predictor and continued to be a challenging construct throughout the duration of this research study, with various obstacles that need to be further explained and/or explored in the future research.

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CHAPTER 1: THE STUDY IN PERSPECTIVE

This chapter provides a general introduction to the research study. The theoretical background is briefly discussed and the research problem of the study is introduced. Furthermore, the justification, overall objectives, methodology and definitions of concepts of the research study are also explained, together with an outline of the remainder of the dissertation.

1.1 INTRODUCTION

According to the Living Planet Report (World Wide Fund for Nature, 2012), biodiversity has globally declined by 30% between 1970 and 2008, and humans are currently using 50% more resources than the Earth can provide. Up until now, human society has depended on the consumption of fossil fuels and natural resources (Chen & Tung, 2014). Unless people change the way they live, they will require two planets to sustain human life by 2030 (World Wide Fund for Nature, 2012). The textile and apparel industry, in particular, should reconsider its environmental impact, since textiles and clothing represent the world's second largest industry, and is also one of the most polluting industries in the world (Institute of Public & Environmental Affairs, 2012; Moore & Ausley, 2004). This industry therefore requires new ways to reduce the environmental footprint, from the raw, natural resources to the production processes, care, maintenance, as well as the disposal of products (Armstrong, Niinmaki, Kujala, Karell & Lang, 2014; Business for Social Responsibility, 2009). The Living Planet Report (World Wide Fund for Nature, 2012) also states that South Africa's ecological footprint per person is 2.5, which is below the 2.7 world average ecological footprint per person. This is positive, if one takes into consideration that South Africa is an emerging economy, but it can have implications for the environment at some point in the near future. Various countries, like South Africa, are currently threatened by numerous environmental problems, such as the exhaustion of natural resources, loss of biodiversity and climate change because of overconsumption by societies (Mastamet-Mason, 2013; Midgley, 2007). Therefore, South Africans can no longer disregard environmental issues and concerns; they should aspire to adopt more sustainable practices, such as pro-environmental apparel consumption (Momberg, Jacobs & Sonnenberg, 2012).

Pro-environmental apparel consumption can be defined as behaviours that involve environmentally friendly apparel acquisition, use, maintenance and disposal, in order to create less waste, as well as consume fewer natural resources (Hiller-Connell, 2010). Consumers have various options to acquire apparel with pro-environmental attributes, such as clothing made of natural fibres or environmentally friendly textiles (e.g. organic cotton or recycled polyester), and items made of recycled materials (Shen, Zheng, Chow & Chow, 2014; Hiller-Connell, 2011). More options that fall within this category include apparel that is manufactured in a pro-environmental manner by making use of pro-environmental dyeing processes and eco-conscious water usage during the production process. Furthermore, pro-environmental attributes could also relate to specific designs and constructions of the apparel, for example multifunctional garments or classics, therefore allowing a consumer to purchase fewer pieces and thus reduce their consumption. Another approach would be to purchase second-hand apparel, or to exchange second-hand clothing with friends or family. The before mentioned form of acquisition is environmentally sound, since it decreases the need for the creation of new apparel, and reduces the amount of waste (Hiller-Connell, 2010). The methods of importing and exporting apparel in South Africa also play a role in defining the concept of acquiring apparel with pro-environmental attributes (50/50 Human Nature, 2014), as it decreases the use of resources and energy consumed to produce the apparel, as well as minimise the resulting waste and pollution from the production processes (Fletcher & Grose, 2012:12). By acquiring locally produced apparel, the need to import apparel could decrease, and therefore also the transportation and distribution associated with imports. The negative impact on the environment when greenhouse gases are released into the atmosphere will be decreased (Mont & Bleischwitz, 2007). The main focus of the research study will be on ways to make pro-environmental apparel acquisitions, including purchasing eco-friendly clothing, acquiring fewer pieces, and giving preference to classical garments or apparel that lasts longer.

1.1.1 Males' apparel consumption in the South African market

The South African apparel industry had a compound annual growth rate of 8.2% between 2009 and 2013, and total revenues of $7.6 billion in 2013 (MarketLine, 2014a). In addition to South Africa's highly competitive apparel retail environment, the introduction of new products forms an important growth strategy for retailers to maintain their position and differentiate their market offerings. This is especially true for retailers operating in the menswear segment of the South African apparel industry, which contributed $2,172 million in revenue in 2011 and accounted for 26,5% of the South African apparel industry's aggregate value (MarketLine, 2012). With that being said, the South African menswear market is expected to generate total revenues of $2.2

billion in 2013. The most profitable section in the menswear market includes clothing, footwear, sportswear and accessories with total revenues of $1.4 billion in 2013, which is equivalent to 63.4% of the overall market value (Marketline, 2014b). The constantly growing menswear section forms an integral part of the apparel industry in South Africa, and although it might be a positive turn of events for retailers, the increase in apparel purchases could possibly have a negative impact on the environment (Du Preez, Visser & Zietsman, 2007).

Demographic information (e.g. age, gender, income etc.) usually used in marketing segmentation often relates to certain consumers' buying and consumption behaviour (Parumasur & Roberts-Lombard, 2014:55). Gender specifically, influences environmental awareness and pro-environmental motivations and intent (Mobley & Kilbourne, 2013; Kollmuss & Agyeman, 2002, Zelezny, Chua & Aldrich, 2000). Gender differences with regards to pro-environmental awareness are determined by consumers' attentiveness to knowledge, especially when considering the extent of concern for everything else around them and are ultimately, the result of socialisation and life experience (Mobley & Kilbourne, 2013; Dietz, Kalof & Stern, 2002, Zelezny *et al*., 2000). Research has revealed that the attitude and behaviour of women regarding the environment tend to be stronger than that of men; they are significantly more concerned about the environment than males (Mostafa, 2007; Mitchell & Walsh, 2006; Zelezny *et al*., 2000). This correlates with the notion that females are more expressive in terms of their emotions, the social standards they set, as well as having a stronger "ethic of care". Males, however, tend to be more independent and competitive with regards to socialisation and values (Lee, 2009:88).

Together with that, modern marketers have depicted men as being more "sensitive in the last few years" (Solomon & Rabolt, 2004:156). They have evolved regarding their intentions and buying behaviours (Keiser & Garner, 2008:69; Du Preez *et al*., 2007). It is therefore important to investigate the potential gender differences in environmentalism (Mobley & Kilbourne, 2013). Male consumers have also become more prone to investigate the apparel options before they purchase and consume it, which in itself provides them with knowledge regarding the apparel they have purchased, as well as the use and disposal of it afterwards (Du Preez *et al*., 2007; Bakewell, Mitchell & Rothwell, 2006; Mitchell & Walsh, 2006). All these factors could influence male consumers' pro-environmental concerns, knowledge, attitudes and intent to acquire eco-friendly apparel in the South African market.

Research has shown that, despite consumers' awareness of the environmental issues associated with their apparel consumption, they are hesitant, or unwilling to purchase apparel

with pro-environmental attributes, or acquire apparel from environmentally preferable sources (Joung & Park-Poaps, 2013; Hiller-Connell, 2010; Gupta & Odgen, 2006; Kollmuss & Agyeman, 2002). This attitude-behaviour gap has been the topic of much debate in environmental consumerism, with various contributing factors identified as the underlying basis of such inconsistency (Ha-Brookshire & Norum, 2011; Gupta & Ogden, 2009). Some of the influencing factors identified by previous research included the absence of environmental awareness (Momberg *et al.*, 2012), inconvenience (Kozar & Hiller-Connell, 2013), limited knowledge regarding environmental effects of apparel consumption (Hiller-Connell, 2010), a lack of awareness of the available products and services (Momberg *et al.*, 2012), perceived consumer effectiveness (Hustvedt & Dickson, 2009), social and cultural influences (Kozar & Hiller-Connell, 2013), while economic circumstances also influence the consumers in some way (Jackson, 2005:127; Kollmuss & Agyeman, 2002). Researchers in the environmental domain have long since acknowledged that pro-environmental motivation and intent may not necessarily translate into environmentally responsible behaviour due to various contextual circumstances (Tanner, Kaiser & Wolfing Kast, 2004; Wagner, 2003; Stern, 2000). However, research showed that an understanding of consumers' internal motivation to act in a pro-environmental manner is the first step towards the development and assessment of environmental intervention programmes and marketing campaigns (Steg & Vlek, 2009; Bator & Cialdini, 2000; Zelezny & Schultz, 2000). For these reasons, the motivational factors that influence consumers' pro-environmental intent to acquire apparel in the South African market, are the main concepts in the research study and will be discussed in further detail in the sections to follow.

1.2 THEORETICAL BACKGROUND

One of the most significant problems that modern society has to realise is that their behaviour is detrimental to the environment (Bamberg, Hunecke & Blöbaum, 2007). Humans live on a finite planet, with limited natural resources, a rapidly growing population, and a constant increase in the degradation of the natural environment (Arden-Clarke, 2014). They need to make a conscious shift to practice more sustainable production and consumption in order to contribute positively to the notion of "living better, with less" (Arden-Clarke, 2014:1).

This notion can be described as pro-environmental behaviour and can either be explained as an action motivated by self-interest or as the concern for others around them, which describes the

pro-social motives (Bamberg *et al*., 2007). The development of models regarding the explanation and prediction of pro-environmental behaviour has become an important issue of environmental research. Also, literature on the different frameworks and factors that could influence pro-environmental patterns is increasing (Park & Ha, 2014; Bamberg & Möser, 2007; Tonglet, Phillips & Read, 2004; Bamberg & Schmidt, 2003). Previous research has shown that issues regarding pro-environmental behaviour can be interpreted according to the assumptions of various theoretical frameworks (Park & Ha, 2014; Tang, Chen & Luo, 2011; Tonglet *et al*., 2004). When viewing pro-environmental behaviour from a pro-social perspective, researchers tend to prefer Schwartz's (1977) Norm-Activation Theory (NAT) (Bamberg *et al*., 2007). Actions motivated by self-interest are often explored by the use of rational choice models such as Ajzen's (1991) Theory of Planned Behaviour (TPB). Based on the argument that pro-environmental behaviour includes a degree of self-interest and pro-social motives (Park & Ha, 2014; Mair & Laing, 2013; Wall, Devine-Wright & Mill, 2007; Oreg & Katz-Gerro, 2006; Schuler & Cording, 2006; Oom Do Valle, Rebelo, Reis & Menezes, 2005), researchers proposed combining the variables from the NAT and the TPB. This enabled them to gain a more comprehensive understanding of pro-environmental behaviour in terms of various underlying motivational factors surrounding these issues. However, all these studies have focused on consumer populations other than South Africa, and may include different perspectives and conclusions regarding consumers' behaviour due to demographic differences. This could add to the intricacy of understanding pro-environmental behaviour, and more specifically pro-environmental apparel consumption, in a local context.

This research study made use of both theories to develop the conceptual framework, which was based on the theoretical model as seen in Bamberg and Möser (2007), and explores male consumers' pro-environmental motivation and intent to acquire eco-friendly apparel in the South African market. In order to understand and apply the theories, the constructs applicable to this research study were important aspects of discussion and included awareness of environmental consequences and moral norms from the NAT, as well as social norms, attitude, perceived behavioural control (incorporating both dimensions of perceived self-efficacy and controllability), and behavioural intent from the TPB (Park & Ha, 2014; Chen & Tung, 2010; Bamberg & Möser, 2007; Tonglet *et al.*, 2004; Ajzen, 2002). In order to properly understand and illustrate these underlying concepts with regards to the environment, it was regarded as significant for this study to emphasize the pro-environmental approach and incorporate it as part of all applicable aspects. With regards to this research study, all of the relevant concepts related to the NAT, as well as concepts from the TPB will be discussed in Chapter 2 for the reader to form an understanding of the proposed conceptual framework for the study.

1.3 RESEARCH PROBLEM

Many of the current environmental problems are, to some extent, consequences of people's everyday behaviour (Steg, Bolderdijk, Keizer & Perlaviciute, 2014; Vlek & Steg, 2007; Nordlund & Garvill 2002). Apparel consumption, which includes acquisition, use, maintenance and disposal, is one of the contributing causes of environmental change (Joung & Park-Poaps, 2013; Hiller-Connell, 2011). Research indicates limited commitment among consumers in acquiring pro-environmental apparel (Hiller-Connell, 2010). However, much of the research conducted to date addressed more developed apparel markets (Kozar & Hiller-Connell, 2013, Niinmaki, 2010), which may not appropriately reflect the uniqueness of the South African menswear segment.

According to industry reports, the menswear segment of the South African apparel industry contributed $2,172 million in revenue in 2011 and accounted for 26.5% of the South African apparel industry's aggregate value (MarketLine, 2012). With that being said, the South African menswear market is expected to generate total revenues of $2.2 billion in 2013. The most profitable section in the menswear market includes clothing, footwear, sportswear and accessories with total revenues of $1.4 billion in 2013, which is equivalent to 63.4% of the overall market value (Marketline, 2014b). This can be due to various factors, such as their unique apparel behaviour and consumption, in contrast to females. Although the male consumer market is rapidly growing, it is not known whether men acquire apparel in environmentally responsible ways, due to the lack of research studies that include males as the units of analysis. In contrast to females who are frequently recruited for purposes of gathering data about their pro-environmental apparel behaviour, it is still not known whether men acquire apparel in environmentally responsible ways, such as purchasing eco-friendly apparel from retailers, or buying second-hand apparel from local stores and entrepreneurs. (Meyer, 2014; Kozar & Hiller-Connell, 2013; Momberg *et al*., 2012).

It may be argued that pro-environmental apparel consumption is not yet a dominant trend in the South African apparel industry, because of various factors that influence the consumers' intentions and eventual behaviour. By means of influential exposure and marketing of these apparel products, the retail environment could increase awareness and gain competitive advantage that would enable them to provide South African male consumers with eco-friendly options and encourage them to act more sustainably (MarketLine, 2012). It is therefore

important to investigate their pro-environmental motivations and intent to acquire eco-friendly apparel, in order to justify the potential market share of eco-friendly menswear apparel in the South African market.

Although much research has been conducted regarding consumers' awareness, social norms, behavioural attitudes, moral norms and intent to acquire eco-friendly apparel (Hiller-Connell, 2011; Hiller-Connell, 2010), little empirical evidence is available with regards to the motivational factors, as well as the role it might play in terms of influencing male consumers with regards to their pro-environmental intent to acquire eco-friendly apparel within the South African market. Motivational factors include, amongst others, awareness of consequences, social norms, attitudes, moral norms, and perceived behavioural control (i.e. perceived self-efficacy and controllability); these form the basis of Schwartz' Norm-Activation Theory (1977), and Ajzen's Theory of Planned Behaviour (1991) (Bamberg & Möser, 2007; Tonglet *et al*., 2004; Bamberg & Schmidt, 2003).

To date, there is a contextual gap in the literature regarding the significance of the motivational factors, as well as the pro-environmental intent of male consumers to acquire eco-friendly apparel in South Africa. In order to expand the current literature and knowledge base pertaining to pro-environmental apparel acquisition amongst male consumers in South Africa, and to determine their intentions, as well as provide the South African retail industry with information regarding these issues to improve their marketing and competitive advantage, the need was identified for research to be done to further investigate the relevant concepts.

The following research problem was formulated for this study:

What is the relationship between motivational factors (i.e. awareness, social norms, attitude, moral norms, self-efficacy, and controllability) and male consumers' pro-environmental intent to acquire eco-friendly apparel in the South African market?

1.4 JUSTIFICATION OF THE RESEARCH

The pursuit of environmental conservation, as well as acting pro-environmentally has become a global concern of organisations and consumers worldwide, leading to increased availability of

eco-friendly products (World Wide Fund Global, 2013; Quinn & Dalton, 2009; Mohr, Webb & Harris, 2001). Due to globalisation, the internet, and social media, these environmental issues have also become more prominent in emerging markets, such as South Africa (Rogerson & Rogerson, 2010). However, the disappointing market share of "pro-environmental" products that is apparent in various countries (Business for Social Responsibility, 2012; Öberseder, Schlegelmilch & Gruber, 2011; Eckhardt, Belk & Devinney, 2010; Hiller-Connell, 2010; Cleveland, Kalamas & Laroche, 2005) around the world, seems to be true for South Africa as well (Luiz, Bowen & Beswick, 2011; Du Toit & Crafford, 2003).

Pro-environmental business and sustainability issues are particularly critical on a continent that is vulnerable to climate change (Jackson, 2005:130). Furthermore, various African governments lack the capacity to be pro-active, i.e. acting on the changes that humans experience as a result of global warming (Dos Santos, 2011; IPCC, 2007). Very often companies also experience costs and other priorities as barriers to the adoption of sustainable business practices. However, the adoption of sustainable practices has proven to be more economical in the long run (Dos Santos, Svensson & Padin, 2013). With that being said, consumers are social beings who need guidance concerning their behaviour because they act according to the social norms of the larger society (Jackson, 2005:131). Therefore, government policies have the power to send important signals to consumers regarding the desired behaviours, the valued attitudes, the appropriate goals and aspirations, and, ultimately, the worldview of how consumers are expected to behave (Steg & Vlek, 2009; Jackson, 2005:130). The government could thus provide the necessary guidance and strive to act accordingly, by providing viable pro-environmental messages and interventions to consumers. This research study underscores the importance of raising awareness regarding government policies and its involvement to initiate sustainable procurement programmes, as well as environmental management efforts in the public and private sectors (Jackson, 2005:132). Furthermore, government institutions have the ability to sway businesses and consumers through legislation, regulations and standards. These include product standards such as recyclability, trading standards such as sustainable consumption patterns, and marketing standards such as encouraging pro-environmental behaviour (Steg & Vlek, 2009; Jackson, 2005:129). This research, together with governmental policies such as "South Africa first", (a policy which encourages the majority of products to be purchased locally and proposes maintaining strong local and regional clothing sources), could encourage governmental co-operation. This, in turn could boost the percentage of sustainable businesses (suppliers and retailers) in South Africa (Luiz *et al*., 2011), and provide consumers with pro-environmental apparel acquisition options to live in a manner which is more sustainable.

With regards to the disappointing market share of "pro-environmental" products in the South African textile and clothing industry, the large percentage of apparel imports could be a contributing factor (PricewaterhouseCoopers (PwC) & Economist Intelligence Unit, 2012; Luiz *et al*., 2011). Imports, in itself, have various environmental implications regarding transportation and distribution, but is still an integral part of the clothing industry because of economic reasons (Dos Santos, 2011; Mont & Bleischwitz, 2007). There will be a turning point in South Africa when structural strategies are implemented and consumers choose to acquire locally produced apparel; this will minimise excess environmental implications. Furthermore, the apparel industry, as well as the environment will be positively affected. The structural strategies are aimed at changing the contextual factors, including the availability of eco-friendly products, and the benefits of alternatives (Steg & Vlek, 2009). It will afford consumers the option to acquire their apparel from retailers that enforce sustainable business practices. Woolworths is an example of a company that continuously endeavours to incorporate sustainable business practises in the retail market by supporting local designers and suppliers to avoid excess apparel imports into South Africa (Luiz *et al*., 2011). Other initiatives include Woolworths' efforts to reduce transport emissions by strategically positioning warehouses to achieve the most effective distribution of products and the use of recycled cooking oil to generate a bio-diesel mix for their distribution trucks (Dos Santos, 2011). In spite of these efforts, however, consumers seem to have a subjective view regarding factors such as affordability and availability of pro-environmental products (Momberg *et al*., 2012; Hiller-Connell, 2010; Jackson, 2005:128). The South African retail industry, therefore, cannot capitalise on this market share if it does not grow, and consumers are not correctly and extensively informed about the environmentally friendly options available to them in South Africa.

In relation to the above, it is necessary to consider certain trends originating in South Africa at the moment, which can be summarised as a shift in the way people think and consequently act. Megatrends, on the other hand, take several years to evolve and have a significant impact on society, by suggesting a way of life that shapes a society (Saine, 2013). One of the megatrends that impacted South African consumers in 2013 was "Nature's potential", which relates to the current research study. The increased awareness of environmental issues was the driving force behind this trend; it focused on the interest that consumers have in the environment and their desire to protect it, or utilise it in a sustainable manner (Saine, 2013). This research study could serve to back the implementation of informational strategies and provide insight into the current levels of awareness among male consumers – awareness relating to environmental issues and males' pro-environmental motivation and intent to acquire eco-friendly apparel (Steg & Vlek, 2009). The findings of this study could eventually contribute to evolving this megatrend, by

providing the retail industry with relevant information about male consumers' intentions, as well as educate consumers about pro-environmental apparel behaviour.

Ultimately, the study will positively contribute to consumer science literature in the environmental domain, male apparel consumer behaviour, and the sustainability of the apparel industry in South Africa, which may be applied to encourage sustainable living in a South African context. As mentioned before, humans are currently using 50% more resources than the earth can provide, and is busy endangering various living creatures for their own benefit (World Wide Fund for Nature, 2012). Unless they change the way they live, their ecological footprint will become so large that the whole world will be in danger of total destruction.

1.5 OVERALL OBJECTIVES OF THE RESEARCH STUDY

The overall objective of this research study is to investigate the relationship between motivational factors and male consumers' pro-environmental intent to acquire eco-friendly apparel. This study hypothesizes that there will be a relationship between every predictor, namely awareness of consequences, social norms, attitudes, moral norms, and perceived behavioural control (perceived self-efficacy and controllability), as well as on the eventual behavioural intent. Specific hypotheses were formulated based on existing theories that clarify the relationship between each of these constructs and will be extensively discussed in Chapter two. However, for the purposes of this introduction, the hypotheses are summarised as follows:

H1: *Awareness of the environmental consequences has a positive effect on the social norms of male consumers in terms of pro-environmental intent to acquire eco-friendly apparel.*

H2: *Social norms have a positive effect on the attitudes of male consumers in terms of pro-environmental intent to acquire eco-friendly apparel in South Africa.*

H3: *Social norms have a positive effect on the moral norms of male consumers with regards to pro-environmental intent to acquire eco-friendly apparel.*

H4: *Social norms have a positive effect on the perceived behavioural control of male consumers.*

H4a: *Social norms have a positive effect on the perceived self-efficacy of male consumers.*

H4b: *Social norms have a positive effect on the controllability of male consumers.*

H5: Attitudes have a positive effect on male consumers' pro-environmental intent to acquire eco-friendly apparel.

H6: Moral norms have a positive effect on male consumers' pro-environmental intent to acquire eco-friendly apparel.

H7: The perceived behavioural control has a positive effect on male consumers' pro-environmental intent to acquire eco-friendly apparel.

H7a: Perceived self-efficacy has a positive effect on male consumers' pro-environmental intent to acquire eco-friendly apparel.

H7b: Controllability factors have a positive effect on male consumers' pro-environmental intent to acquire eco-friendly apparel.

1.6 RESEARCH DESIGN AND METHODOLOGY

The research study was conducted in the Gauteng province with a sample of 305 male consumers from the age of 18 years and older. Male consumers were specifically selected as it has been found that pro-environmental behaviour seems to be less popular amongst male consumers (Mostafa, 2007; Mitchell & Walsh, 2006; Zelezny *et al*., 2000). There also seems to be limited research regarding male apparel consumers and their apparel consumption behaviours in the South African context in comparison to female consumers and their apparel consumption behaviours (Du Preez *et al*., 2007). A quantitative research approach was used, with a cross-sectional survey design, for explanatory research purposes and respondents were reached by means of non-probability, convenience and snowball sampling methods (Salkind, 2012:213; Fouché, Delport & De Vos, 2011:156; Zikmund & Babin, 2010:94-313; Babbie & Mouton, 2001:92).

A structured, self-administered questionnaire was developed and willing respondents completed online as well as paper-based questionnaires that were developed according to the constructs and hypotheses of the research study. Lastly, the data was captured and coded by the researcher, and then analysed by statisticians of the University of Pretoria by making use of descriptive and inferential statistics.

1.7 DEFINITIONS OF TERMS AND CONCEPTS

Definitions of important concepts and terms used throughout the study are listed below for the sake of clarity and to increase the theoretical validity of the study.

TABLE 1.1: DEFINITIONS OF TERMS AND CONCEPTS

TERMS AND CONCEPTS		
TERM OR CONCEPT	**DEFINITION**	**REFERENCE**
Apparel consumption	The acquisition, storage, use, maintenance and disposal of apparel products. It also refers to its contribution to the cause of environmental change.	Joung, H.M. & Park-Poaps, H. 2013. Factors motivating and influencing clothing disposal behaviours. *International Journal of Consumer Studies*, 37:105-111.
Attitude	A behavioural belief, defined as the degree to which a consumer has a favourable or unfavourable evaluation of a specific issue.	Tang, Z., Chen, X. & Luo, J. 2011. Determining Socio-Psychological drivers of rural household recycling behaviour in developing countries: A case study from Wugan, Hunan, China. *Environment and Behaviour*, 43:848-877.
Awareness of consequences	Consumers' understanding of the possible negative consequences for them, and for others, should they not act in a pro-social, eco-friendly manner.	De Groot, J.I.M. & Steg, L. 2010. Morality and prosocial behaviour: The role of awareness, responsibility, and norms in the Norm Activation Model. *The Journal of Social Psychology*, 149(4):42-449.
Behavioural intent	An indication of a consumer's willingness to try and act in a certain way. It is an indication of the amount of effort consumers are planning to put in to behaving in a certain way.	Saeed, R., Lodhi, R.N., Khan, A.K., Khurshid, N., Dustgeer, F., Sami, A., Mahmood, Z. & Ahmad, M. 2013. Measauring impact of factors influencing purchase intention towards green products: Sahiwal clothing industry perspective. *World Applied Sciences Journal*, 26(10):1371-1379.
Biodiversity	The diversity of plant, animal and insect species on planet earth.	Hoogervorst, A. & Rosenburg, E. 2004. *The Environpaedia: Networking Sustainable Development Solutions*. Simonstown: Eco-logic publishing CC.
Consumer behaviour	The study of individuals or groups regarding behaviour, and the processes they adopt to select, use and dispose of their products.	Du Plessis, P.J. & Rousseau, G.G. 2007. *Buyer Behaviour: Understanding Consumer Psychology and Marketing*. 4th ed. New York: Oxford Press.

Controllability	Consumers' views / beliefs that they have control over their behaviour, and that the actual performance or non-performance of a specific behaviour is ultimately up to them.	Ajzen, I. 2002. Perceived behavioural control, self-efficacy, locus of control and the Theory of Planned behaviour. *Journal of Applied Social Psychology*, 32(4):665-683.
Eco-friendly apparel	Defined as products that were produced or manufactured in a way that is considerate of the environmental impact that the production process has, as well as replacing the damaging chemicals and products with more sustainable options.	Joergens, C. 2006. Ethical fashion: myth or future trend? *Journal of Fashion Marketing and Management*, 10:360-371.
Ecological footprint	Defined as the concept in which humans make use of greenhouse gas emissions for production processes or consumption activities which negatively contributes to climate change and leaves a significant "footprint" in the environment.	Pertsova, C.C. 2007. *Ecological Economics: Research Trends*. New York: Nova Publishers.
Greenhouse gas	Any gaseous compound that exists in the atmosphere and is capable of absorbing infrared radiation, which ultimately traps and keeps heat in the atmosphere. Due to increasing levels of greenhouse gases from human activities, the atmosphere is trapping a lot of heat which leads to global warming.	Lallanilla, M. 2015. Greenhouse Gas Emissions: Causes & Sources. *Livescience*. [Online] Available from: http://www.livescience.com/37821-greenhouse-gases.html [Accessed: 2015-07-07].
Green consumerism	A multi-faceted concept, which includes the preservation of the environment, reducing the effects of pollution, responsible use of non-renewable resources, and overall preservation.	Mostafa, M.M. 2007. Gender differences in Egyptian consumers' green purchase behaviour: the effects of environmental knowledge, concern and attitude. *International Journal of Consumer Studies*, 31(1):220-229.
Moral norms	Consumers' personal beliefs regarding the moral correctness or incorrectness of performing a certain action; it is based on the interplay of cognitive, emotional, and social factors.	Tang, Z., Chen, X. & Luo, J. 2011. Determining Socio-Psychological drivers of rural household recycling behaviour in developing countries: A case study from Wugan, Hunan, China. *Environment and Behaviour*, 43:848-877.
Perceived behavioural control	The presence of factors that may influence or hinder the intent to perform or behave in a specific way.	Ajzen, I. 1991. The theory of planned behaviour. *Organisational Behaviour and Human Decision Processes*, 50:179-211.
Pro-environmentalism	A consumer's efforts to minimise the harmful environmental impact of human activities, to preserve the natural resources.	Kollmuss, A & Agyeman, J. 2002. Mind the gap: Why do people act environmentally and what are the barriers to pro-environmental behaviour? *Environmental Education Research*, 8(3):239-260.
Pro-environmental apparel acquisitions	Includes acquiring eco-friendly apparel products or giving preference to environmentally preferable product attributes and sources. It also includes limiting acquisitions.	Hiller-Connell, K.Y. 2011. Exploring consumers' perceptions of eco-conscious apparel acquisition behaviours. *Social Responsibility Journal*, 7(1):61-73.

Pro-environmental apparel consumption	Apparel acquisition, storage, use, maintenance and disposal that is environmentally preferable because of the intent to reduce and consume fewer resources.	Hiller-Connell, K.Y. 2010. Internal and external barriers to eco-conscious apparel acquisition. *International Journal of Consumer Studies*, 34(1):279-286.
Pro-environmental consumer behaviour	Consumers' behaviour that improves social and environmental performances, in addition to meeting their needs.	Wang, P., Liu, Q. & Qi, Y. 2013. Factors influencing sustainable consumption behaviours: a survey of the rural residents in China. *Journal of Cleaner Production*, 3:1-14.
Self-efficacy	The consumers' confidence in their capabilities to organise and perform a certain course of action that is needed to produce the desired outcomes.	Tang, Z., Chen, X. & Luo, J. 2011. Determining Socio-Psychological drivers of rural household recycling behaviour in developing countries: A case study from Wugan, Hunan, China. *Environment and Behaviour*, 43:848-877.
Social norms	A social phenomenon that provides consumers with information on what is morally correct or not, as well as whether it is beneficial and easy to perform.	Bamberg, S. & Möser, G. 2007. Twenty years after Hines, Hungerford, and Tomera: A new meta-analysis of psycho-social determinants of pro-environmental behaviour. *Journal of Environmental Psychology*, 27:14-25.

1.8 PRESENTATION AND OUTLINE OF THE STUDY

This chapter introduced the study by providing a comprehensive discussion regarding the nature and background of the research subject, by elaborating on the environmental impact of the apparel industry, as well as the impact of the menswear segment in South Africa. The components of interest included the introduction, theoretical background, the research problem, the justification of the research, the overall objectives, methodology as well as the definitions of terms and concepts of the research study. The succeeding chapters are outlined and summarised as follows:

CHAPTER 2 offers an overview of the relevant literature concerning the research problem of this study. A comprehensive presentation of the conceptual framework developed for this research study is presented and the relevant concepts are incorporated into the conceptual framework to address the research study's hypotheses. It furthermore introduces the relevant theories (Theory of Planned Behaviour (TPB) and Norm-Activation Theory (NAT)) employed for the study. Underlying concepts related to the NAT (awareness of consequences, moral norms) (Schwartz, 1977), as well as applicable concepts related to the TPB (social norms, attitudes, perceived

behavioural control, behavioural intent) (Bamberg & Möser, 2007; Tonglet *et al*., 2004; Ajzen, 1991) are explained and discussed.

CHAPTER 3 provides a detailed description of the research design and methodology. Samples, sampling techniques, development of the questionnaire, data collection, and data analysis are discussed and explained. Measures employed to ensure good data quality is highlighted in this chapter.

CHAPTER 4 deals with the results, interpretations and findings of the research study. Firstly, the demographic characteristics of the sample will be explained by means of tables, graphs and numerical summaries, such as frequencies and percentages to present the results using descriptive statistics. Thereafter, EFAs, Cronbach's Alphas, CFAs, correlations, multiple regression analysis as well as a path analysis will used in order to interpret the results and indicate which motivational constructs influence the behavioural intent of male consumers in South Africa with regards to acquiring apparel in a pro-environmental manner.

CHAPTER 5 is the last chapter of the dissertation, and contains the conclusions derived from the main findings. The practical implications of the findings, the limitations of the study, and suggestions for future research are highlighted.

1.9 CONCLUSION

This chapter can be described as a general introduction to the research study. It provided the necessary background information to give insight into the research problem, and outlined and explained the justifications regarding the research study. Furthermore, it introduced the concepts and theories related to the conceptual framework, as well as the research hypotheses. A discussion follows in the next chapters, as mentioned in the presentation and outline of the study.

CHAPTER 2: A REVIEW OF LITERATURE

Considering the foregoing nature and background of the study presented in Chapter one, the sections in this chapter elaborate on gender, the pro-environmental apparel consumer behaviour, awareness of consequences, social norms, attitudes, moral norms, perceived behavioural control (including perceived self-efficacy and controllability), and behavioural intent. Furthermore, the appropriate theoretical perspectives are discussed and incorporated into the proposed conceptual framework and hypotheses that are presented to address the research problem of this study. This ensures theoretical validity and is done to create an understanding of the pro-environmental motivation and intent of male consumers to acquire eco-friendly apparel in the South African market.

2.1 GENDER

Age, gender, ethnicity, and income are all aspects that form part of demographic information. It can be seen as an important component to determine marketing segmentation and usually relates to certain consumers' buying and consumption behaviour. In terms of demographic factors, gender can be seen as one of the most important aspects in this study, and is known to significantly influence environmental awareness and pro-environmental motivations and intent (Mobley & Kilbourne, 2013; Kollmuss & Agyeman, 2002, Zelezny *et al*., 2000).

Gender differences with regards to pro-environmental awareness are determined by consumers' attentiveness to knowledge, especially when considering the extent of concern for others around them, other species, as well as the environment and is ultimately, the result of socialisation and life experience (Mobley & Kilbourne, 2013; Dietz *et al*., 2002, Zelezny *et al*., 2000). Research has revealed that the attitude and behaviour of women regarding the environment tend to be stronger than that of men and that they are significantly more concerned about the environment than males (Mostafa, 2007; Mitchell & Walsh, 2006; Zelezny *et al*., 2000). Together with that, woman generally have less knowledge regarding environmental issues than males, but are more willing to change the way they live to act pro-environmentally. Males, on the other hand, might have the knowledge, but are not concerned enough about the environment to act on it and change their behaviour (Mostafa, 2007; Mitchell & Walsh, 2006).

Another aspect to consider when discussing gender differences in terms of pro-environmental behaviour is the notion that males are controlled by certain goals, which form part of self-assertion and mastery, where females, on the other hand, are more focused on communal goals like affiliation and the development of harmonious relations (Solomon & Rabolt, 2004:151). This could relate to the notion that females are more expressive in terms of their emotions, the social standards they set as well as having a stronger "ethic of care", whereas males tend to be more independent and competitive in terms of socialization and values (Lee, 2009).

While traditional concepts of men are tough, aggressive and masculine, modern marketers depict men as more "sensitive", emphasising the thoughtful side to the modern males of today (Solomon & Rabolt, 2004:156). They have evolved regarding their intentions and buying behaviours, i.e. men whose partners work outside of the home tend to shop more for their own clothing, in contrast to a few years back, when housewives were inclined to do all the shopping, including apparel for their husbands (Keiser & Garner, 2008:69; Du Preez *et al*., 2007). It is therefore important to investigate the potential gender differences in environmentalism (Mobley & Kilbourne, 2013). Male consumers have also become more prone to investigate the apparel options before they purchase and consume it, which in itself provides them with knowledge regarding the apparel they have purchased, as well as the use and disposal of it afterwards (Du Preez *et al*., 2007; Bakewell *et al*., 2006; Mitchell & Walsh, 2006). All these factors could influence male consumers' pro-environmental motivation and intent to acquire eco-friendly apparel in the South African market.

2.2 PRO-ENVIRONMENTAL CONSUMER BEHAVIOUR

Consumer behaviour can be described as the study of individuals or groups and the processes they adopt to select, use and dispose of their products (Hiller-Connell, 2010; Du Plessis & Rousseau, 2007:8; Solomon & Rabolt, 2004:23). To link up with the above mentioned heading, the consumer behaviour of males will be briefly explained in terms of shopping and acquiring products. Generally, males tend to spend less time selecting their products, but seem to spend more money to purchase quality products (Mitchell & Walsh, 2006). Together with that, it can be deduced that male consumers are less compulsive buyers and employ simple strategies during decision making processes by attending to a smaller number of information sources (Bakewell &

Mitchell, 2004). Male consumer behaviour has evolved in recent years and especially young males are more knowledgeable about products in the market. They tend to explore the options available to them which displays more complex consumer behaviour in comparison to the initial definition of male consumer behaviour. On the other hand, stereotypes of males and their consumer behaviour also still exist and various males still follow certain routines that signify the more traditional male consumer behaviour (Parumasur & Roberts-Lombard, 2014:141-142). Therefore it can be said that there are clear differences between male and female consumer behaviour and that male consumer behaviour is an ever-changing phenomena that should be further explored in terms of research. Therefore this study has focused on males' pro-environmental intent to clarify how they acquire eco-friendly apparel in South Africa. Together with male consumer behaviour, pro-environmental consumer behaviour, and more specifically pro-environmental apparel consumption will also be discussed to fully understand the focus on males' pro-environmental motivation and intent to acquire eco-friendly apparel in South Africa.

Pro-environmental consumer behaviour can be defined as consumers' behaviour that improves social and environmental performances, in addition to meeting their needs (Wang, Liu & Qi, 2013). It is closely related to the concept of green consumerism, which can be described as a multi-faceted concept that includes the preservation of the environment, reducing the effects of pollution, responsible use of non-renewable resources, and overall preservation (Mostafa, 2007). According to Stern (2000), actions can be distinguished to either have a negative impact on the environment or they are carried out with the intent to contribute positively to the environment. The impact- and intent-oriented interpretations associated with pro-environmental behaviour are clearly distinguished in existing literature, as environmental intent does not necessarily lead to behaviour that has a positive impact on the environment (Zabkar & Hosta, 2013; Tang, Chen & Luo, 2011).

One of the prominent aspects that impact on the environment and forms part of consumer behaviour is apparel consumption, which can be described as the acquisition, storage, use, maintenance, and disposal of apparel products (Joung & Park-Poaps, 2013; Hiller-Connell, 2011). This whole process of consumption contributes to pollution, which consequently threatens the livelihood and wellness of humans, animals, and every living being that forms part of the ecosystem on this planet (Midgley, 2007). Textile production, product distribution, use and maintenance, and, lastly, disposal, all contribute to polluting the earth and causing catastrophic consequences for the environment (Bianchi & Birtwistle, 2012). It is vital that other options, such as pro-environmental apparel consumption are elucidated and explored to present consumers

with alternative options that could reduce apparel waste and lead to more environmentally friendly and responsible behaviour (Nordlund & Garvill, 2002).

Pro-environmental apparel consumption can be defined as apparel acquisition, storage, use, maintenance and disposal that is environmentally preferable, because of the intent to reduce and consume fewer resources (Joung & Park-Poaps, 2013; Wang *et al.*, 2013; Hiller-Connell, 2010). In the context of the apparel industry, sustainable consumer behaviour is a concept that is closely related to terms such as “pro-environmental” and “eco-friendly”; and is recognised in the production, as well as consumption of apparel products (Business for Social responsibility, 2012). However, there is a difference between pro-environmental behaviour and sustainable consumer behaviour. Pro-environmental behaviour can be defined as any consumers’ behaviour, whether it is once-off or repetitively, that improves social and environmental performances (Wang *et al*., 2013). Sustainable consumer behaviour can be seen as the capability to continue behaving and living in a manner which does not damage natural resources or the environmental quality which all humans and future generations depend on (Bell & Morse, 2008:9-12).

McCann-Erikson (2007) defines sustainability as follows:
“Sustainability is a collective term for everything to do with responsibility for the world in which we live. It is an economic, social and environmental issue. It is about consuming differently and consuming efficiently. It also means sharing between the rich and the poor and protecting the global environment while not jeopardizing the needs of future generations”.

With that being said, it is evident that sustainable consumer behaviour is a collective term that represents a lifestyle; with aspects such pro-environmental behaviour and eco-friendly options that form part of a sustainable approach in general. Pro-environmental behaviour is perhaps not as encompassing, but nevertheless forms part of a consumer’s decisions and behaviour regarding certain aspects in his/her life at any point in time with recognition of the environmental impact of such decisions. For the purpose of this research study, the focus will be more specifically on the pro-environmental intent and behaviour of male consumers in South Africa.

Pro-environmental consumption in the apparel industry can be implemented in a number of ways, namely by acquiring products that have been designed, manufactured, and distributed locally, or by buying less clothing, or by acquiring long-lasting durable products (Kang & Kim, 2013; Norum, 2013; Clark, 2008). Firstly, it looks at limited/ need–based apparel acquisition, which, in itself, is an environmentally friendly approach to acquisition. It also looks at the

acquisition of eco-friendly apparel products and products with eco-friendly attributes from eco-friendly sources (Hiller-Connell, 2011).

2.3 PRO-ENVIRONMENTAL APPAREL ACQUISITIONS

2.3.1 Need-based apparel acquisition

Limiting the amount of apparel acquired by consumers, represents one of the easiest pro-environmental apparel intentions that could be enacted by a consumer. It refers to the number of apparel items that consumers acquire or purchase every year (Hiller-Connell, 2011). It can be described as need-based apparel acquisition, where consumers critically question their personal needs or wants and only acquire the apparel pieces on a need basis (Cho & Workman, 2011). The need-based approach is more apparent among fashion followers, and men in general, who tend to spend less on clothing (Coley & Burgess, 2003). In contrast, consumer segments that are known as fashion leaders or “change agents” tend to consume more (Workman & Studak, 2007).

In addition to that, consumers could also limit their apparel purchases by selecting classically styled items that could last multiple years and does not lose its appeal after one season (Hiller-Connell, 2011). Such apparel items are considered timeless pieces and can be used interchangeably across various seasons and trends (Hiller-Connell, 2011). Typical examples for male consumers would be the suit and white dress shirts. A suit and dress shirt could either be very formal and conservative or can be casual by combining and replacing some pieces with more informal garments. A classically styled, good quality suit is therefore a timeless, multifunctional piece, which in turn, eliminates the need for fashion items whenever a new trend appears (Young, Jirousek & Ashdown, 2004). This notion could drastically reduce the apparel waste of consumers in South Africa by lengthening the apparel’s lifespan (i.e. time of use), and only disposing of it when that life time is over. The problem however, is that fashion-conscious consumers dispose of their apparel for various reasons, including poor quality, damaged apparel or outdated trends – all of which add to the textile waste deposited into landfills on a yearly basis (Birtwistle & Moore, 2007).

As mentioned before, men tend to spend less on clothing than women (Workman & Studak, 2007) and it was found that male consumers are more likely to minimise their expenditure on clothing if they are faced with financial constraints and were forced to reduce their overall expenditure (Pentecost & Andrews, 2010). This could be attributed to the fact that men, generally, seem to be less involved in fashion clothing than women (Pentecost & Andrews, 2010; O'Cass, 2004). Since empirical findings suggest that male consumers tend to acquire apparel on a need-to-have basis, and are, generally less fashion conscious, reduced apparel acquisition and consumption may seem a viable pro-environmental option for them and may even be in line with their typical apparel and fashion behaviour. Limiting apparel acquisitions, and purchasing apparel pieces that are timeless and classically styled, could be further supported by various contextual and non-environmental factors (e.g. financial/ economic constraints), which nonetheless contribute to positive environmental consequences, since it decreases the need for the continuously evolving fashion cycles and apparel production.

2.3.2 Apparel acquisitions based on pro-environmental attributes

Consumers often make use of certain attributes, such as colour, size, brand, price and country of origin to decide upon, choose and acquire their apparel. These attributes can be described as a set of factors that retailers use to communicate their product to potential customers (Donofrio, 2011). In addition, eco-friendly apparel can also be differentiated from conventional garments based on certain pro-environmental attributes (Hiller-Connell, 2010). Eco-friendly apparel can be defined as products that are produced with consideration of the production processes' environmental impact; it also implies replacing damaging chemicals and products with more sustainable options (Brosdahl & Carpenter, 2010; Joergens, 2006). This is favourable for the environment, as fewer resources are used in addition to the fibres and manufacturing processes that generate less pollution and waste (Hiller-Connell, 2010). By encouraging consumers to consider eco-friendly apparel options in terms of specific pro-environmental attributes, the impact that the apparel production and consumption currently have on the environment, could be minimised drastically.

Pro-environmental attributes of eco-friendly apparel include the following: The use of natural fibres and environmentally friendly textiles; the acquisition of locally produced apparel rather than imports to reduce the negative environmental impact of transportation and distribution; the acquisition of apparel made from recycled materials, or produced with minimum water usage; and, lastly, the acquisition of apparel that was stylised with eco-friendly dyeing processes. The above mentioned pro-environmental attributes are discussed in greater detail in the following

section to gain a better understanding of each of the environmentally preferable options in the apparel industry.

Environmentally friendly fibres and textiles

The apparel industry utilises various natural fibres such as cotton, linen, and wool. They also make use of synthetic fibres, including nylon and polyester, which are made from petrochemicals. Another artificial fibre that is often used is rayon or viscose, which is made of wood pulp. Currently, these fibres dominate the apparel market and have several environmental implications (Saeed, Lodhi, Khan, Khurshid, Dustgeer, Sami, Mahmood & Ahmed, 2013). Apparel acquisitions based on attributes that have been deemed pro-environmental include eco-friendly products made of fibres, such as organic cotton, hemp or recycled polyester (Shen, Zheng, Chow & Chow, 2014; Hiller-Connell, 2011). However, the availability of such options within the South African apparel market must be brought into question.

The process of acting sustainably, i.e. choosing eco-friendly apparel options, depends on the availability of sustainable raw materials, limited waste creation, and limited water usage during the life cycle of the apparel (Kang & Kim, 2013). Apparel made of organic cotton is regarded eco-friendly, since its production does not involve the use of pesticides, and makes use of less water during the production phase than the conventional methods of cotton production (Kang & Kim, 2013; Luiz *et al*., 2011; Fletcher, 2008). A South African retailer that is recognised for its support of eco-friendly natural fibres (e.g. organic cotton), is Woolworths. On a broader scale, South Africa has in fact been using organic cotton since 2004, and earned the position of the third-largest consumer of organic cotton in the world (Luiz *et al*., 2011). In 2008, Woolworths sold over one billion rand worth of clothing made of organic cotton (Dos Santos, 2011). Bamboo fibre is another eco-friendly option and is one of the most sustainable fibres with properties that can minimise the negative environmental impact (Yoo, Divita & Kim, 2013; Hardin, Wilson, Dhandapani & Dhende, 2009). Because bamboo is a natural product comprised of biologically occurring polymers, it is biodegradable and a good alternative to fibres such as nylon or polyester (Yoo *et al*., 2013; Brinsko, 2010). In recent years the availability of bamboo products has also increased in the South African retail market. Globally, numerous international brands such as Nike, H&M, GAP and Levi Strauss have been investing in, and developing sustainable collections over the past few years (Chan & Wong, 2012; Fletcher, 2008; Joergens, 2006). Although, eco-friendly apparel products have perhaps not yet gained the same acceptance in the local market as abroad, numerous new textiles and apparel products are discovered and

introduced within the South African apparel sector on a daily basis, thus increasing the eco-friendly options available to the South African consumer population.

Imports and exports of the South African textile and clothing industry

The South African textile and clothing industry currently imports 90% of their apparel (PwC & Economist Intelligence Unit, 2012), which have various environmental implications of its own regarding transportation and distribution (Luiz *et al*, 2011; Mont & Bleischwitz, 2007). However, if consumers choose to acquire apparel that has been locally produced, they could contribute to minimising the negative environmental implications and positively affect the apparel industry, as well as the environment. South Africa produces a significant amount of natural fibres, such as wool and mohair, and has also developed the capacity to produce synthetic fibres over the last few years (Momberg *et al.*, 2012; Vlok, 2006:242). It is also worth noting that in 2004, retailers such as Woolworths collaborated with ComMark, Cotton SA, the Organic Exchange, and the Agricultural Research Council Institute for Industrial Crops as part of a pilot project on organic cotton farming to learn more about organic cotton farming in general (Luiz *et al*., 2011; South Africa Info, 2007). Woolworths now offers an organic clothing range to consumers and continuously promotes the use of local, natural fibres as part of their new image and slogan, “Woolworths – The Difference” (World Wide Fund and Woolworths, 2012).

Recycled material and water usage

Woolworths and FM Denims in Mauritius have begun to use recycled polyester to manufacture their textiles. Traditionally, a pair of jeans is made of cotton fibre, but as the sustainability issues are becoming more prominent throughout the industry, they have transformed their production process (50/50 Human Nature, 2014). FM Denims is currently using recycled plastic bottles, which have been converted into yarn to produce a fabric which is called ‘African cotton’. So the jeans that are made with this African cotton thread, is basically made up of 13 recycled plastic bottles that have been converted into yarn. The process begins with collecting plastic bottles; the caps as well as the labels are removed. Next, the bottles are washed and compressed, followed by processing them into small grains, which are used to create yarn. The yarn is then sent over to FM Denims in Mauritius, where it is weaved into the cotton fabric. Three years ago, FM Denims set up a 2025 denim initiative which aims to reduce water consumption. Instead of the 20 litres of water used to produce a pair of traditional jeans, they are currently making use of a mere 2 litres of water, saving up to 90% of water. These denims are currently available in the

menswear section of Woolworths as part of their RE:Denim collection (50/50 Human Nature, 2014).

Dyeing process involved in the manufacturing of apparel products

The processes of dyeing and finishing with regards to clothing, contributes significantly to increase of water usage as well as harmful chemicals being released in the environment (Mastamet-Mason, 2013). With that being said, another eco-friendly initiative that Woolworths has begun together with "Jeaneology", is to reduce the use of natural resources during the dyeing process of denims to get the distressed effect. The company "SKYJeans" has actually developed new technology to treat the denims with laser and ozone technology in order to save resources such as water, and reduce the use of chemicals (50/50 Human Nature, 2014). By making use of laser technology, water consumption is reduced by 15% and electricity by 20%. Together with Woolworths and the green initiative, they are able to save 70 litres of water per pair of jeans. Currently, this innovative process is only used to produce denims in menswear and ladieswear, but Woolworths has future plans of creating an entire brand to promote this sustainable alternative to South African consumers (50/50 Human Nature, 2014).

South Africa has not only made an impact on the clothing and textile industry in terms of cotton, but is also successfully growing and processing natural fibres such as flax and hemp (Luiz *et al*., 2011; South Africa Info, 2007). From this it can be seen that the opportunity to produce eco-friendly apparel does exist in South Africa. However, because the South African market is flooded with imported clothing and textile products, incorporating environmentally sound practices, such as sourcing eco-friendly textiles, has not been an easy task for South African manufacturers and/or retailers (Luiz *et al*., 2011; Vlok, 2006:234).

2.3.3 Apparel acquisitions through pro-environmental sources

Another way of acquiring apparel in a pro-environmental manner is to make use of second-hand stores or acquiring second-hand apparel from family or friends. This notion enables consumers to reuse apparel products that are still usable (Hiller-Connell, 2011). Reuse, in this context, is when already-purchased products are sold to others, exchanged for other things or just donated. These initiatives take place in flea markets, at garage sales, during bartering, exchanging hand-me-downs, and on the black market. These places are often classified as vintage apparel stores instead of second-hand clothing stores, thus adding some interest (Joung & Park-Poaps, 2013; Solomon & Rabolt, 2004:457-458). However, the notion of reuse is only effective if consumers

make use of this option; only then can it decrease the need to manufacture new apparel, conserve resources, and decrease waste (Hiller-Connell, 2010).

In addition to the fore mentioned, numerous initiatives have been established that are collectively known as “eco-innovation” whereby second-hand garments are reconstructed and reinvented. These garments are augmented into creations of higher quality and status than the original object, and are created into unique garment pieces with a story. The concept of adding value to already-used garments and materials is known as “upcycling”, which transforms the used apparel products into successfully constructed and renewed creations (Fletcher & Grose, 2012:69).

For the purpose of this research study, and in order to keep the research specific, pro-environmental apparel acquisitions were narrowed down to need-based apparel acquisitions, and apparel acquisitions based on pro-environmental attributes. Acquisitions made through pro-environmental sources are therefore not included in this study, but remains an important pro-environmental option and should be explored in future environmentally related apparel studies. With regard to this study, the inclusion of the first two apparel options were pursued with specific theories in mind to explore and explain the underlying motivation and intent of male consumers to engage in pro-environmental apparel behaviours.

2.4 SUPPORTING THEORIES TO EXPLAIN MALE CONSUMERS’ PRO-ENVIRONMENTAL APPAREL INTENTIONS

The development of models to explain and predict environmental behaviour has become an important aspect of environmental research. Although there is an increasing amount of literature available on the different factors that could influence pro-environmental patterns, (Bamberg & Möser, 2007; Tonglet *et al.*, 2004; Bamberg & Schmidt, 2003) very few of these studies have analysed the relationship between the motivational variables, such as awareness of consequences, social norms, attitude, moral norms, perceived behavioural control (perceived self-efficacy and controllability), and behavioural intent with regards to pro-environmental apparel acquisition. To better understand and analyse the possible influencing factors, the Norm-Activation Theory (NAT), and the Theory of Planned Behaviour (TPB), both well-established studies (Bamberg & Schmidt, 2003), have been applied for the purpose of this

study. These theoretical perspectives are relevant when addressing the hypotheses, as well as the conceptual framework developed for this research study.

2.4.1 The Norm-Activation Theory (NAT) and the Theory of Planned Behaviour (TPB)

As illustrated in Bamberg and Möser (2007), both the Norm-Activation Theory (NAT) and the Theory of Planned Behaviour (TPB) have been identified as key frameworks to explain pro-environmental behaviour (Park & Ha, 2014). Various researchers have implied that pro-environmental behaviour includes a degree of self-interest, as well as pro-social motives (Park & Ha, 2014; Mair & Laing, 2013; Bamberg *et al*., 2007; Wall *et al*., 2007; Oreg & Katz-Gerro, 2006; Schuler & Cording, 2006; Oom Do Valle *et al*., 2005). Therefore these researchers previously proposed including awareness of consequences and moral norms, which form part of the NAT, as additional predictors of behavioural intent, together with social norms, attitude, and perceived behavioural control (including the dimensions of perceived self-efficacy and controllability), as postulated in the original TPB (Chen & Tung, 2010; Bamberg & Möser, 2007; Tonglet *et al*., 2004; Ajzen, 2002). The amalgamation of these theories is based on the assumption that pro-environmental behaviour stems from a person's self-interest and volitional intentions, as well as from moral- or norm-based beliefs (Park & Ha, 2014; Bamberg & Möser, 2007).

Generally, researchers who regard pro-environmental behaviour as pro-social, and who emphasise the potential role that personal beliefs and moral norms can fulfil as determining factors of intent and behaviour, base their theoretical approach on Schwartz' (1977) NAT (Park & Ha, 2014; Bamberg & Möser, 2007; Bamberg & Schmidt, 2003; Schwartz, 1977). According to the NAT, personal norms or moral norms are triggered by two factors, namely awareness of consequences and ascription of responsibility (Schwartz, 1977). Without an awareness of the consequences of their behaviour, consumers would not necessarily feel a strong obligation to behave in a certain way, e.g. to purchase eco-friendly apparel. It is therefore important for consumers to be knowledgeable regarding environmental issues, as it would most likely motivate them in some way to attempt to live a more environmentally responsible lifestyle, by, for example, purchasing eco-friendly apparel or limiting their apparel purchases (Park & Ha, 2014; Bamberg & Möser, 2007). Schwartz's (1977) NAT and the core concepts linked to this theoretical framework are depicted in **Figure 2.1**.

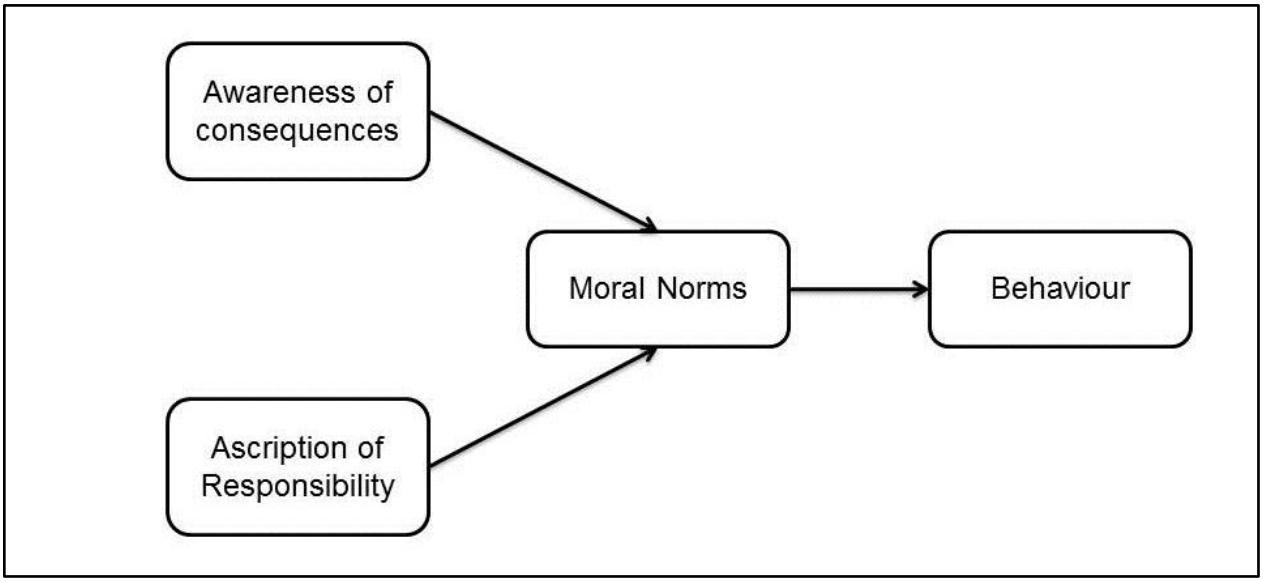

FIGURE 2.1: NORM-ACTIVATION THEORY (NAT) (Schwartz, 1977).

In contrast to the NAT theoretical approach, researchers who rely on rational choice models, such as the TPB, regard self-interest as the more dominant motive for pro-environmental behaviour (Bamberg & Möser, 2007; Wall *et al*., 2007). The theory of planned behaviour (TPB) developed by Ajzen (1991) provides a framework for systematically investigating the factors that influence behavioural choices. The TPB was developed from the earlier theory of reasoned action (TRA) (Ajzen & Fishbein, 1977), which assumes that consumers behave in a rational manner. According to this theory, if an action is about to take place, consumers must have evaluated the proposed behaviour, and have a general favourable attitude towards the behaviour (Tonglet *et al*., 2004). The original TPB includes behavioural intention as the significant predictor of behaviour, which in turn is preceded by attitudes, social norms and perceived behavioural control. Attitudes reflect the positive or negative appraisal of behavioural options, whereas social norms are seen as the social pressures from social groups to act in a certain manner, and perceived behavioural control is described as the perceived ease or difficulty to perform a certain behaviour (López-Mosquera, Garcia & Barrena, 2014, Ajzen, 1991). Therefore, the consumers' attitudes must include the intent to carry out an action, such as pro-environmental apparel acquisition, which reflects a reasoned evaluation of the most likely consequences of that action (Joung & Park-Poaps, 2013; Blake, 1999; Foxall & Goldsmith, 1994:99). **Figure 2.2** depicts the relationship among the various TPB concepts that eventually leads to certain behaviour.

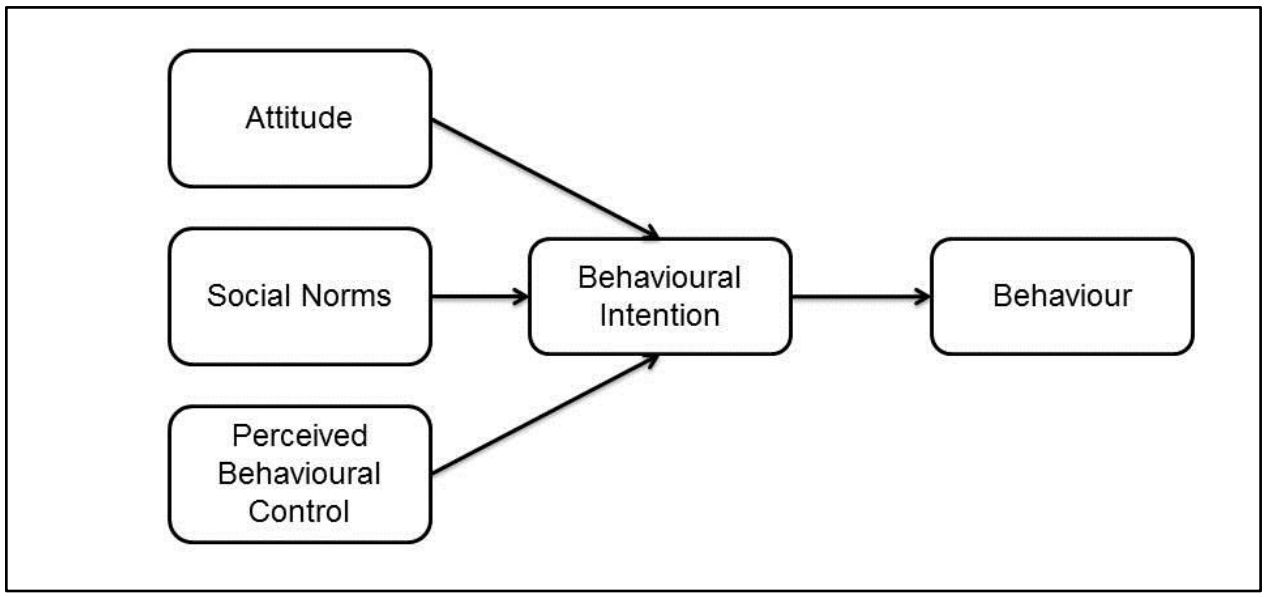

FIGURE 2.2: THEORY OF PLANNED BEHAVIOUR (TPB) (Ajzen, 1991).

With regards to this study, the relevant concepts of the NAT (i.e. awareness of consequences and moral norms), as well as the applicable concepts related to the TPB (i.e. social norms, attitude, perceived behavioural control, and behavioural intent) will be discussed in more detail to create an understanding of the proposed conceptual framework for this study. Perceived behavioural control, in particular, will be expanded on to fully explicate its underlying dimensions, namely perceived self-efficacy and controllability, in accordance with Ajzen's (2002) views, who developed the original TPB. The concept and conceptual framework of this research study thus stems from the theoretical framework as illustrated in Bamberg & Möser (2007), where they expanded on the meta-analysis of research on responsible environmental behaviour that was originally published by Hines, Hungerford and Tomera (1986/87). The previously mentioned study (Bamberg & Möser, 2007) was based on 46 independent studies that made use of the NAT, the TPB as well as other models of pro-environmental behaviour, and includes similar constructs that will be discussed in this research study.

2.4.2 Awareness of consequences

Based on the underlying assumptions of the NAT, an awareness of the consequences of specific behaviour is a significant predictor of pro-environmental intent and behaviour. It is an indirect determinant of pro-environmental behaviour, and plays a role in influencing social norms, attitude, moral norms, and perceived behavioural control (Wall *et al*., 2007; Oom Do Valle *et al*., 2005). Awareness of consequences can be defined as consumers' understanding of the negative consequences that might occur for them, as well as others, if they do not act in a

pro-social, eco-friendly manner (De Groot & Steg, 2010). It can therefore be a challenge for consumers to feel a strong obligation to perform a certain task when they are not aware of the consequences of their own behaviour. However, when consumers have the knowledge regarding environmental needs and problems, it would most likely motivate them in some way to attempt to live a more environmentally responsible lifestyle, by, for example, purchasing eco-friendly apparel or limiting their apparel purchases (Park & Ha, 2014; Bamberg & Möser, 2007). With regards to the knowledge as a component of awareness, it can be defined as the information that individuals have in terms of their environment and the impact of human actions on the environment (Saeed *et al*., 2013; Brosdahl & Carpenter, 2010; Mostafa, 2007). This includes environmental knowledge regarding the recognition of environmental problems, causes and consequences of consumer behaviour on the environment, which would generally increase consumers' awareness levels and promote a favourable attitude towards sustainability, and pro-environmental behavioural intentions (Momberg *et al.*, 2012; Brosdahl & Carpenter, 2010; Haron, Paim & Yahaya, 2005). Knowledge is also described as a source from which environmental attitudes are formed and where intent and behaviour are manifested (Vicente-Molina, Fernanadez-Sainz & Izagirre-Olaizola, 2013; Kollmuss & Agyeman, 2002).

For the purposes of this study, awareness of consequences can be explained by means of knowledge about the environment and eco-friendly apparel, as well as recognition of the environmental problems within the apparel industry (Grob, 1995). Various studies have suggested that consumers tend to be knowledgeable about general environmental problems, but do not necessarily display the same knowledge when it relates to specific behaviour such as eco-friendly apparel acquisitions (Joergens, 2006; Haron *et al*., 2005). This could be due to inadequate information and limited availability of eco-friendly apparel within the South African apparel industry (Momberg *et al.*, 2012). Together with that, subjective knowledge can be described as the perceptions of how much people know as well as their self-confidence levels in their own knowledge about a product class; in contrast to what they actually know, which is described as objective knowledge (Sonnenberg & Erasmus, 2013; Aaerstens, Mondelaers, Verbeke, Buysse & Van Huylenbroeck, 2009; Chiou, 1998; Brucks, 1985). It has been argued that a person with strong subjective knowledge, will have greater confidence in their ability to actually perform a specified task, and will thus be reflected in the self-efficacy factor as well (Chiou, 1998). It is also believed that the ability of a consumer to behave in a certain way is influenced by the experience they have with a specific product class (Ölander & Thøgersen, 1995; Brucks, 1985).

On the other hand, many researchers have indicated that despite consumers' extensive knowledge regarding environmental issues, it still doesn't translate into pro-environmental behaviour, since the consumers might not regard the knowledge as significant in deciding upon a specific course of action (Momberg *et al.*, 2012; Haron *et al.*, 2005). The debate continues as certain studies have illustrated that an increase in environmental knowledge could lead to a greater awareness, as well as a positive attitude, and an increased intent to act pro-environmentally (Kozar & Hiller-Connell, 2013; Hiller-Connell, 2011; Brosdahl & Carpenter, 2010; Grob, 1995). Brosdahl and Carpenter (2010) found that knowledge of the environmental impacts of the textile and apparel industry has an influence on environmental awareness and, in turn, on pro-environmental behavioural intent.

In the theoretical framework of Bamberg and Möser (2007), awareness of consequences is depicted as a direct predictor of social norms. As mentioned before, knowledge can be seen as a component of awareness, and is described as the information that individuals have in terms of their environment and the impact of human actions on the environment (Saeed *et al*., 2013; Brosdahl & Carpenter, 2010; Mostafa, 2007). Based on this information and awareness, society becomes aware of certain behaviours, which leads to the evolution of social norms regarding certain issues such as pro-environmental behaviour. Consumers who possess the knowledge of consequences, have a better understanding of the effects that go along with it, and tend to be more sensitive to what others do in terms of environmental issues (Park & Ha, 2014). This leads to the assumption that awareness of consequences will positively influence the social norms, by perceiving that reference groups, who know that the consumer is knowledgeable about environmental issues, would expect him/her to engage in pro-environmental behaviour such as eco-friendly apparel acquisitions (Park & Ha, 2014). Social norms may have a direct influence on attitudes, moral norms and perceived behavioural control, but often exerts no direct effect on the behavioural intent (Park & Ha, 2014; Bamberg & Möser, 2007).

In the study of Bamberg and Möser (2007) that elaborates on the meta-analysis and integrative theoretical framework of psycho-social determinants of pro-environmental behaviour, awareness of consequences seemed to directly influence social norms. Additional research also indicates that ascription or awareness of consequences is a direct predictor of social norms in terms of predicting environmental behaviours with models such as the NAT and the TPB (Bamberg & Schmidt, 2003). This study therefore hypothesized that awareness of the environmental consequences of apparel acquisitions will have a positive effect on the social norms of male consumers.

H1: Awareness of the environmental consequences has a positive effect on the social norms of male consumers in terms of pro-environmental intent to acquire eco-friendly apparel.

2.4.3 Social Norms

As mentioned above, based on the theoretical framework of Bamberg and Möser (2007), awareness of consequences is depicted as a direct predictor of social norms. Social norms originally form part of the TPB model and influences behavioural intent, but with regards to the proposed conceptual framework for this study, as well as the theoretical framework of Bamberg and Möser (2007), social norms are viewed as indirect determinants. The reason for this is that social norms may have a direct influence on attitudes, moral norms and perceived behavioural control, but often exerts no direct effect on the behavioural intent (Park & Ha, 2014; Bamberg & Möser, 2007). Social norms provide the consumers with information on whether pro-environmental behaviour is morally correct or not (i.e. moral norms), as well as whether it is beneficial and easy to perform (i.e. self-efficacy and controllability) (Bamberg & Möser, 2007; Wall *et al.*, 2007).

Social norms can be divided into two dimensions, namely injunctive and descriptive norms (Lapinski & Rimal, 2005; Rhodes & Courneya, 2003). The injunctive norms, which include the more traditional measure of social norms, can be defined as perceived social pressures to either perform or not perform a specific behaviour (Tang *et al.*, 2011; Bamberg & Möser, 2007; Ajzen, 1991). It refers to consumers' beliefs regarding what ought to be done about issues such as pro-environmental apparel acquisitions (Lapinski & Rimal, 2005; Rivis & Sheeran, 2003). It can be explained through normative beliefs of people such as the consumers' families and friends, and motivations to conform. Normative beliefs can be explained as consumers' beliefs that others believe an action should or should not be taken, whereas motivation to conform refers to the degree to which consumers wish to consider others' beliefs before taking action (Joung & Park-Poaps, 2013; Foxall & Goldsmith, 1994:99; Ajzen & Fishbein, 1977).

Descriptive norms, on the other hand, can be defined as the perceptions of the reference group; it is about their attitudes and behaviour with regard to issues, such as pro-environmental behaviour (Rhodes & Courneya, 2003; Rivis & Sheeran, 2003). Descriptive norms ultimately refer to the beliefs regarding the activities that actually take place in one's social group (Lapinski & Rimal, 2005).These norms motivate consumers by providing them with evidence of the most effective and adaptive action, as well as offers an information-processing advantage or decision shortcut when they have to make decisions regarding matters such as pro-environmental

behaviour, and more specifically, pro-environmental apparel acquisitions (Cialdini, Kallgren & Reno, 1991). The notion of registering what others do, and then imitating their actions, enables consumers to make effective decisions regarding their intentions and behaviour. The behaviour is justified as sensible, because it is done by others.

Additionally, social influences are closely related to social norms, and are generated through communication with others; this interaction could affect the way one behaves or acts regarding certain topics, such as pro-environmental intent to acquire eco-friendly apparel (Du Plessis & Rousseau, 2007:261). This is an important factor to consider, as other consumers might have a certain opinion or perception about pro-environmental apparel acquisition, which could play a vital role in the way male consumers regard and act upon the specific issue of interest. With regards to this research study, social norms refer to consumers' perceptions of all the social pressures to act pro-environmentally when purchasing or acquiring apparel products. It will not be conceptualised as a direct predictor of behavioural intent, but is seen as an indirect determinant of pro-environmental behavioural intent when purchasing eco-friendly apparel products, or limiting apparel purchases. More specifically, this study will focus on the effect of social norms on attitudes, moral norms and the dimensions of perceived behavioural control that precede behavioural intent.

Research has shown that social norms directly influence attitudes and therefore acts as an indirect predictor of behavioural intentions (Park & Ha, 2014; Bamberg & Möser, 2007). Attitude can be described as a behavioural belief – it is the degree to which a consumer has a favourable or unfavourable evaluation of a specific issue (Tang *et al.*, 2011; Jackson, 2005:46). With that being said, consumers' attitudes are often affected by social norms in terms of being influenced by their social groups or reference groups around them. This is evident in the notion that consumers are motivated to express the correct attitudes as well as be influenced by reference groups in terms of what they think the consumer should do. All these aspects of social norms will influence the consumers' attitude towards behavioural intentions such as pro-environmental apparel acquisitions (Park & Ha, 2014). Therefore the following hypothesis was formulated for this study:

H2: *Social norms have a positive effect on the attitudes of male consumers in terms of pro-environmental intent to acquire eco-friendly apparel in South Africa.*

In terms of the constructs that relate to one another, social norms have a direct impact on the development of moral norms, when a social group's standards pertaining to what is appropriate behaviour are internalised by consumers, and become the content of their personal moral norms (Bamberg & Möser, 2007). Moral norms are closely related to consumers' personal beliefs regarding moral correctness or incorrectness of performing a certain action, and are based on the interplay of cognitive, emotional, and social factors (Tang *et al.*, 2011; Steg & Vlek, 2009). Once the individual consumer accepts the social norms, it is integrated in the moral norms, which in turn determines behavioural intent. Thus, consumers make use of social norms as information about the appropriate behaviour regarding certain issues. On the other hand, people that influence consumers' social norms can be classified as reference groups. These include family and friends with whom the consumer identifies and who play an important role in shaping the individual's attitudes and beliefs regarding issues, such as pro-environmental motivations and intent to acquire eco-friendly apparel (Du Plessis & Rousseau, 2007:261). Family and friends could influence male consumers to act as they do because it is familiar and a safe option. Based on the above mentioned research, the following hypothesis was formulated for this research study:

H3: *Social norms have a positive effect on the moral norms of male consumers with regards to pro-environmental intent to acquire eco-friendly apparel.*

Other than attitudes and moral norms, perceived behavioural control is also directly influenced by social norms (Bamberg & Möser, 2007). Perceived behavioural control can be described as control beliefs, and can be defined as the presence of factors that may influence or hinder the intent to perform or behave in a specific way (Bamberg, 2003; Ajzen, 1991; Ajzen & Fishbein, 1977). It refers to consumers' perceptions of the ease or difficulty of actually performing certain behaviours, such as pro-environmental apparel acquisition (Chen & Tung, 2014; Tang *et al.*, 2011; Ajzen, 1991). As mentioned in Park and Ha (2014), a study had been done of recycling (Oskamp, Harrington, Edwards, Sherwood, Okuda & Swanson, 1991), where they found that the consumer's recycling behaviour was influenced by friends and neighbours. This lead to the notion that consumers are influenced by their reference groups' beliefs and behaviours, which ultimately plays an integral part in the development of their own perceptions regarding a certain behaviour as well as the ease or difficulty to perform certain tasks relating to their behaviour (Park & Ha, 2014).

By taking the above mentioned research into consideration and by further distinguishing perceived behavioural control as two sub-components, namely perceived self-efficacy and

controllability, it can be assumed that social norms also contributes to the formation of these separate components in terms of pro-environmental intent and behaviour. Perceived self-efficacy can be described as the ease or difficulty of performing a specified task, and, additionally, refers to consumers' confidence that they can perform it if they choose to (Ajzen, 2002). It is also concerned with the judgements of how well one can execute the actions required to deal with probable issues (Ajzen, 1991). Thus, the influence of social norms on self-efficacy is closely related to that of perceived behavioural control, where the consumers' friends and family greatly influence how the consumers think as well as determining their confidence that they can actually perform a task, such as acquiring apparel in a pro-environmental manner should they choose to (Park & Ha, 2014; Ajzen, 2002). For example, if the consumers see that their reference groups take part in pro-environmental behaviour, they will be more confident in easily joining the notion. Controllability also forms part of perceived behavioural control and can be explained as the beliefs that consumers hold regarding the control they have over their own behaviour in lure of certain external factors such as price or availability (Steg *et al*., 2014; Momberg *et al.*, 2012; Steg & Vlek, 2009). This once again is closely related to perceived behavioural control, and leads to the notion that consumers are influenced by their reference groups' beliefs in terms of the control they think they have over certain behaviours, which ultimately plays an integral part in the development of consumers' own perceptions regarding a certain behaviour such as acquiring apparel in a pro-environmental manner regardless of the external factors (Park & Ha, 2014). With that being said, Armitage and Connor (2001) have observed that controllability seems to play a bigger part in influencing the behaviour of consumers, rather than the intentions; however, research has also shown that a mixed set of items (i.e. items including self-efficacy and controllability) significantly improved the prediction of the overall intentions. Therefore both sub-components were selected for this research study and thus, this study hypothesized that social norms will positively affect the perceived behavioural control, and more specifically the perceived self-efficacy as well as the controllability of male consumers.

H4: Social norms have a positive effect on the perceived behavioural control of male consumers.

H4a: Social norms have a positive effect on the perceived self-efficacy of male consumers.

H4b: Social norms have a positive effect on the controllability of male consumers.

2.4.4 Attitude

Attitude can be described as a behavioural belief – it is the degree to which a consumer has a favourable or unfavourable evaluation of a specific issue (Tang *et al.*, 2011; Jackson, 2005:46). Furthermore, it is the lasting feeling concerning a certain issue, and is closely related to beliefs, which can be explained as the knowledge a person has about an issue (Gupta & Odgen, 2006; Kollmuss & Agyeman, 2002). Ajzen (2002) suggested that attitude, which forms part of the TPB, comprises of two sub-components, namely affective and instrumental evaluations towards a specified behaviour (Rhodes & Courneya, 2003). In this context, affective evaluations include degrees of enjoyment when acquiring eco-friendly apparel in a pro-environmental manner, and instrumental evaluations include the concepts regarding the beneficial aspects or harmful aspects of the apparel industry, as well as the effect of apparel acquisitions on the environment (Joung & Park-Poaps, 2013; Tang *et al.*, 2011; Foxall & Goldsmith, 1994:99).

Attitude is an indirect determinant of behaviour, and only influences behaviour via behavioural intent (Bamberg & Möser, 2007; Ajzen, 1991). Attitude is therefore considered a direct predictor of behavioural intent and plays a significant part in shaping consumers' overall intentions towards certain issues (Kollmuss & Agyeman, 2002; Armitage & Connor, 2001; Ajzen, 1991). To date, the role of attitudes in shaping the pro-environmental intent of male consumers, with regards to their apparel acquisitions, has not yet been explored in South Africa, but it can be assumed that the outcome would be similar to the research mentioned above, and thus the following hypothesis was formulated for this study:

H5: *Attitudes have a positive effect on male consumers' pro-environmental intent to acquire eco-friendly apparel.*

2.4.5 Moral Norms

Moral norms are closely related to consumers' personal beliefs regarding moral correctness or incorrectness of performing a certain action, and are based on the interplay of cognitive, emotional, and social factors (Tang *et al.*, 2011; Steg & Vlek, 2009). It can further be described as feelings of moral obligation that consumers experience to engage in pro-environmental behaviour (Bamberg & Möser, 2007). Awareness and knowledge of the environment are seen as important cognitive determinants of moral norms (Bamberg & Möser, 2007; Minton & Rose, 1997). Guilt is also a concept closely related to moral norms and is defined as a feeling of regret when consumers cause, associate or contribute to an issue such as environmental problems

with regards to the apparel industry and their consumption patterns. Thus, feelings of guilt are therefore often used as a measure of moral norms (Bamberg & Möser, 2007). Social norms also play a role in influencing moral norms when a social group's standards are internalised as the consumer's own. While moral norms therefore directly influence the pro-environmental intention; social norms, on the other hand, has a more indirect role in this regard (Sonnenberg, 2014; Bamberg & Möser, 2007).

Through the inclusion of the moral factor into various research studies and models relating to behaviour, it has considerably improved the prediction of behavioural intent in various studies involving environmental issues and pro-environmental behaviour (Chen & Tung, 2014; Park & Ha, 2014; Tang *et al*., 2011; Tonglet *et al*., 2004). Based on prior empirical findings the following hypothesis was formulated for this study:

H6: *Moral norms have a positive effect on male consumers' pro-environmental intent to acquire eco-friendly apparel.*

2.4.6 Perceived Behavioural Control (PBC)

As mentioned before, research has shown that although consumers are aware of the environmental issues and express concern towards the environment, they are at times hesitant, or unwilling to purchase eco-friendly products for various reasons (Joung & Park-Poaps, 2013; Hiller-Connell, 2010; Gupta & Odgen, 2006; Kollmuss & Agyeman, 2002). According to the earlier mentioned theory of reasoned action (TRA), it was assumed that most human social behaviour is under volitional control (Jackson, 2005:48; Ajzen, 2002; Ajzen & Fishbein, 1977). This implied that most social human behaviour can only be predicted from intentions. However, the concept of perceived behavioural control (PBC) was introduced into the TPB in order to take into account situations where people do not have complete volitional control over their behaviour (Ajzen, 2002, Ajzen, 1991). This brings us to yet another aspect of the TPB, which elaborates on the factors that ultimately influence consumers in terms of their pro-environmental motivations and intent to acquire eco-friendly apparel.

According to the TPB, the three most important determinants of intention is a consumer's overall evaluation of a specific behaviour (i.e. attitude towards it), perceived social pressures that are applicable to it (i.e. social norms), as well as perceived behavioural control over relevant factors that may constrain the consumers' performances (Wall *et al.*, 2007; Bamberg & Schmidt, 2003; Armitage & Connor, 2001; Foxall & Goldsmith, 1994:101; Ajzen, 1991). Therefore it is clear that

PBC can be seen as a significant predictor of behavioural intent. PBC can be described as control beliefs, and can be defined as the presence of factors that may influence or hinder the intent to perform or behave in a specific way (Bamberg, 2003; Ajzen, 1991; Ajzen & Fishbein, 1977). It refers to consumers' perceptions of the ease or difficulty of actually performing certain behaviours, such as pro-environmental apparel acquisition (Chen & Tung, 2014; Tang *et al.*, 2011; Ajzen, 1991). In conclusion, PBC plays an important role in terms of the TPB, by ultimately directly influencing the intentions of consumers (Ajzen, 2002; Ajzen, 1991). Therefore the following hypothesis was formulated for this study:

H7: The perceived behavioural control has a positive effect on male consumers' pro-environmental intent to acquire eco-friendly apparel.

Yet, according to Ajzen (2002), PBC should be extended and should contain additional items that measure perceived self-efficacy and controllability. With regard to the research study, PBC is extended and separated into two sub-components, namely perceived self-efficacy, which is related to capability aspects, and controllability, which is related to opportunities aspects. (Tang *et al*., 2011; Rhodes & Courneya, 2003; Armitage & Connor, 2001). Items that have to do with either the ease or difficulty of a performance, or the confidence that a consumer has in his/her abilities to perform a certain task, usually measure the perceived self-efficacy, while items concerning the control of a certain behaviour usually measures the controllability (Ajzen, 2002). This is substantiated by Armitage and Connor's (2001) meta-analytic review that captures the findings of over 100 TPB studies. Each of these sub-components will be discussed separately, with each their own hypothesis that has been formulated for this study.

2.4.7 Perceived self-efficacy

Self-efficacy forms part of PBC and can be described as consumers' confidence in their capabilities to organise and perform a certain course of action to produce the desired outcomes (Tang *et al.*, 2011; Ajzen, 2002). It is the ease or difficulty of performing a specified task, and, additionally, refers to consumers' confidence that they can perform it if they choose to (Ajzen, 2002). It is also concerned with the judgements of how well one can execute the actions required to deal with probable issues (Ajzen, 1991).

According to Ajzen (2002), the notion of "locus of control" is an aspect closely related to perceived self-efficacy. This term can be defined as an individual's perception of whether they are able to change issues such as 'living sustainably' and 'saving the planet' through their own

individual behaviour, without it seeming insignificant (Kollmuss & Agyeman, 2002). This perception could be positively applied once consumers come to the realisation that every individual effort they put in to be pro-environmental, however insignificant it may feel, could ultimately contribute to a bigger cause which makes a difference in terms of saving the planet. Such an example could be the simple action of buying eco-friendly clothing or limiting their apparel, which will lead to the decrease of apparel imports as well as the decrease in the amount of apparel produced every year. This, in turn holds numerous positive aspects for the environment. Self-efficacy is thus an important concept to consider when investigating consumers' intentions to act in a pro-environmental manner.

It captures the concept of PBC, which has a direct influence on the intent that ultimately leads to certain behaviours (Tang *et al.*, 2011; Tonglet *et al*., 2004). Armitage and Connor's (2001) meta-analysis also reported that self-efficacy seemed to significantly influence the intentions of consumers, whereas controllability on the other hand, significantly influenced the behaviour of consumers. As pointed out before a mixed set of items (i.e. items including self-efficacy and controllability) significantly improved the prediction of intentions, and lead to the conclusion that self-efficacy and controllability can be separately distinguished, but they should remain correlated with each other (Ajzen, 2002). As mentioned before, self-efficacy, as a sub-component, accounts for a significant part of intentions, together with attitudes and social norms (Ajzen, 2002). In terms of this research study, self-efficacy is seen as a direct predictor of intentions and ultimately refers to the degree to which male consumers believe in their own capabilities to carry out pro-environmental intents and acquire apparel that has positive environmental consequences.

Based on prior empirical findings the following hypothesis was formulated for this study:

H7a: Perceived self-efficacy has a positive effect on male consumers' pro-environmental intent to acquire eco-friendly apparel.

2.4.8 Controllability

Controllability also forms part of the PBC and can be explained as the views consumers possess about having control – it is about believing that they have control over their behaviour, and that the actual performance or non-performance of a specific behaviour is ultimately up to them (Ajzen, 2002). Although consumers may be aware of the environmental and sustainability issues, or even have a positive attitude towards pro-environmental apparel acquisitions, it does

not necessarily mean that they will engage in such behaviour, because of certain external factors, such as lack of opportunities, skills or resources (Barr, 2007; Tonglet *et al*., 2004; Armitage & Connor, 2001). These external factors do not fall within consumers' control – this notion can be defined as the external locus of control (Ajzen, 2002). These external factors could either further or obstruct the performance of behaviour. In this research study, controllability could therefore be measured through the beliefs that male consumers hold regarding the control they have over their own behaviour in lure of certain external factors that impact on their ability to acquire eco-friendly apparel. For example, consumers might not always be able to control their behaviour towards pro-environmental apparel acquisition, because of external factors such as price associated with the products, or availability of eco-friendly apparel options in the country (Steg *et al*., 2014; Momberg *et al.*, 2012; Steg & Vlek, 2009). Consumers, who are faced with external factors such as economic constraints, may not be able to take part in pro-environmental apparel acquisitions, due to the lack of funds (Hiller-Connell, 2010, Bamberg, 2003).

The assumption therefore is that when consumers are certain that they have the required resources and opportunities, such as skills, time, or money, and that any other challenges they may encounter are manageable, their confidence in the abilities they possess should enable them to execute the specified action and thus exhibit a high degree of PBC (Ajzen, 2002). Even though controllability significantly influenced the behaviour of consumers, rather than the intentions (Armitage & Connor, 2001) empirical evidence has also demonstrated that a combination of.items that relate to self-efficacy and controllability significantly improved the prediction of intentions. Therefore both self-efficacy as well as controllability was included, but as separate components in order to determine the effect of these components on the pro-environmental intent of male consumers' eco-friendly apparel acquisitions. Based on the above mentioned discussions, the following hypothesis was formulated for this study:

H7b: Controllability factors have a positive effect on male consumers' pro-environmental intent to acquire eco-friendly apparel.

2.4.9 Behavioural Intent

According to the TPB, behavioural intent can be described as an immediate psychological antecedent of behaviour, and is determined by a consumer's overall evaluation of a specific behaviour (i.e. attitude towards it), perceived social pressures that are applicable to it (i.e. social norms), as well as perceived behavioural control over relevant factors that may constrain the

consumers' performances (Wall *et al.*, 2007; Bamberg & Schmidt, 2003; Foxall & Goldsmith, 1994:101; Ajzen, 1991). Additional factors, such as moral norms also act as determinants of pro-environmental behavioural intent. Intent can also be seen as an indication of a consumer's willingness to try and act in a certain way, and of the amount of effort they are planning to put in to perform the behaviour, such as pro-environmental apparel acquisition, which includes the purchasing of eco-friendly apparel items, and/or need-based apparel purchases (Saeed *et al*., 2013; Wang *et al.*, 2013). Although pro-environmental intent does not necessarily mean that the consumers will take part in pro-environmental action, it is nonetheless seen as an important predictor of pro-environmental behaviour (Steg & Vlek, 2009; Kollmuss & Agyeman, 2002).

Kozar and Hiller-Connell (2013) ultimately found a positive relationship between knowledge, attitudes and pro-environmental apparel purchasing, as well as the intent to do so. The consumers who seemed to be concerned with the environment, were more knowledgeable regarding environmental issues, and appeared to be more engaging in pro-environmental behavioural intentions. In addition to this, the consumers who portrayed stronger attitudes towards environmental issues, seemed to indicate a higher pro-environmental orientation, and consequently had greater intentions to take part in pro-environmental apparel-purchasing behaviours (Kozar & Hiller-Connell, 2013; Haron *et al.*, 2005). Therefore the assumption has been made that the probability of a performance is dependent on the strength of consumers' intentions to engage in certain behaviours (Ajzen, 1991). This study will specifically focus on the pro-environmental motivation, as well as intent of male consumers to acquire eco-friendly apparel in the South African market.

2.5 THE CONCEPTUAL FRAMEWORK

By integrating the foregoing literature with the extended version of the Theory of Planned Behaviour (TPB) as illustrated in Bamberg and Möser's (2007) meta-analysis, a conceptual framework was developed for this research study. The conceptual framework as seen in **Figure 2.3** closely resembles the theoretical model developed by Bamberg and Möser (2007) and includes underlying concepts related to the NAT (awareness of consequences, moral norms) (Schwartz, 1977), as well as concepts related to the TPB (social norms, attitudes, perceived behavioural control, behavioural intent) (Tonglet *et al*., 2004; Ajzen, 1991). As mentioned before, perceived behavioural control was separated into two sub-components, namely perceived self-

efficacy and controllability (Ajzen, 2002) in order to fully comprehend the concept of interest. The relevant concepts were adapted for the purposes of this study to investigate motivational factors that influence male consumers' pro-environmental intent to acquire eco-friendly apparel.

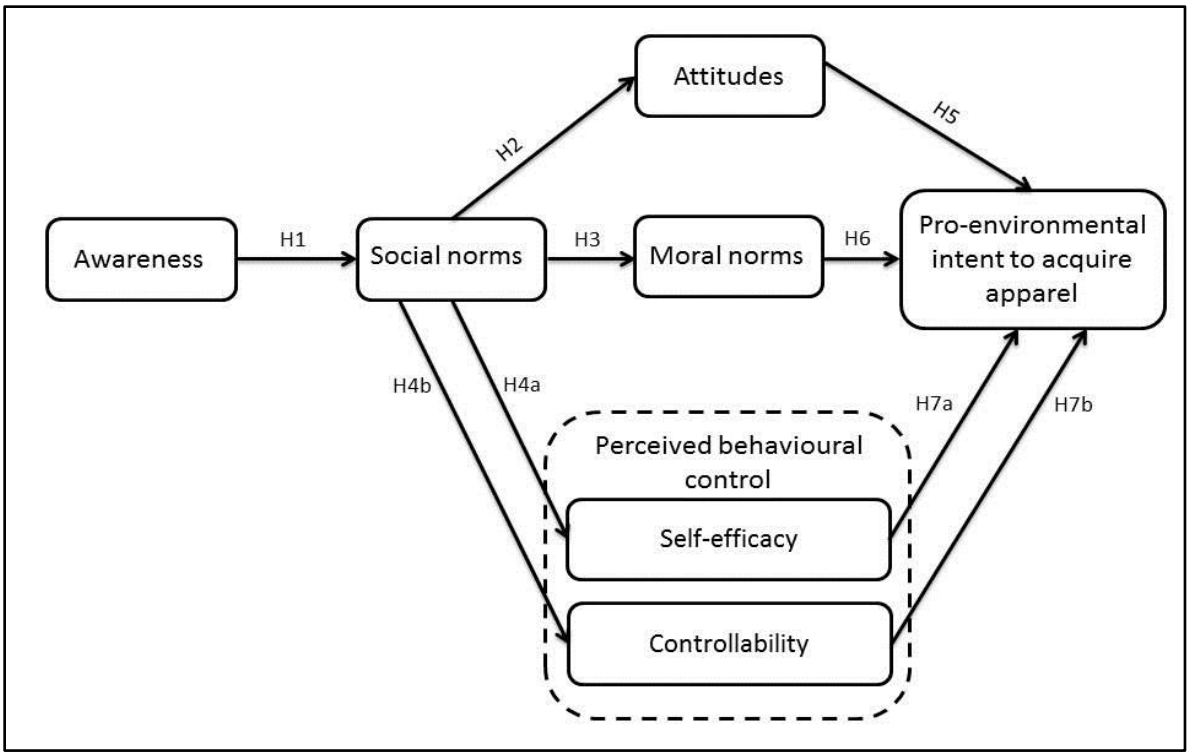

FIGURE 2.3: PROPOSED CONCEPTUAL FRAMEWORK (Adapted from Bamberg & Möser, 2007; Ajzen, 1991)

The original TPB includes concepts such as social norms, attitudes, perceived behavioural control, intent, and behaviour. Awareness and moral norms were added to the framework in order to better understand consumers' pro-environmental intent, which may culminate in eco-friendly apparel acquisitions. To briefly recap and summarise, awareness of consequences is regarded as the first indirect determinant of male consumers' pro-environmental intentions, followed by social norms. Social norms are shaped by knowledge and awareness of the issues of interest and provide the consumers with information on whether pro-environmental behaviour is morally correct or not, as well as whether it is beneficial and easy to perform (Park & Ha, 2014; Bamberg & Möser, 2007). Thus, consumers make use of social norms as information about the appropriate behaviour regarding certain issues such as acquiring eco-friendly apparel. Social norms therefore precede three independent determinants of pro-environmental intent to acquire apparel, namely attitude, moral norms and perceived behavioural control. Perceived behavioural control is extended and separated into two significant sub-components, namely self-efficacy and controllability, according to the recommendations of Ajzen (2002). Attitude, moral

norms, self-efficacy and controllability are therefore seen to directly influence intent, which, together with the indirect influences of awareness and social norms, contribute to shaping male consumers' intent to acquire eco-friendly apparel.

2.6 CONCLUSION

From the review of literature, it is apparent that this research study significantly contributes to the pro-environmental consumer behaviour research in South Africa. This section explains and discusses the theories applied in this research study. The Norm-Activation Theory (NAT), and the Theory of Planned Behaviour (TPB), were implemented (Bamberg & Schmidt, 2003) and seem appropriate for the purpose of this study. In this chapter an overview regarding the main concepts used in the research study is also provided, and include gender, pro-environmental apparel consumer behaviour, awareness of consequences, social norms, attitudes, moral norms, perceived behavioural control (perceived self-efficacy and controllability), as well as behavioural intent. By integrating the literature and the extended version of the Theory of Planned Behaviour (TPB), a proposed conceptual framework was developed for this study, thus adding to a new research field in South Africa, and more specifically to consumer behaviour research.

CHAPTER 3: RESEARCH METHODOLOGY

Research within the social sciences is generally conducted in order to study people in terms of their behaviours to ultimately obtain information, explain situations or engage in human interactions (De Vos & Strydom, 2011:42). The following section of this research study is aimed at introducing and explaining the research methodology. Firstly, the research design is introduced, as well as the approach used for this research study. Secondly, the sample and sampling technique that were used to obtain a suitable and valid sample for the study are discussed. Thirdly, the development of the instrument, the data collection methods, and the methods of data analysis are discussed and summarised. An operationalisation table presents the development of the questionnaire according to the hypotheses and concepts related to the conceptual framework. Lastly, an explanation is given of the measures taken to ensure quality of data through validity and reliability of the research procedures, and focus on the procedures that were conducted to ensure ethical soundness throughout the research study.

3.1 RESEARCH DESIGN

The overall aim of this study is to explain the relationship between the motivational factors that influence male consumers' pro-environmental intent to acquire eco-friendly apparel in the South African market. Therefore, the study focuses on explaining the nature of certain relationships and makes use of hypotheses to provide an understanding of the relationships that exist amongst the variables (Given, 2008). Thus, an explanatory approach was used for this research study. Explanatory research was also used to build and elaborate on existing theories in order to predict certain relationships or strengthen existing principles. Since the study was conducted at one specific point in time as opposed to over an extended time period, the research design has been specified as a cross-sectional study (Fouché, Delport & De Vos, 2011:156; Babbie & Mouton, 2001:92). A survey research design was followed to gain insight into the phenomenon and area that has not yet been extensively studied to date (Salkind, 2012:213). No attempt was made to change the behaviour or conditions, but rather to measure the subjects as they are (Hopkins, 2000). The study followed a quantitative approach and participants were asked for their opinions in a structured way so that hard facts and statistics could guide the way toward

addressing the research hypotheses by means of numerical measurement and analysis (Zikmund & Babin, 2010:94; Goddard & Melville 2005: 9).

3.2 SAMPLE AND SAMPLING TECHNIQUE

For the purpose of this study, the target population included South African male consumers from the age of 18 years and older. To date there has been limited research conducted on male apparel consumers and their apparel consumption behaviour in the South African context. Although various studies have been conducted on male consumers abroad (Bakewell & Mitchell, 2004; Otnes & McGrath, 2001; Zelezny *et al*., 2000), only a handful has been undertaken in South Africa in recent years (Du Preez *et al*., 2007). Furthermore, numerous studies depict females as being more concerned with the environment (Mostafa, 2007; Mitchell & Walsh, 2006; Zelezny *et al*., 2000) and studies regarding pro-environmental apparel behaviour predominantly focus on female populations. The need therefore exists to investigate male consumers' behaviour and determine what their thoughts and behavioural intentions are regarding pro-environmental apparel acquisitions. Therefore, male consumers as the sample for this research study were specifically chosen because there seems to be little empirical evidence regarding their pro-environmental intent to acquire apparel that would have positive environmental consequences.

Potential participants were required to live in the province of Gauteng, which can be seen as a one of the major metropolitan hubs in South Africa. This formed part of the selection criteria and limited the respondents in terms of geographical location, to avoid minority respondents that do not fit the specified criteria. Given time constraints and financial resources, Gauteng also represented the most viable geographical scope for this research study, as the researcher was based at the University of Pretoria, which is situated in the Gauteng province. Participants were required to have an education level of Grade 12 or higher, and be economically active (SAARF, 2012) in the sense that they should be able to acquire their own clothing items. This ensured a degree of recognition with regards to the pro-environmental behaviour topic and implied that they would be able to make rational choices in the process of data collection. Apart from the specified requirements of gender, age, and area of residence, the other demographic variables such as population group or ethnicity, level of education, and approximate individual income per

month were not restricted to specified criteria. This allowed for the inclusion of a broader scope of potential participants.

The research project required the implementation of a non-probability convenience and a snowball sampling technique to collect the data required for the research study. Non-probability sampling explains that the odds of selecting a particular individual are not known and the sampling frame does not have an equal chance of being selected, because the population size and members of the population are unknown (Strydom, 2011b:231; Zikmund & Babin, 2010:311). Although the convenience sampling method is not representative of the entire population, it was chosen because the respondents were more easily accessible (Salkind, 2012:103-104). It is also economical and quick, and the researcher was able to reach large numbers of male consumers by means of unstructured infiltration of the population by various groups (Zikmund & Babin, 2010:312). Snowball sampling was also used since there was limited access to the appropriate respondents for the research study's specified topic. It was initiated by approaching the male consumers who were willing to take part in the research study and asking them to identify other members from the same population group for inclusion in the sample – from there the notion of a snowball effect. This method enabled the researcher to locate additional members of the population (Zikmund & Babin, 2010:313; Strydom, 2011b:233).

Before the questionnaires were distributed, a statistician was consulted to determine the size of the sample to be used in the research study to ensure its reliability (Salkind, 2012:118). Effort was made to include a sample size that was large enough with numerous subgroups to eliminate bias as much as possible (Goddard & Melville 2005:35-36). The researcher intentionally focused on age, ethnicity, individual monthly income and level of education in order to represent a diverse sample. Subject to the recommendation of a statistician and research consultant, the sample size was set at 300 to increase content validity and to reduce biased generalisations (Salkind, 2012:124; Delport & Roestenburg, 2011:173; Zikmund & Babin, 2010: 250). An eventual sample size of 305 respondents was used to gain results and interpret data, which also ensured representativeness and content validity.

3.3 INSTRUMENT DEVELOPMENT

A structured, self-administered questionnaire was developed as the measuring instrument in the research study (included in **Addendum A**). The majority of the sections in the questionnaire were comprised of existing scales used in previous studies, and adapted to address the relevant constructs and hypotheses of the research study to ensure construct validity (Delport & Roestenburg, 2011:175).

The questionnaire comprised of the following sections:

- **Section A**: This section included seven screening questions regarding the participants' clothing, as well as general pro-environmental apparel behaviour to determine their overall knowledge and interactions regarding the issues of interest. The questions were formulated to ascertain whether participants buy clothes for themselves, where they buy clothes, how often they limit their clothing purchases or buy eco-friendly clothing, and how familiar they are with eco-friendly apparel purchases. The majority of these items were based on subjective knowledge scale items developed by Mukherjee and Hoyer (in Bruner, Hensel & James, 2005) and rephrased according to the topic of pro-environmental apparel acquisitions.

- **Section B**: This section included six questions regarding demographic information such as age, population group or ethnicity, level of education, area of residence within the Gauteng area, and approximate individual income per month. The questions were carefully formulated to address and specify each variable, to ensure that the demographic profiles of the respondents could be adequately described.

- **Section C:** This section included scale items that were focused on measuring the motivational constructs, which form the basis of pro-environmental behaviour, namely the awareness of consequences, social norms, attitude, moral norms, perceived self-efficacy and controllability (i.e. perceived behavioural control), as well as intent to acquire eco-friendly apparel in the South African market. The items used in this research study were based on scale items used in previous research (Bamberg, Hunecke & Blöbaum, 2007; Wall *et al*., 2007; Oom Do Valle *et al*., 2005; Tonglet *et al*., 2004; Kim & Damhorst, 1998), and were adapted according to the purpose of this study.

In terms of section C the rating scale, namely a four-point Likert-scale, had response options ranging from 1, which is “strongly disagree”, to 4 which is “strongly agree” (Zikmund & Babin, 2010:255). All the questions were scaled that 1 equals a negative view and 4 indicates a positive view. Together with that, a midpoint was also excluded from the questionnaire, so that the options were just the following: Strongly disagree, disagree, agree and strongly agree. This was done to ensure that the respondents either disagree or agree with the items in the questionnaire. This measuring instrument was used because it is simple to administer and understand, and increases the reliability of the research study (Zikmund & Babin, 2010:255).

A total of eight items were included into the questionnaire to measure *awareness of consequences* related to the environmental impact of the production, acquisition and use of apparel products. These items were derived from previous studies (Sonnenberg, 2014; Park & Ha, 2014; Bamberg *et al*., 2007; Wall *et al*., 2007; Kim & Damhorst, 1998), and adapted and rephrased for the purposes of the study. The Cronbach alpha (α) reported for the five items in a previous study in the South African context was 0.87 (Sonnenberg, 2014), indicating good internal reliability of the construct (Delport & Roestenburg, 2011:177; Tavakol & Dennick, 2011).

Questions pertaining to *social norms* usually involve referrals to the opinions of family and friends, as well as acquaintances. For the purpose of this study, a more collective referral was used, namely “people who are important to me”, and the items from previous studies regarding the influence of social norms (Sonnenberg, 2014; Park & Ha, 2014; Bamberg *et al*., 2007; Wall *et al*., 2007; Oom Do Valle *et al*., 2005; Tonglet *et al*., 2004) were used to formulate eight items. Social norms, as mentioned before, can be divided into two dimensions, namely injunctive and descriptive norms (Lapinski & Rimal, 2005; Rhodes & Courneya, 2003). Thus, the first four items were formulated in order to determine the influence of social norms as injunctive norms, and the following four items were formulated and adapted from previous studies (Sonnenberg, 2014; Bamberg *et al*., 2007; Wall *et al.*, 2007; Oom Do Valle *et al.*, 2005; Tonglet *et al*., 2004), in order to determine the influence of social norms as descriptive norms. The Cronbach α reported for three of the items that were derived from a previous study in the South African context was 0.80 (Sonnenberg, 2014), indicating good internal reliability of the construct (Delport & Roestenburg, 2011:177; Tavakol & Dennick, 2011).

Attitude towards pro-environmental behaviour has been measured extensively in various previous studies (Joung & Park-Poaps, 2013; Vicente-Molina *et al.*, 2013; Butler & Francis, 1997; Minton & Rose, 1997). Ajzen (2002) also suggested that attitude comprises of two

dimensions, namely affective and instrumental evaluations towards a specified behaviour (Rhodes & Courneya, 2003), and thus the six items for this research study were formulated and adapted from previous studies (Sonnenberg, 2014; Park & Ha, 2014; Bamberg *et al*., 2007; Wall *et al*., 2007; Tonglet *et al*., 2004) to address both dimensions. The Cronbach α reported for five of these items that was used in a South African research study was 0.90 (Sonnenberg, 2014), indicating very good internal reliability of the construct (Delport & Roestenburg, 2011:177; Tavakol & Dennick, 2011).

Six items were included into the questionnaire to measure *moral norms* related to pro-environmental acquisitions of eco-friendly clothing by male consumers. The inclusion of the moral factor into behavioural models has considerably improved the prediction of behavioural intent in various studies focusing on environmental issues and pro-environmental behaviour (Chen & Tung, 2014; Tang *et al*., 2011; Tonglet *et al*., 2004). The items included in the questionnaire were derived from previous studies (Sonnenberg, 2014; Bamberg *et al*., 2007; Tonglet *et al*., 2004; Minton & Rose, 1997) and were adapted and rephrased for the purposes of the study. The Cronbach α reported for the six items that were derived from the study done by Sonnenberg (2014), was 0.90.

As mentioned before, *perceived behavioural control* (PBC) is described as one of the main constructs that form part of the TPB (Ajzen, 2002). Based on Ajzen's (2002) recommendations, PBC should be extended and sub-divided into two dimensions, namely perceived self-efficacy (i.e. capability aspects), and controllability that relates to opportunities to engage in a particular type of behaviour (Tang *et al*., 2011; Rhodes & Courneya, 2003). A total of eight items were selected and adapted from previous studies (Tang *et al.*, 2011; Wall *et al*., 2007; Oom Do Valle *et al.*, 2005; Tonglet *et al*., 2004) to measure *self-efficacy* in terms of pro-environmental apparel acquisitions with regards to limiting apparel acquisitions, as well as purchasing eco-friendly apparel options. The Cronbach α reported for the self-efficacy items that were derived from the study done by Tang *et al*. (2011) was 0.84. Furthermore, the Cronbach α reported for all the items of PBC (perceived self-efficacy and controllability) from the study of Tonglet *et al.* (2004), was 0.88. However, others (e.g. Sonnenberg, 2014; Oreg & Katz-Gerro, 2006) have reported much lower Cronbach α for PBC items that include either perceived self-efficacy and/or controllability items e.g. Sonnenberg (2014) reported a Cronbach α of 0.6, which was below the acceptable ≥0.70 (Delport & Roestenburg, 2011:177; Tavakol & Dennick, 2011). This low consistency of PBC could point to an area that has to be studied and evaluated more extensively to gain reliable and accurate information regarding PBC and, more specifically, self-efficacy and controllability as separate components of PBC. As mentioned before, *controllability*

can be explained as consumers' views in believing that they have control over their behaviour, and that the actual performance or non-performance of a specific behaviour is ultimately up to them (Ajzen, 2002). It is also dependent on external factors that are not within the consumers' control and that could either further or obstruct the performance of behaviour. Various studies (Tang *et al*., 2011; Tonglet *et al*., 2004) have described it as situation factors; the items from these studies were rephrased and adapted for the purpose of this research study to create twelve items that address three main external factors, namely price, availability and time.

As mentioned previously*, behavioural intent* can be described as an immediate psychological antecedent of behaviour and research has shown that pro-environmental intent does not necessarily mean that consumers will take part in environmental action; it is nevertheless seen as an important predictor of pro-environmental behaviour (Steg & Vlek, 2009; Kollmuss & Agyeman, 2002). The assumption has therefore been made that the probability of a performance is dependent on the strength of consumers' intentions to engage in certain behaviours (Ajzen, 1991), such as the pro-environmental motivation, as well as intent of male consumers to acquire eco-friendly apparel in the South African market. Behavioural intent in terms of pro-environmental apparel acquisitions was thus adapted from various previous studies (Sonnenberg, 2014; Bamberg *et al*., 2007; Minton & Rose, 1997) to include six items that address the acquisition of eco-friendly apparel, as well as the limitation of acquisitions in order to be pro-environmental. Three items were rephrased for each of the apparel acquisition options to provide a total of six items. The Cronbach α reported for the items that were derived from the studies done by Bamberg *et al.* (2007), was 0.95 and 0.68 in terms of the intention measures, whereas the Cronbach α for the three items used by Sonnenberg (2014), was 0.83.

A pilot study was carried out on a sample of 30 participants to ensure the validity and user-friendliness of the questionnaire, and to clarify whether the questions were clear and understandable to the respondents (Delport & Roesenburg, 2011:177). This was incorporated to ensure measurement validity, and more specifically, content validity throughout the research study (Delport & Roestenburg, 2011:173). From the pilot study, it was found that some of the phrases or words were misleading or contradictory to some of the other items and concepts, and were therefore not interpreted correctly by the respondents. These phrases or words were improved to enable participants to better understand the questionnaire, and ensure measurement validity (Leedy & Ormrod, 2005:28-29). The rating scale was also adapted from a six-point Likert scale to a four-point Likert scale to minimise any confusion amongst the rating options, and to gather more specified answers regarding the items presented to the respondents. After collecting the questionnaires from the respondents, they were coded and

analysed to ensure the face validity of questions to actually measure what was intended to be measured (Delport & Roestenburg, 2011:173). The reliability was determined by calculating the Cronbach's alphas for every construct to measure the extent to which the various items in the scale were able to correlate with the total measure of the scale, and whether they fell within the acceptable range between 0.7 and 0.9 (Delport & Roestenburg, 2011:177; Tavakol & Dennick, 2011).

Once the pilot study was successfully completed, non-probability convenience and snowball sampling was done to collect the appropriate amount of samples for this research study.

Table 3.1 provides an overview of the operationalisation of the constructs, as well as the sources for measuring instruments.

TABLE 3.1: OPERATIONALISATION TABLE

CONSTRUCT	DIMENSION	INDICATORS	MEASUREMENTS & SCALES	VARIABLE NUMBER	DATA ANALYSIS & TYPE OF STATISTICS
			Likert scale adapted from Bamberg, Hunecke & Blöbaum (2007); Wall *et al* . (2007) and Kim & Damhorst (1998).		**Descriptive statistics**: * Means **Inferential statistics**: * Exploratory Factor Analysis *Cronbach's α * Confirmatory Factor Analysis * Correlations * Multiple Regression analysis * Path Analysis
Awareness of consequences	Knowledge	Environmental apparel knowledge	Large amounts of water are wasted when clothes are produced.	V14	
			Textile dyeing causes a lot of water pollution.	V15	
			The environment is damaged due to people's clothing consumption.	V16	
		Causes and consequences of the apparel industry	In order to save the environment, people should buy clothes in a pro-environmental way.	V17	
			Throwing your clothes away can increase rubbish dumps.	V18	
			High electricity usage of clothing manufacturers causes environmental damage.	V19	
			Transporting clothing increases greenhouse gases.	V20	
		Pro-environmental apparel knowledge	Buying clothes in a pro-environmental way will help to save the environment.	V21	
Social norms	Injunctive norms		**Likert scale adapted from Park & Ha (2014); Bamberg *et al.* (2007); Wall *et al* . (2007); Oom Do Valle *et al* . (2005) and Tonglet *et al.* , (2004).**		
			People who are important to me…		
		Normative beliefs	Would approve of my clothing purchases if they have less harmful implications for the environment.	V22	
			Would not care about my pro-environmental clothing purchases.	V28	
		Motivation to comply	Probably think that I should consider the environmental impact of the clothes before buying it.	V24	
			Think I should be pro-environmental by limiting the amount of clothing I buy.	V26	
	Descriptive norms	Social pressures of reference groups	Expect me to choose eco-friendly clothes.	V23	
			Expect me to buy clothing styles that will last a long time.	V25	
			Expect me to buy classical clothing styles that would not go out of fashion.	V27	
			Expect me to limit my clothing purchases to save the environment.	V29	
Attitude	Affective evaluations		**Likert scale adapted from Park & Ha (2014); Bamberg *et al* . (2007); Wall *et al* . (2007) and Tonglet *et al.* (2004).**		
			For me, buying clothing in a pro-environmental manner is …		
		Favourable/unfavourable evaluation	Good.	V30	
			A waste of time.	V35	
		Enjoyable/unenjoyable evaluations	Satisfying.	V33	
	Instrumental evaluations	Useful/useless notions	Beneficial.	V32	
		Senseless/sensible notions	Responsible.	V34	
			Wise.	V31	

Moral norms	Personal norms		**Likert scale adapted from Bamberg *et al* . (2007); Tonglet *et al* . (2004) and Minton & Rose (1997).**		**Descriptive statistics**: * Means **Inferential statistics**: * Exploratory Factor Analysis *Cronbach's α * Confirmatory Factor Analysis * Correlations * Multiple Regression analysis * Path Analysis
			I feel morally obligated to…		
		Moral correctness	Buy less clothing to cause less damage to the environment.	V36	
			Pay attention to information about clothes that are eco-friendly.	V37	
			Buy eco-friendly clothes, regardless of what others do.	V38	
		Values/principles	Purchase pro-environmental clothes despite the fact that other options are available.	V39	
			Buy clothes from companies known for being environmentally responsible.	V40	
			Buy eco-friendly/organic clothing to save the environment.	V41	
Perceived behavioural control	Self-efficacy		**Likert scale adapted from Tang et al. (2011); Wall *et al* . (2007); Oom Do Valle *et al* . (2005) and Tonglet *et al* . (2004).**		
		Capability	For me, retailers encourage pro-environmental behaviour by providing eco-friendly clothing options.	V42	
			I can limit my clothing purchases to act more pro-environmental.	V43	
			I know that I can cause less damage to the environment if I buy eco-friendly clothes.	V44	
			I rather purchase good quality clothes that last longer to minimize clothing wastage.	V45	
		Ease/difficulty	I am confident that I am able to buy less clothes to help save the environment.	V46	
			I am confident that I can buy eco-friendly clothes in SA stores.	V47	
			By buying more classical styles I can be more pro-environmental.	V48	
			For me, buying less clothes to cause less damage to the environment is easy.	V49	
	Controllability	Price	Eco-friendly clothing is expensive.	V56	
			Quality clothing that lasts longer, is pricey.	V59	
			Limiting my clothing purchases to be more pro-environmental, saves me money.	V62	
			Mix-and matching clothing outfits ultimately saves me money.	V65	
		Availability	Clothing retailers provide enough eco-friendly clothing options to choose from.	V57	
			I could easily find eco-friendly clothes in SA retail stores.	V60	
			Classical clothing styles are readily available in most SA retail stores.	V63	
			I have lots of opportunities to buy eco-friendly clothes.	V66	
		Time	Looking for eco-friendly clothes in stores, takes too much time.	V58	
			Mix-and-matching outfits is very time consuming.	V61	
			By limiting my shopping outings to buy clothes, I save a lot of time.	V64	
			Searching for eco-friendly clothes is a waste of time.	V67	
Pro-environmental intent to acquire apparel	Apparel Acquisitions		**Likert scale adapted from Bamberg *et al* . (2007); Minton & Rose (1997) and Stone, Barnes & Montgomery (1995).**		
			I would be willing to …		
		Eco-friendly apparel	Buy eco-friendly clothes from companies who do not pollute the environment.	V50	
			Buy eco-friendly clothes to be more pro-environmental.	V52	
			Buy eco-friendly clothes next time I go shopping.	V54	
		Acquisition limits	Buy classical clothing styles to cause less waste.	V51	
			Limit my clothing purchases to be more sustainable.	V53	
			Limit my clothing purchase to waste less.	V55	

3.4 DATA COLLECTION

Primary data was gathered by distributing self-administered structured questionnaires to willing respondents who complied with the sample requirements. The structured questionnaires were distributed in a number of ways, including a paper-based form that was handed out to individuals as well as an online electronic link that was sent out via e-mails and through social networks. The online survey was administered by "SurveyMonkey". The paper-based and online questionnaires were solicited to potential respondents from May to July 2014. Firstly, male consumers were approached on campus and in various public areas in Gauteng and were informed of the research study as well as the questionnaire that needs to be completed in order to collect information regarding the topic. The willing respondents were then provided with a paper-based questionnaire and a pen to fill in the required questions, which took approximately 5 - 10 minutes. Secondly, e-mails, with a link attachment of the full colour version of the questionnaire were also sent out to family and friends who complied with the inclusion criteria and had not yet completed a printed questionnaire. They were also required to send out the e-mail, with the attachment of the questionnaire, to any other acquaintances on their e-mail lists that fit the criteria. Weekly reminders were also sent out to the original e-mail list to ensure feedback. With regards to the social networks, the questionnaire was also made available to prospective respondents on Facebook, where a link was provided to the questionnaire. This could be completed online, if they complied with the necessary requirements. Weekly reminders were also sent out on Facebook regarding the completion of these questionnaires by appropriate respondents, and various friends also shared the link via their Facebook to spread the word and gather as many respondents as possible in the limited time.

All the questionnaires also included a cover letter which informed the respondents of the purpose of the research study and ensured confidentiality and reliability (Salkind, 2012:118). Potential respondents were not forced or intimidated into taking part in the research study. If the respondents needed to ask questions or required assistance in completing the questionnaire, the researcher was able to assist by answering the questions as diligently as possible. Respondents were provided with the necessary assistance without influencing them in any way, to ensure reliability of the research study.

The purpose of the online questionnaire was to distribute it as far and wide as possible throughout the Gauteng area. However, the response rate on the online questionnaires was not

as high as the hand-delivered questionnaires (Nulty, 2008; Sax, Gilmartin & Bryant, 2003). It could have been that the respondents had no personal contact with the researcher or fieldworker, or that consumers are flooded with junk mail every day and do not necessarily open relevant emails or links (Gingery, 2011; Sax *et al*., 2003). Another possible reason for the low response rate could be that the online questionnaires appeared to be quite long as it was presented as a scroll down option and respondents felt as though it would be quite a lot of effort to fill in the entire questionnaire (Zikmund & Babin, 2010:284). A greater percentage of the hand-delivered questionnaires were also declared invalid because of questions not answered. The hand-delivered questionnaires were also more time consuming in terms of printing, distribution and collection, whereas the online questionnaire were easily distributed at a low cost (PeoplePulse, 2011; Wright, 2005).

3.5 DATA ANALYSIS

Once the data collection was completed, the data was converted into manageable formats that lead to a formulated conclusion regarding the research problem and indicated the relationships of the constructs that form part of the hypotheses. All the data collected from the various questionnaires was coded and captured into an electronic format; these were processed into quantitative results in order to interpret and understand them more easily (Zikmund, 2003:60). More specifically, the data was coded and transferred to statistical software, which was analysed by statisticians of the University of Pretoria. It is also important to emphasise that non-probability sampling was used; the results, therefore, could not be generalised to the whole population (Strydom, 2011b:231). Descriptive statistics, such as means, percentages and frequencies, were used to analyse the data and present it in graph, table or figure format, in order to form a description of the various variables (Salkind, 2012:161-171; Fouché & Bartley, 2011:249). In order to clearly explain the underlying structure of the dataset and constructs, an exploratory factor analysis was performed on items that measured the constructs mentioned in the conceptual framework as well as the hypotheses. Thereafter confirmatory factor analysis as well as multiple regression analysis and path analysis was also performed by making use of SPSS software.

Prior to the survey distribution, a statistician was also consulted in order to formulate the data and determine the most suitable inferential statistical methods to use for the research study. It

was decided that exploratory factor analysis, confirmatory factor analysis, multiple regression analysis and path analysis would be implemented to interpret the constructs and explain the findings.

3.6 QUALITY OF DATA

The quality of this research study and of quantitative research in general depends on validity and reliability (Delport & Roestenburg, 2011:172). Therefore quality has been ensured by incorporating it into the research study in all the relevant sections where validity and reliability is needed and is shortly summarized as follows:

Validity can be defined as the ability of an instrument to measure exactly what it is intended to measure (Salkind, 2012:123). It can also be described as the accuracy of a measure or the extent to which a score will truthfully represent the concept (Delport & Roestenburg, 2011:172; Zikmund & Babin, 2010:250). In order for the research to display precise and accurate data, the research study should be valid, as well as reliable (Zikmund & Babin, 2010:250; Leedy & Ormrod, 2005:29). The validity of this research study was ensured by making use of valid and tested scales and methods throughout the research study, which include the following:

- *Theoretical validity* is evident in the literature review and the theoretical perspective, where all of the relevant concepts were conceptualised in the preceding discussions and included into a conceptual framework to indicate the relationships among the various components.
- *Measurement validity* was sub-categorized into *content*-, *construct*-, *criterion-,* and *face validity* and was implemented during the instrument development to ensure appropriate language and acceptable questions for the respondents (Leedy & Ormrod, 2005:28-29).
- *Content validity* was ensured during the sampling and before the data collection process commenced. Representativeness is essential for the research study to have content validity (Delport & Roetenburg, 2011:173). Therefore, a sample of 305 male respondents was recruited for this study.
- *Construct validity* was ensured to verify the level to which an instrument effectively measures a theoretical construct and was accomplished by making use of scales and

measurement instruments that have been proven successful in previous research studies (Delport & Roestenburg, 2011:174-175).

Reliability can be described as the consistency of a measuring instrument's performance (Salkind, 2012:115; Zikmund & Babin, 2010:249) and takes place when the instrument measures the same concept multiple times and the outcome is always similar (Delport & Roestenburg, 2011:177). Reliability was implemented into the research study as follows:

- Before the questionnaires were distributed, a statistician was consulted to assist with specifying the appropriate size of the sample used in the research study to ensure that the sample was indeed representative of the population (Salkind, 2012:118).
- The statistician, as well as the study leaders checked the questionnaire before distribution to ensure that all the questions were relevant and easy to complete.
- A pilot study was conducted before the final questionnaire was administered to ensure relativity and professionalism and the appropriate changes were made to the initial questionnaire to clarify unclear concepts and rectify scale items (Delport & Roesenburg, 2011:177).
- The identity of the respondents was kept confidential in order to ensure truthful responses.
- Potential respondents were not forced or intimidated into taking part in the research study.
- A cover letter was attached to the questionnaire to clearly state the purpose of the research study to the prospective respondents (Salkind, 2012:118).
- Lastly, a correlation coefficient, namely the Cronbach's alpha, was utilised, in order to measure the extent to which the various items in the scale were able to correlate with the total measure of the scale (Salkind, 2012:115; Delport & Roestenburg, 2011:177).

3.7 ETHICAL ISSUES

Ethics can be defined as the range of moral principles accepted by an individual or group and provides rules and behavioural expectations concerning the most correct conduct towards experimental subjects, as well as respondents, researchers, assistants and students (Strydom, 2011a:114). Before commencing with respondent recruitment and data collection for this study, the confirmation and approval of the Ethics Committee of the Faculty of Natural and Agricultural Sciences at the University of Pretoria was sought (included in **Addendum B**).

The following ethical issues were taken into consideration throughout the research study to ensure that the individuals who participated in this study, as well as the information presented would be treated in an appropriate manner:

- Confidentiality and anonymity were integrated into the data-collection process and respondents' identities and personal information were not revealed in the research report (Strydom, 2011a:119).
- Voluntary involvement of all respondents was assured with the option to withdraw from the research process at any given stage (Salkind, 2012:86; Strydom, 2011a:116).
- The findings of the research study were compiled and released in an objective manner in the form of a written report (Strydom, 2011a:126) and complied with the necessary requirements of the University of Pretoria and the Department of Consumer Science.
- The adapted Harvard referencing method was applied, as required by the University of Pretoria, as well as the Department of Consumer Science to ensure no plagiarism as recorded in **Addendum C** (Strydom, 2011a:126).
- The researcher cooperated and complied with all the requirements of the contributing parties of this research study, namely the National Research Foundation (NRF) who funded the study, the statisticians and research consultants who provided statistical assistance, and the supervisors who offered leadership and guidance (Strydom, 2011a:124).

3.8 CONCLUSION

This chapter provided an overview of the research design and methodology used in this research study. It included the sample and sampling technique, the development of the questionnaire and the data collection techniques that were used to obtain the necessary results for this research study. The data analysis techniques were also summarised according to the specified hypotheses of the research study.

It also described the measures employed to enhance the overall quality of the data, as well as the ethical soundness of the study. This chapter contains important aspects that form part of the foundation of the results, which are discussed in the next chapter.

CHAPTER 4: DISCUSSION AND INTERPRETATION OF RESULTS

This chapter includes an overview of the results of this research study. In terms of demographic information, the criteria for this research study required the 305 respondents that made up the eventual sample size, to be male consumers in South Africa. In addition to that the remaining demographic characteristics of the sample are explained by means of tables, graphs and numerical summaries, such as frequencies and percentages to present the results using descriptive statistics. Thereafter, Exploratory Factor Analysis (EFA), Cronbach's Alphas, Confirmatory Factor Analysis (CFA), correlations, multiple regression analysis and a path analysis are used in order to interpret the results and indicate which motivational constructs influence the behavioural intent of male consumers in South Africa with regards to acquiring apparel in a pro-environmental manner. The results are structured and presented according to the main objectives and hypotheses of the research study and are discussed in relation to the problem statement with reference to existing literature.

4.1 DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE

Marketers often make use of demographic information as a basis for segmentation as it relates to certain consumers' buying and consumption behaviour (Kollmuss & Agyeman, 2002, Zelezny *et al*., 2000). For the purposes of this study, the sample had to comply with certain demographic requirements in order to document the pro-environmental motivation and intent of a very specific group of consumers in the South African apparel market. The following section provides an overview of the demographic characteristics of the sample, which will serve as an appropriate background for the results presented in the remainder of the chapter.

4.1.1 Gender

As mentioned before, this research study was based on only male consumers' pro-environmental motivation and intent to acquire apparel in the South African market. After data

collection was completed, a total of 305 male consumers made up the eventual sample size on which the results and findings in this chapter are based.

Male consumers were specifically chosen as the sample for this research study, based on the assumption that they have, in the past few years, become prone to investigating apparel options prior to the actual purchasing and consumption processes, which in itself provides them with a better understanding of the apparel they purchase, as well as the subsequent use and disposal of the product (Du Preez *et al*., 2007; Mitchell & Walsh, 2006). Another reason for the demographic criteria of only male consumers as the sample size, was the fact that several studies in South Africa have focused on female consumers' apparel behaviour (Meyer, 2014; Momberg *et al*., 2012; Jacobs & De Klerk, 2007); however, to date there has been limited research conducted on male consumers' apparel consumption behaviours in the South African context (Du Preez *et al*., 2007).

4.1.2 Age

All respondents who participated in this study were 18 years and older. Age was used as a prerequisite for participation in an effort to recruit an age group that is able to make independent decisions regarding apparel acquisitions and pro-environmental behaviour. Furthermore, effort was made to include a diverse group of respondents above 18 years, to explore potential differences among various age groups in terms of pro-environmental motivation and intent to acquire eco-friendly apparel and/ or limit apparel purchases for the sake of the environment. The respondents indicated their age according to their last birthdays in an open-ended question, which was then later grouped into age categories for the purpose of statistical analysis. A summary of the age categories is presented in **Table 4.1** below.

TABLE 4.1: AGE CATEGORIES OF RESPONDENTS (N = 305)

Age	Frequency (n)	Percentage (%)
18 – 24 years	214	70.16
25 – 30 years	52	17.05
>30 years	39	12.79
TOTAL	**305**	**100**

The majority of the respondents were in the youngest age category, i.e. 18-24 years (70.16% / n = 214), which may be attributed to the fact that the research study and data collection process was conducted in the surrounding area of a university, which is known for having a younger

population of residents. These respondents form part of the "Generation Y", since they were born between 1980 and 1994/nineties (Hill & Lee, 2012; Kinley, Josiam & Lockett, 2010; Keiser & Garner, 2008:78; Weiler, 2004). South Africa's demographic profile for 2013 indicates that 48.9% of the country's population is 24 years and younger (Indexmundi, 2013). Approximately half of the country's population therefore belong to the Generation Y group, who are described as being socially and environmentally conscious (Keiser & Garner, 2008:79; Cant, Brink and Brijball, 2006). The remaining age categories comprised 29.84% (n = 91) of the total sample, and were still relatively young in the sense that the frequencies tapered down from the age of 25, with the age category of 25 – 30 contributing to 17.05% (n = 52) of the remaining 29.84%. Considering that South Africa is made up of a young population overall, it is important to explore the perceptions and opinions of younger male consumers to gain an understanding of their pro-environmental intent.

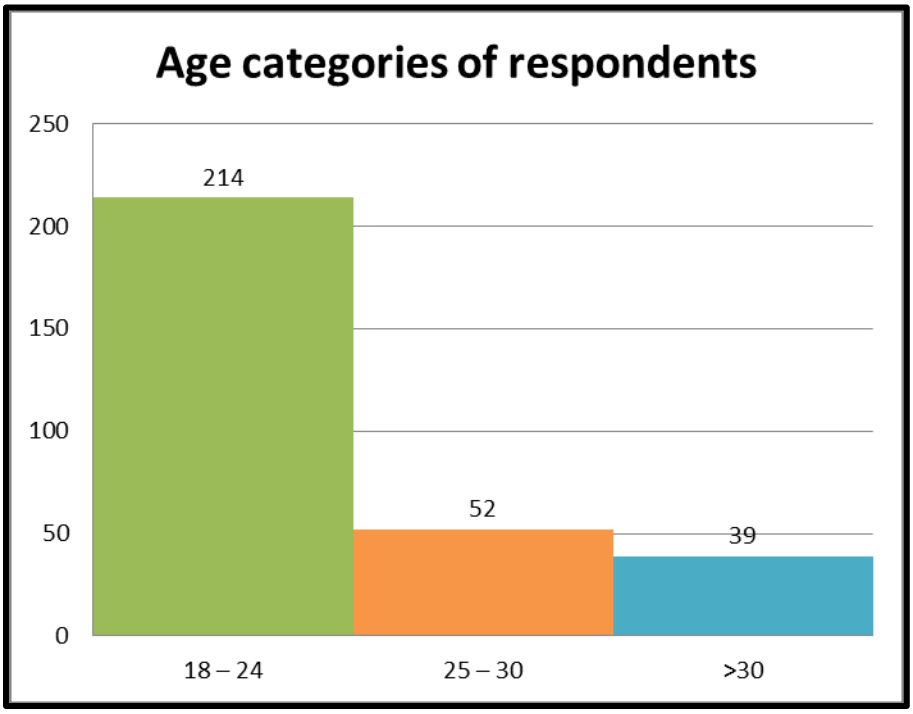

FIGURE 4.1: AGE CATEGORIES OF RESPONDENTS (N = 305)

4.1.3 Population group

South Africa is a country characterised by a diverse population, and for these reasons effort should be made to include respondents from different population groups as part of the research study. Based on the South African Employment Equity Act, the categories specified in the questionnaire were White, Black, Coloured, Indian and "other", whereby respondents could

specify the population group to which they belong. The majority of the respondents were White (72.79%/ n = 222). The remaining population groups were combined under a 'Black and other' option for the purpose of statistical analysis as indicated in **Table 4.2** and constituted 27.21% (n = 83) of the sample.

TABLE 4.2: REPRESENTATION OF POPULATION GROUP (N = 305)

Categories in Questionnaire	n	%	Categories of Analysis	n	%
White	222	72.79	White	222	72.79
Black	49	16.06	Black and other	83	27.21
Coloured	16	5.25			
Indian	18	5.90			
TOTAL	**305**	**100**	**TOTAL**	**305**	**100**

Convenience and snowball sampling may have contributed to low frequencies of Black, Coloured and Indian respondents, since the initial respondents who participated in the study were mostly White after whom they distributed it to their friends and family who generally belong to the same population group. This emphasises the limiting factors and disadvantages of convenience and snowball sampling techniques and reiterates the fact that the results from this research study cannot be generalised to the larger South African population (Mazzocchi, 2008:123; Strydom, 2011b:233). .

4.1.4 Level of education

Apart from the gender, age and population group, the level of education was also included as a demographic variable as it might also have some influence on the consumer's pro-environmental intent and behaviour. Certain empirical evidence seems to suggest that a higher level of education is associated with more environmental awareness and concern (Fisher, Bashyal & Bachman, 2012; Hassan, Noordin & Sulaiman, 2010). As a prerequisite for participation, respondents had to have a minimum education level of Grade 12. Six categories were originally specified in the questionnaire, namely: lower than grade 12, grade 12, tertiary degree/diploma, honours, masters, and an "other" option which allowed respondents to specify their education level in an open-ended question. None of the respondents indicated that they had an education lower than grade 12, and thus the entire sample complied with the precondition for participation.

TABLE 4.3: RESPONDENTS' LEVEL OF EDUCATION (N = 305)

Categories in Questionnaire	n	%	Categories of Analysis	n	%
Grade 12	167	54.75	Grade 12	167	54.75
Tertiary degree/diploma	90	29.51	Post matriculation degree/diploma	138	45.25
Honours	27	8.85			
Masters	21	6.89			
TOTAL	**305**	**100**	**TOTAL**	**305**	**100**

As indicated in **Table 4.3**, more than half of the respondents (54.75% / n = 167) had a minimum education level of Grade 12. Since most of the respondents were recruited in the vicinity of a university, and therefore belong to the local student population, they may be in the process of acquiring a degree. However, the remaining 45.25% (n = 138) of the respondents indicated that they had already obtained a tertiary degree/diploma (29.51% / n = 90), and an additional 15.74% (n = 48) of the respondents had some sort of post graduate degree (Honours or Masters). In the recent review of the Gauteng Department of Education Annual Performance Plan 2013/14 (2013), it is reported that the education levels of Gauteng residents are increasing. The amount of people with no formal education has dropped from one in ten in 1996 to one in twenty-five in 2011 and over 52% of the population in Gauteng has a matric or higher qualification (Gauteng Department of Education Annual Performance Plan 2013/14, 2013). It is important to note that although the level of education among the respondents that took part in this study, do not necessarily reflect those of the larger Gauteng population, the intention was not to generalise the results from this research study (Mazzocchi, 2008:123; Strydom, 2011b:233), but rather to purposefully reflect on the insight gained from a sample with a higher level of education in terms of their underlying motivation and intent to act in a pro-environmental manner. **Figure 4.2** provides an overview of the level of education of the sample.

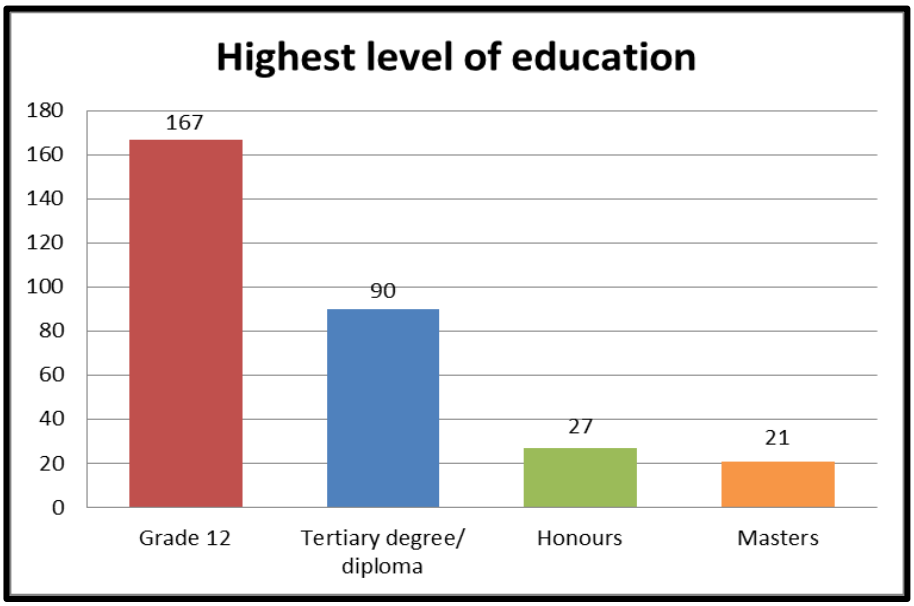

FIGURE 4.2: RESPONDENTS' LEVEL OF EDUCATION (N = 305)

4.1.5 Area of residence

Respondents that took part in the research study were recruited within the Gauteng area, which is considered an economic hub of South Africa as it contributes more than 33% to the national economy (South Africa Info, 2012). According to the 2011 census in South Africa, more than half of the Gauteng population have a minimum education level of Grade 12 (Gauteng Department of Education Annual performance plan 2013/14, 2013). Together with that, it can be assumed that the majority of respondents are located in an urban area, where they are exposed to various means of technology on a daily basis. The population of Gauteng, specifically, are also exposed to more choices and opportunities regarding products or services, because they live in the economic hub where everything is easily accessible. Based on the above mentioned, as well as the fact that the respondents were required to have an education level of at least Grade 12, it was assumed that they would have some sort of knowledge or awareness of issues relating to this research study, namely pro-environmental behaviour and eco-friendly apparel and be the appropriate sample.

The respondents were required to specify the city/town in Gauteng where they live, as well as the suburb in an open-ended question. With that being said, the province of Gauteng can be divided into three main metropolitan municipalities, namely the city of Johannesburg, the city of Tshwane (Pretoria) and Ekurhuleni Metropolitan Municipalities, with two district municipalities that are further sub-divided into seven local municipalities (The Local Government Handbook, 2012-2015). Based on the before mentioned information, the geographical location of all the respondents were simplified into three main categories namely the City of Tshwane (Pretoria), the City of Johannesburg and an “other” option to roughly differentiate the location of the various respondents into distinguished areas.

TABLE 4.4: AREA OF RESIDENCE IN GAUTENG (N = 305)

Area of residence	n	%
Pretoria	226	74.10
Johannesburg	57	18.69
Other	22	7.21
TOTAL	**305**	**100**

As indicated in **Table 4.4** above, majority of the respondents were located in Pretoria (74.10% / n = 226), which may be attributed to the snowball and convenience sampling techniques. Paper based questionnaires were distributed from the closest point of convenience, which was the

surrounding area of Pretoria. An electronic questionnaire via the "SurveyMonkey" link was also used as it had a wider distribution range than the paper based questionnaires. The remaining 25.90% of the respondents (n = 79) were recruited from Johannesburg and other surrounding areas in Gauteng. In summary, all of the respondents are situated in Gauteng, as was specified in the sampling requirements.

4.1.6 Respondents' income per month

Numerous studies have shown that income could influence consumers' pro-environmental activities (Hiller-Connell, 2010, Bamberg, 2003). Therefore a question regarding the approximate individual income per month was included in the questionnaire. The individual income per month was originally divided into six categories in the questionnaire namely, "Less than R 5 000", "Between R 5 001 – R 15 000", "Between R 15 001 – R 25 000", "Between R 25 001 – R 35 000", "Between R 35 001 – R 45 000" and "More than R 45 001", but was regrouped into three categories for statistical purposes as indicated in **Table 4.5**.

TABLE 4.5: RESPONDENTS' INDIVIDUAL INCOME PER MONTH (N = 305)

Categories in Questionnaire	n	%	Categories of Analysis	n	%
<R 5 000	181	59.34	<R 5 000	181	59.34
≥R 5 000 - ≤R 15 000	56	18.36	≥R 5 000 - ≤R 25 000	85	27.87
>R 15 000 - ≤R 25 000	29	9.51			
>R 25 000 - ≤R 35 000	15	4.92	>R 25 000	39	12.79
>R 35 000 - ≤R 45 000	6	1.97			
>R 45 001	18	5.90			
TOTAL	**305**	**100**	**TOTAL**	**305**	**100**

As seen in **Table 4.5**, 59.34% (n = 181) of the respondents indicated that their approximate individual income per month is "less than R 5 000". This may relate to the predominant young age group of the respondents, who are either still students, or part of the relatively inexperienced working class. Of the remaining 40.66% (n = 124) of the respondents that earn an approximate individual income of at least R 5 000 a month, 27.87% (n = 85) of them still fall in the range of "≥R 5 000 - ≤R 25 000", which could also be a relatively young working class. According to the personal income estimates for 2010 (Van Aardt & Coetzee, 2010), 60.4% of Gauteng's adult population earn between R0 and R50 000 per annum, despite relatively high levels of economic growth in the last few years. One reason for this occurrence could be due the low elasticities between economic and employment growth in South Africa (Van Aardt & Coetzee, 2010). These findings could relate to minimum apparel purchases, because of limited budgets; however, the

respondents that took part in this study did indicate that they do in fact purchase their own clothing, which contributes to them having knowledge as well as experience of apparel purchases, whether it be pro-environmental or not. **Figure 4.3** provides an overview of the respondents' individual income per month.

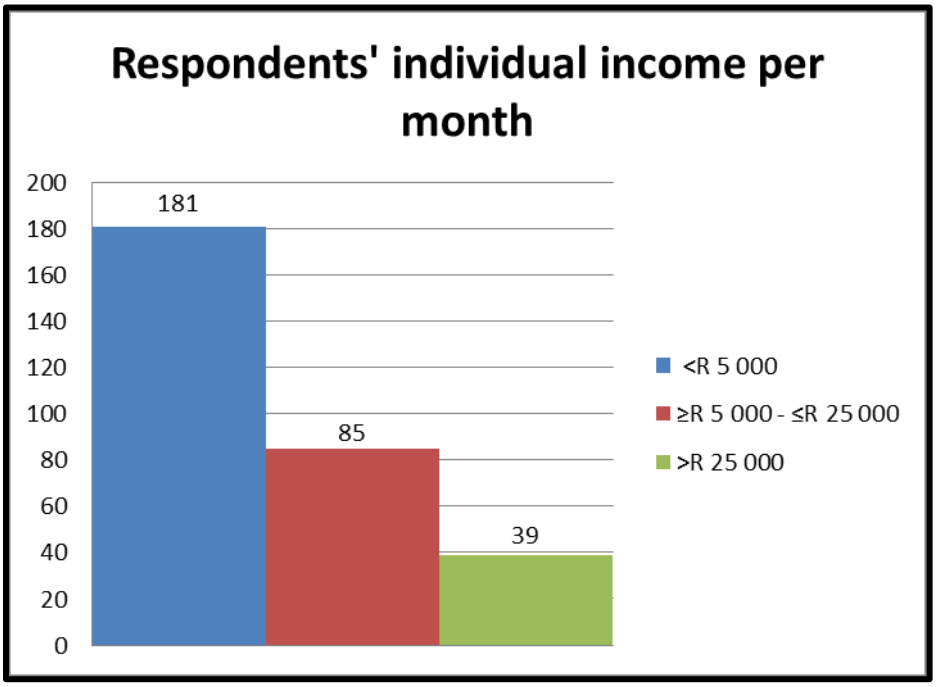

FIGURE 4.3: RESPONDENTS' INDIVIDUAL INCOME PER MONTH (N = 305)

In summary, the respondents for this research study were all males, 18 years and older, with most of them between the ages of 18 and 24 years. The majority were White with a minimum education level of Grade 12. Most of the respondents resided in Pretoria and earned an approximate individual income less than R 5 000 per month. Due to the fact that non-probability sampling, in the form of convenience and snowball sampling, was used to collect the data for the research study, the results cannot be generalised (Strydom, 2011b:231). The sample in terms of the demographics have clearly been explained above and the following section will proceed to elaborate on the sample in terms of the respondents' current apparel behaviour and experiences with regards to pro-environmental behaviour in order to further describe the sample that was used for this research study.

4.2 RESPONDENTS' CURRENT APPAREL BEHAVIOUR AND THEIR EXPERIENCE WITH REGARDS TO PRO-ENVIRONMENTAL BEHAVIOUR

To provide further insight into the profile of the sample, questions were included in the Section B of the questionnaire to establish whether respondents bought their own clothing, their preferred apparel stores from which they buy their clothing and their familiarity/experience with regard to eco-friendly apparel purchases.

4.2.1 Current apparel purchasing and store patronage behaviour

For the purposes of this study it was important to include respondents that were able to make their own independent decisions regarding apparel acquisitions and pro-environmental behaviour. As part of the screening questions in the questionnaire, the respondents were asked if they bought their own clothes. The options for answering the question were either a "yes" or "no". All 305 (100%) respondents confirmed that they do purchase their own clothing. Thus, the apparel they wear is what they choose themselves. This provides some confirmation that men have evolved in terms of their apparel buying behaviours in the sense that they tend to shop more for their own clothing, in contrast to a few years back when housewives were inclined to do all the shopping (Keiser & Garner, 2008:69; Du Preez *et al*., 2007). Current literature also suggests that male consumers increasingly investigate apparel options before they purchase and consume it, which in turn increases knowledge and experience regarding apparel consumption (Du Preez *et al*., 2007; Bakewell *et al*., 2006; Mitchell & Walsh, 2006).

In addition to the fore mentioned, an open-ended question regarding respondents' preferred clothing stores was also included into the questionnaire. The most frequently mentioned stores are indicated in **Figure 4.4** with those less frequently mentioned grouped under an "other" option.

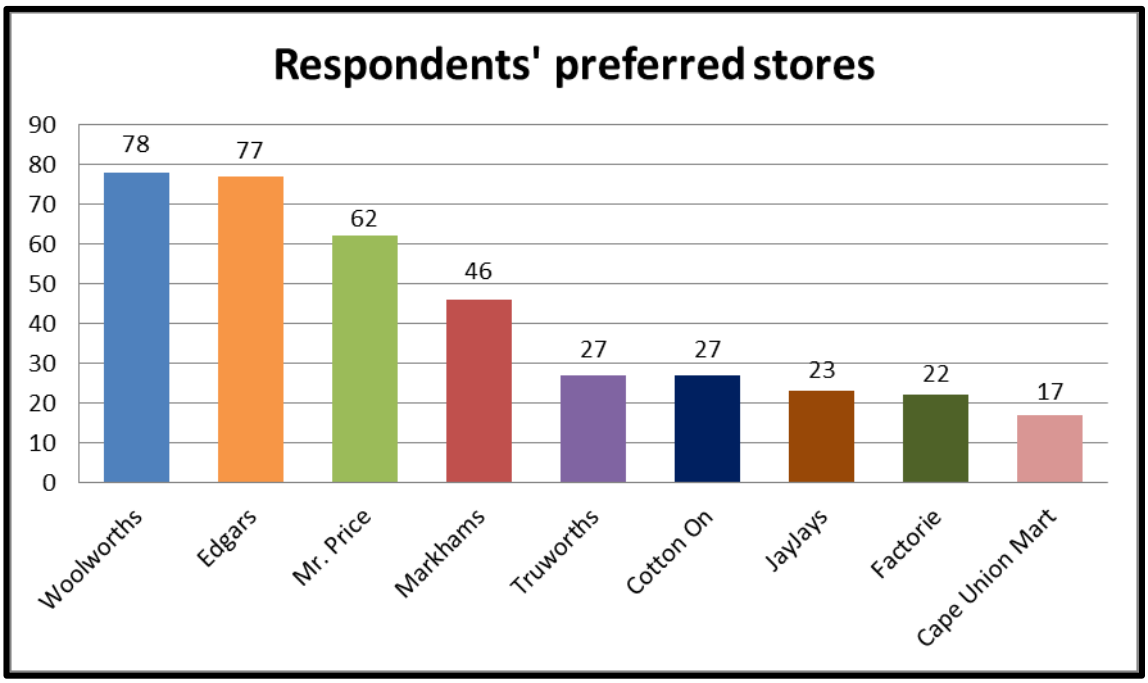

FIGURE 4.4: RESPONDENTS' PREFERRED STORES

Based on the findings of this study, Woolworths is one of the most preferred apparel stores, as 25.57% (n = 78) of the respondents acquire some of their apparel from them. Woolworths, as a retailer, is known for pro-environmental initiatives, and continually encourages their customers to be more eco-friendly by means of awareness campaigns and availability of eco-friendly options (Woolworths, 2014). As an example, Woolworths supports local designers and suppliers to avoid excess apparel imports in South Africa (Luiz *et al.*, 2011). They also have various other initiatives such as minimizing their transport emissions by making use of strategically placed warehouses (Dos Santos, 2011), as well as making use of organic cotton since 2004, which has secured them their position as the third-largest buyer of organic cotton in the world (Luiz *et al*., 2011). Woolworths also offers a new range of denims that are treated with laser and ozone technology in order to save resources such as water and reduce the use of chemicals (50/50 Human Nature, 2014).

The second most preferred retailer is Edgars, since 25.25% (n = 77) of the respondents indicated that they often buy their clothing from Edgars stores. Following Woolworths and Edgars in preference ranking is Mr. Price with the support of 20.33% (n = 62) of the respondents and Markhams with the support of 15.08% (n = 46) of the respondents. Mr. Price also prides themselves in operating sustainably by continuously building a sustainable local supply base to strengthen the competiveness of the South African apparel industry as well as reduce the impact

they have on the environment by reducing energy consumption and waste (The Mr. Price Group, 2014). The other South African apparel retail stores that were also mentioned a few times included Truworths, which boasts with a very promising Environmental Policy and Management System (Truworths, 2013), Cotton On, JayJays, Factorie and Cape Union Mart. Factorie also contributes to environmental initiatives and has partnered with WWF to connect customers with WWF's conservation work and make people aware of sustainability. It is achieved by means of a WWF-licensed product range that adheres to sustainability principles in terms of sourcing, environmental standards and ethical labour standards (Factorie). Other mentions that were grouped under the "other" option included Old Khaki, Topman, Jet, Pep, Ackermans, Total Sport, Sport Scene, Vertigo, Aca Joe, Billabong, Quiksilver, Diesel, Urban, Guess, Uzzi, Levi, Nike, YDE and Stuttafords.

4.2.2 Past experience and familiarity with pro-environmental apparel acquisitions

The primary aim of this research study was focused on male consumers' pro-environmental motivation and intent to acquire eco-friendly apparel in the South African market. Intent can be seen as an indication of a consumer's willingness to try and act in a certain way, and of the amount of effort they are planning to apply to perform the behaviour, such as pro-environmental apparel acquisition which includes the purchasing of eco-friendly apparel items and the limitation of apparel purchases (Saeed *et al*., 2013; Wang *et al.*, 2013). Although pro-environmental intent does not necessarily translate into environmental action, it is nevertheless seen as an important predictor of pro-environmental behaviour and is used as platform from which to develop pro-environmental marketing campaigns (Steg & Vlek, 2009; Kollmuss & Agyeman, 2002). In the light of the fore mentioned arguments, the questionnaire also included two screening questions to determine the respondents' past behaviour with regards to pro-environmental apparel acquisitions and whether any of the respondents have actually acted pro-environmentally before. One question addressed the frequency of eco-friendly/organic clothing purchases and the other question addressed the frequency of buying less clothing to help save the environment. The possible answers for these questions were originally divided into five categories in the questionnaire namely, "never", "rarely", "sometimes", "often", and "always", but were regrouped into three categories as summarised in **Figure 4.5 and 4.6**.

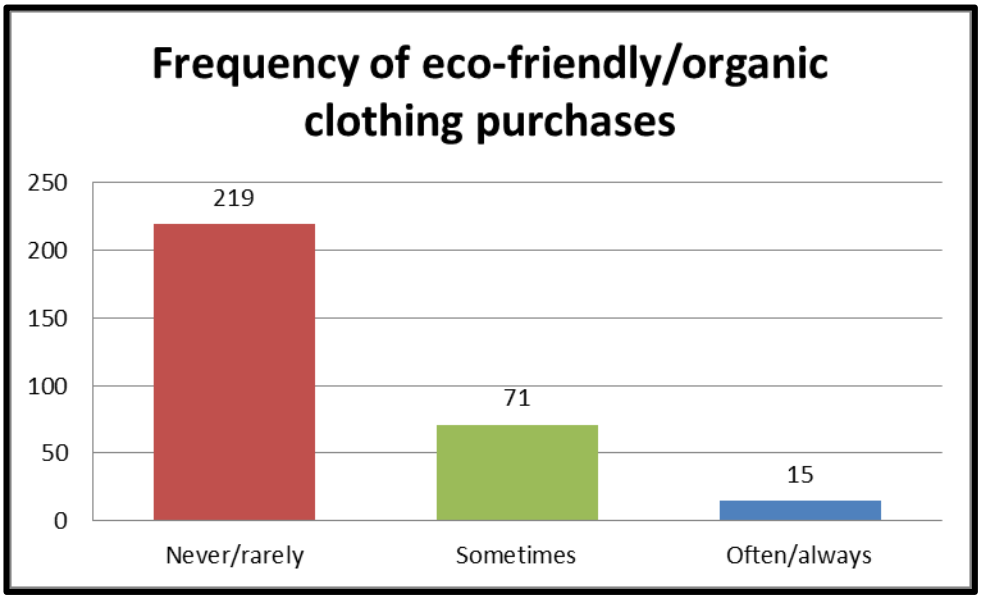

FIGURE 4.5: FREQUENCY OF ECO-FRIENDLY/ORGANIC CLOTHING PURCHASES (N = 305)

As can be gathered from **Figure 4.5**, the majority of the respondents (71.80% / n = 219) stated that they have never or rarely purchased eco-friendly/organic clothing. Just less than a quarter of the respondents (23.28% / n = 71) did however indicate that they sometimes buy eco-friendly/organic clothing. Only 4.92% (n = 15) stated that they often or always purchase eco-friendly clothing. The low participation of males in terms of pro-environmental apparel buying could be due to the fact that they are hesitant, or unwilling to purchase apparel with pro-environmental attributes, or acquire apparel from environmentally preferable sources (Joung & Park-Poaps, 2013; Hiller-Connell, 2010; Gupta & Odgen, 2006; Kollmuss & Agyeman, 2002). Another reason for the disappointing number of male consumers that buy eco-friendly clothing could be that they have no or very little knowledge of the effects of their current consumption behaviour on the environment, and therefore haven't considered the option of pro-environmental apparel before. Consumers are often oblivious or unaware of the pro-environmental options available to them, or there are various external factors such as price, availability, or styles that prohibit them from taking part in pro-environmental apparel acquisitions (Steg *et al.*, 2014; Momberg *et al.*, 2012; Steg & Vlek, 2009). Several studies have identified an attitude-behaviour gap that highlights the inconsistency between consumers' voiced concern for the environment and their actual behaviour (Ha-Brookshire & Norum, 2011; Gupta & Ogden, 2009). For these reasons it is important to establish the relationship between motivational factors and male consumers' pro-environmental intent to acquire eco-friendly apparel as a basis for further exploration of their actual behaviour. Further studies may then focus on external contextual factors to bridge the gap between intent and actual behaviour.

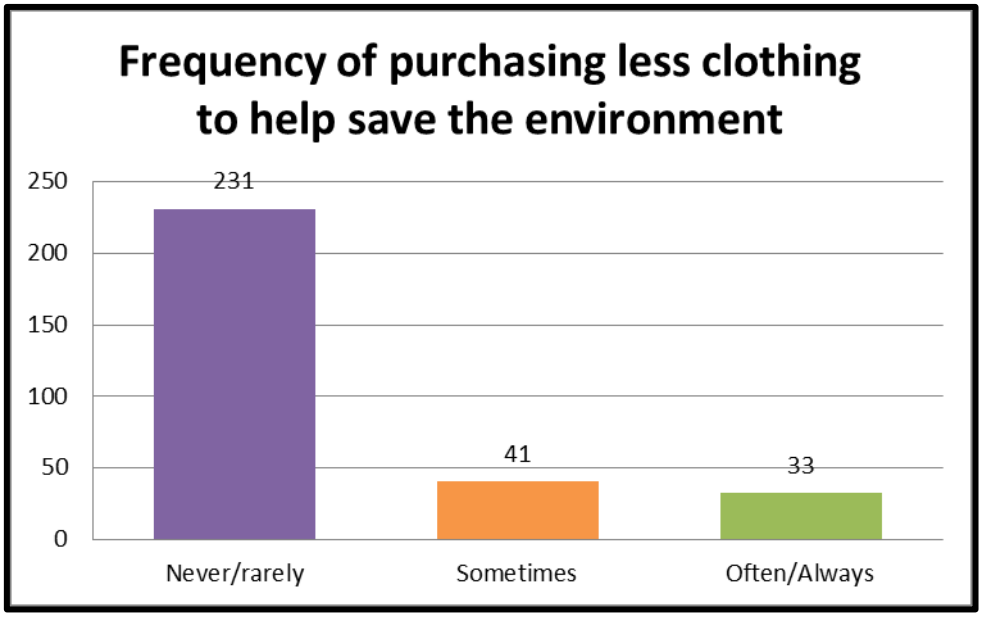

FIGURE 4.6: FREQUENCY OF PURCHASING LESS CLOTHING TO HELP SAVE THE ENVIRONMENT (N = 305)

As illustrated in **Figure 4.6**, 75.74% (n = 231) of the respondents indicated that they never or rarely purchase less clothing in order to help save the environment. Of the remaining 74 respondents, 13.44% (n = 41) declared that they sometimes buy less clothes to help save the environment. Lastly, only a small percentage of the respondents showed some sort of commitment in terms of being pro-environmental, with 10.82% (n = 33) of them indicating that they often or always help to save the environment by buying less clothes.

Limiting the amount of apparel that is acquired as a pro-environmental act is perhaps more easily imposed than purchasing eco-friendly apparel, but the question remains whether consumers would purchase less clothing based on pro-environmental intent. As mentioned before, there are various factors that could influence the respondents to act in certain ways. Some of the influencing factors identified by previous research were the absence of environmental awareness (Momberg *et al.*, 2012), inconvenience of searching for eco-friendly apparel options (Kozar & Hiller-Connell, 2013), limited knowledge regarding environmental effects of apparel consumption (Hiller-Connell, 2010), as well as economic circumstances that also influence the consumers in some way (Jackson, 2005:127; Kollmuss & Agyeman, 2002).

In comparison to the above mentioned question regarding the frequency of eco-friendly clothing purchases, there is a small difference in the number of respondents that indicated that they never or rarely buy eco-friendly/organic clothing (71.80% / n = 219) or that they never or rarely

buy less clothing to help save the environment (75.74% / n = 231). If the “sometimes”, “often” and “always” sections were combined, as part of the respondents that actually indicated that they act pro-environmentally in some way, the outcome would indicate that 28.20% (n = 86) of them do, to some extent, purchase eco-friendly/organic clothing and 24.26% (n = 74) of them, to a certain degree, buy less clothing to help save the environment.

Although the majority of respondents indicated that they do not buy eco-friendly/organic clothing or buy less clothing to contribute to saving the environment, it can be assumed that overall, the male respondents that took part in this study, have the slightest inclination to rather buy eco-friendly/organic clothing than purchase less clothing to help save the environment. Conversely, they are simply not willing to restrict their apparel options in order to act more pro-environmental.

4.2.3 Respondents’ subjective knowledge regarding pro-environmental apparel acquisitions

As mentioned before, knowledge is a component of awareness, which forms part of one of the constructs that ultimately lead to behavioural intent. More specifically, environmental knowledge can be seen as the information that individuals have in terms of their environment and the impact of human actions on the environment (Saeed *et al*., 2013; Brosdahl & Carpenter, 2010; Mostafa, 2007). Various studies have suggested that consumers tend to be knowledgeable about general environmental problems, but do not necessarily portray the same knowledge when it relates to specific behaviour such as eco-friendly apparel acquisitions (Joergens, 2006; Haron *et al*., 2005). This could be due to inadequate information and limited availability of eco-friendly apparel within the South African apparel industry (Momberg *et al.*, 2012).

Subjective knowledge, on the other hand, forms part of Brucks’ (1985) categorization of product class knowledge, together with objective knowledge and prior experience and has been applied in various other studies (Sonnenberg & Erasmus, 2013; Aaertsens *et al*., 2009; Moorman, Diehl, Brinberg & Kidwell, 2004; Chiou, 1998). Subjective knowledge can be described as the perceptions of how much people know, as well as their self-confidence levels in their own knowledge about a product class; in contrast to what they actually know, which is described as objective knowledge (Sonnenberg & Erasmus, 2013; Aaertsens *et al*., 2009; Chiou, 1998; Brucks, 1985). The component of self-confidence is closely related to self-efficacy which forms part of the broader perceived behavioural control and is included into the research study as one of the constructs the influence behavioural intent. It has been argued that a person with strong subjective knowledge will have greater confidence in their ability to actually perform a specified

task and will thus be reflected in the self-efficacy factor as well (Chiou, 1998). It is also believed that the ability of a consumer to behave in a certain way is influenced by the experience they have with a specific product class (Ölander & Thøgersen, 1995; Brucks, 1985). In terms of this research study, the consumers' ability to intend to act pro-environmentally when acquiring apparel could possibly be influenced by prior experience they have had with issues such as pro-environmental behaviour, as well as their exposure of these products to date. Brucks (1985) suggested that more experience in terms of purchasing, or using a particular product, will improve product class knowledge.

In the light of the fore mentioned arguments, the questionnaire also included three screening questions to determine the respondents' subjective knowledge regarding pro-environmental apparel acquisitions. One question addressed the subjective knowledge of eco-friendly clothing, the other the subjective knowledge pertaining to classical clothing styles and the last question addressed the experience with eco-friendly clothing to help save the environment. The possible answers for these questions were originally divided into four categories in the questionnaire namely, "very poor", "poor", "good", and "excellent".

Figure 4.7 provides an overview of the results pertaining to respondents' subjective knowledge of eco-friendly clothing.

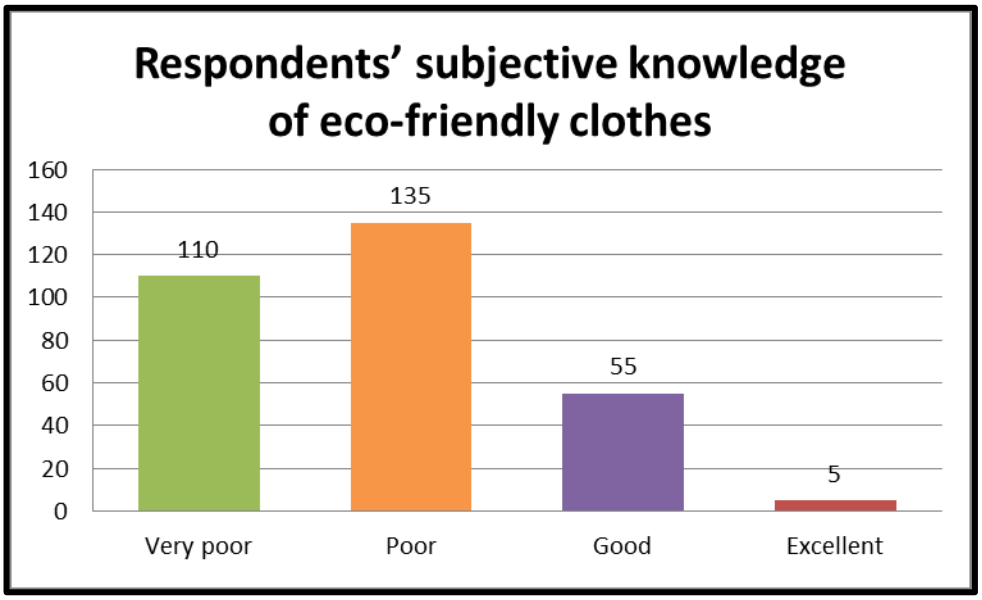

FIGURE 4.7: RESPONDENTS' SUBJECTIVE KNOWLEDGE OF ECO-FRIENDLY CLOTHES (N = 305)

80.33% (n = 245) of the respondents believed that their knowledge regarding the issues of interest are poor. More specifically, 36.07% (n = 110) of them indicated that they have very poor knowledge of eco-friendly clothes and 44.26% (n = 135) indicated they have a poor knowledge of eco-friendly clothing. Only 18.03% (n = 55) of the male respondents declared that they have a good understanding and knowledge of eco-friendly clothing, while 1.64% (n = 5) indicated their excellent knowledge of eco-friendly clothes. Clearly, the majority of the male respondents are not confident about their own level of knowledge regarding eco-friendly clothing, which may be attributed to a lack of information regarding these products, or the misconceptions that consumers have of eco-friendly attributes of apparel products (Sonnenberg, Jacobs & Momberg, 2014). Another contributing factor could be that, to date, South Africa has limited availability of eco-friendly apparel and therefore consumers do not have much experience in purchasing eco-friendly clothing (Momberg *et al.*, 2012).

Another question was included to determine respondents' subjective knowledge of classical clothing styles. This relates to another way of acquiring apparel in a pro-environmental manner, namely to limit apparel purchases by acquiring apparel that has a classic or lasting style and does not lose its appeal after one season (Hiller-Connell, 2011). Such apparel items are considered timeless pieces and can be used interchangeably across various seasons and trends (Hiller-Connell, 2011).

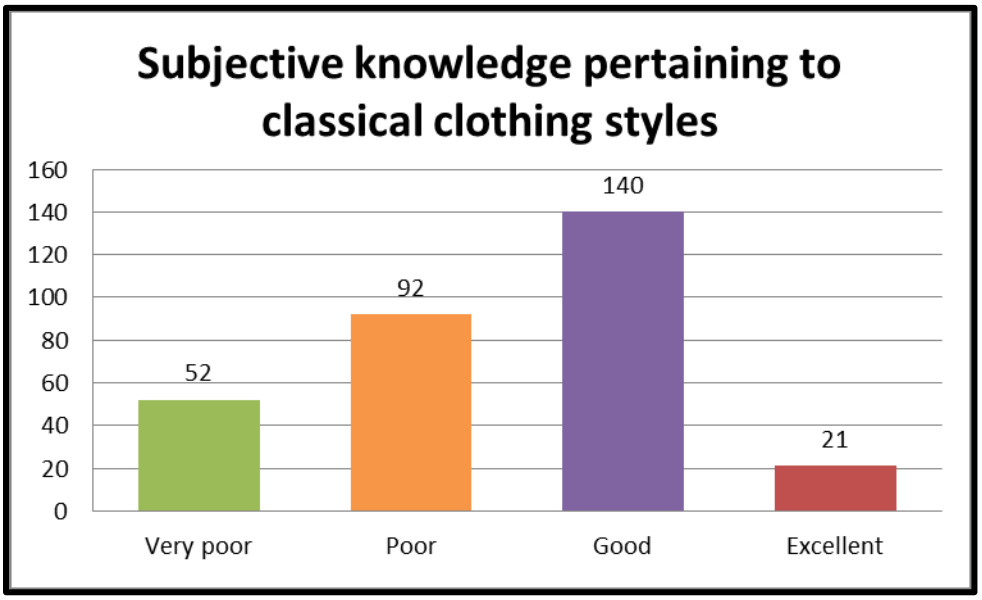

FIGURE 4.8: SUBJECTIVE KNOWLEDGE PERTAINING TO CLASSICAL CLOTHING STYLES (N = 305)

Contrary to their knowledge of eco-friendly clothing, the majority of the respondents indicated that they have some sort of knowledge regarding classical clothing styles. Just over a half of the respondents (52.79% / n = 161) declared that they would describe their knowledge of classical clothing styles to be good or excellent. Just less than half of the respondents (47.21% / n = 144) have a poor (30.16% / n = 92), or very poor knowledge (17.05% / n = 52) of classical clothing styles.

Generally, it appears that more than half of the male respondents do know what classical clothing entails. However, it does not indicate whether they relate classical or lasting styled clothing to a concept such as need-based apparel acquisition which ultimately forms part of pro-environmental intentions and behaviour.

Lastly, in the category of 'Respondents' subjective knowledge regarding pro-environmental apparel acquisitions' the last question that the respondents were required to fill in, was regarding their experience with eco-friendly clothing compared to others. This is closely related to the knowledge that consumers have with regards to eco-friendly clothing, but focuses more on the their past behaviours and experiences with eco-friendly clothing. The results can be viewed in **Figure 4.9** below.

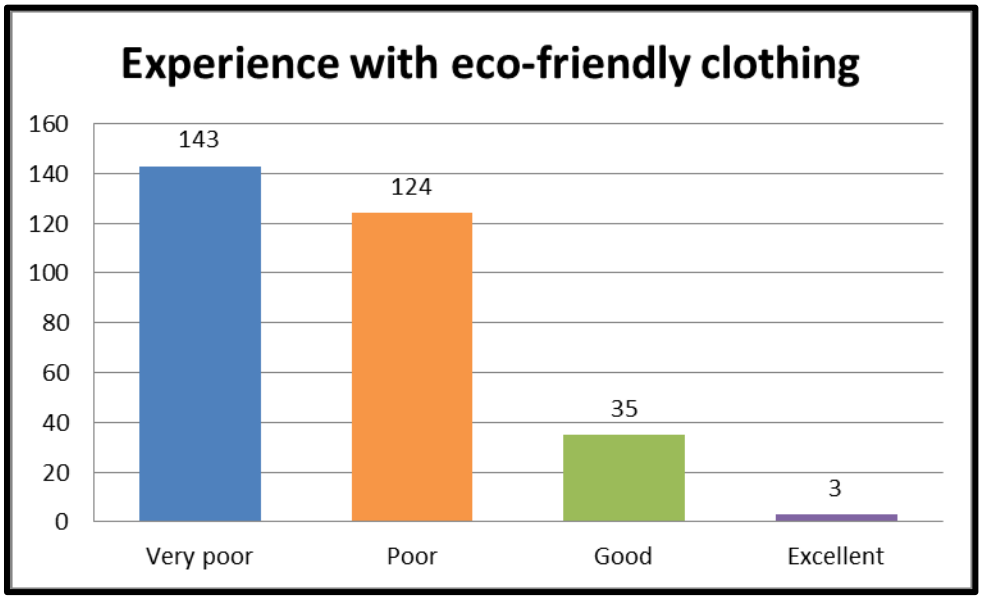

FIGURE 4.9: EXPERIENCE WITH ECO-FRIENDLY CLOTHING (N = 305)

As can be viewed above, the majority of the respondents (87.55% / n = 267) have little experience with regards to eco-friendly clothing. More specifically, just less than half of them

(46.89% / n = 143) indicated that they have very little experience with eco-friendly clothing and 40.66% (n = 124) have poor experience. Only 12.46% (n = 38) of the respondents have either good experience (11.48% / n = 35), or excellent experience (0.98% / n = 3) with regards to eco-friendly clothing.

In comparison with the results regarding the respondents' subjective knowledge of eco-friendly clothing, it is clear that the majority of the male respondents are not confident about their own level of knowledge regarding eco-friendly clothing and very few of them have any experience regarding the issues of interest. On the other hand, the respondents also do not know much about classical styled clothing in general, which relates back to options of pro-environmental apparel acquisitions, namely to purchase good quality clothing and causing less waste in the long run; however it is not certain whether the respondents actually relate the purchasing of classically styled clothing to pro-environmental behaviour since the question did not specify it. With that being said, there is clearly lots of room for marketing campaigns, as well as intervention programmes that could make male consumers in South Africa more aware and knowledgeable of pro-environmental apparel acquisitions and also increase their involvement in terms of eco-friendly apparel initiatives. However, before the marketing campaigns and intervention programmes can take effect and positively contribute to the encouragement and persuasion of consumers to save the environment, it is important to investigate the underlying motivation and intent, in order to plan and formulate the appropriate strategies.

In conclusion, the demographic characteristics of the sample, as well as the respondents' current apparel behaviour and their experience with regards to pro-environmental behaviour, were clearly analysed and explained to create a clear understanding of the respondents that took part in the research study.

Ultimately, the demographic information portrayed a predominantly young group of male respondents that were gathered by means of non-probability sampling, which leads to the conclusion that the results cannot be generalised to the larger South African population (Strydom, 2011b:231). For these reasons, the intent of this research study was not to interpret the findings in terms of the presented demographics, but rather to prove the hypotheses.

4.3 RESPONDENTS' PRO-ENVIRONMENTAL MOTIVATION AND INTENT TO ACQUIRE ECO-FRIENDLY APPAREL

In the following section, the results of the research study are presented and discussed according to the hypotheses and conceptual framework for the research study. As depicted in chapter two, the conceptual framework for this study includes underlying concepts related to the NAT (awareness of consequences, moral norms) (Schwartz, 1977), as well as concepts related to the TPB (social norms, attitudes, perceived behavioural control, behavioural intent) (Bamberg & Möser, 2007; Tonglet *et al*., 2004; Ajzen, 1991). Perceived behavioural control was further separated into two sub-components, namely perceived self-efficacy and controllability (Ajzen, 2002). Scale items for these concepts, were derived from previous studies (Sonnenberg, 2014; Bamberg, Hunecke & Blöbaum, 2007; Wall *et al.*, 2007; Oom Do Valle *et al.*, 2005; Tonglet *et al.*, 2004; Kim & Damhorst, 1998) and adapted for the purpose of this study to investigate motivational factors that influence male consumers' pro-environmental intent to acquire eco-friendly apparel in the South African context. A four-point Likert-scale with response options ranging from 1 (i.e. "strongly disagree") to 4 (i.e. "strongly agree") was used (Zikmund & Babin, 2010: 255). Some of the items in the questionnaire (V28, V35, V56, V58, V59, V61, and V67) were also phrased in such a way that it had to be reverse coded during data analysis in order to correctly interpret the results and present accurate findings.

Since scale items were adapted for the purposes of this study and have to date not been used to establish the relevance of constructs related to the NAT and the TPB in the context of eco-friendly apparel behaviour, an exploratory factor analysis was performed to isolate relevant constructs and concepts in the dataset. Thereafter a confirmatory factor analysis, multiple regression analysis and path analysis was performed to confirm the hypothesized relationships as specified in the conceptual framework for this study.

4.3.1 Results and interpretation of the Exploratory Factor Analysis (EFA)

EFA is used as a data reduction technique (Mazzocchi, 2008:219) and enables the researcher to generate theory by exploring the significant dimensions of the constructs within the variables and to interpret the factor loadings to develop a meaningful label for every factor that occurs (Williams, Brown & Onsman, 2010; Jackson, 2005:221). It is based on the idea that once the variables within a matrix relate to one another, it represents a specific construct or factor

(Salkind, 2012:191). All the items included in section C of the questionnaire were subjected to EFA in order to differentiate coherent factors and to determine the components of each factor.

SPSS software was used to perform the EFA, utilising Varimax rotation with Kaiser Normalization as the extraction method. Based on Kaiser's criterion (i.e. retaining all factors that are above the eigenvalue of 1), the initial unrestricted EFA produced thirteen factors. The thirteen factor analysis seemed quite comprehensive, but included factors with less than three variables, which is considered less desirable (Yong & Pierce, 2013). In addition to the above, some have argued that Kaiser's criterion may lead to an overestimation of the number of factors extracted and suggest that the scree test must be used in addition to the eigenvalues to determine the number of factors to retain (Costello & Osborne, 2005). For this particular data matrix, the point of inflexion on the scree plot revealed an eight factor solution. Since certain variables proved to be particularly problematic (especially those linked to the "controllability" concept), a nine, ten, eleven, and twelve factor analysis was also performed to identify the most feasible solution. According to Mazzocchi (2008:227), it is better to risk having too many factors than to eliminate factors and end up having too few during the EFA. Therefore it is more advisable to over-extract rather than under-extract (Mazzocchi, 2008:227).

In pursuing a suitable solution for a data matrix, it is general practise to eliminate complex variables (i.e. an item that is in the situation of cross loading) and items that fail to reach a loading higher than 0.32 for any given factor (Yong & Pierce, 2013). Factor loadings can be described as the relationships between every original variable as well as the factor and the statistical relevance of a factor loading, which ultimately depends on the absolute value and sample size (Jackson, 2005:227-228). Therefore, the bigger the sample size, the lower the value becomes to remain statistically relevant. Jackson (2005:228) and Hair *et al*. (1998) suggest that a sample of 100 units requires factor loadings of at least 0.55 in order to be relevant, while a sample of 200 units or more only requires a minimum threshold of 0.40 to be relevant. In terms of this research study, where a sample of 305 male consumers was used to collect data, a minimum threshold of 0.40 was considered relevant.

With that being said, V33, V35, V43 and V44 were eliminated from the data matrix in an effort to define distinct clusters of interrelated variables (Yong & Pierce, 2013; Costello & Osborne, 2005). A few exceptions were made in terms of cross loadings because as pointed out by Yong and Pierce (2013), depending on the type of study, items that cross load can be retained based on the latent nature of the variables. In particular, socio-psychological factors are intertwined and cannot always be compartmentalised as separate constructs in the consumers' minds.

Various researchers have previously indicated the close relationship between these constructs and have questioned their distinctiveness (Sonnenberg, 2014; Chan & Bishop, 2013; Kaiser, 2006). As an example, awareness of consequences is defined as the consumers' understanding of the consequences that could occur if they do, or do not act in a pro-environmental manner (De Groot & Steg, 2010). Attitude, which is closely associated to awareness, is defined as the degree to which a consumer has a favourable or unfavourable evaluation of the specific issue (Tang *et al.*, 2011; Jackson, 2005:46). Behavioural intent is then determined by a consumer's overall evaluation of a specific behaviour (i.e. attitude towards it), perceived social pressures that are applicable to it (i.e. social norms), as well as perceived behavioural control over relevant factors that may constrain the consumers' performances (Wall *et al.*, 2007; Bamberg & Schmidt, 2003; Foxall & Goldsmith, 1994:101; Ajzen, 1991). Intent can also be seen as the amounts of effort consumers are willing to perform to execute the behaviour in question (Saeed *et al.*, 2013; Wang *et al.*, 2013). Considering all of the above, items such as V21, V26, V32, V48, V51 were retained despite the fact that they achieved loadings higher than the 0.4 on more than one factor. The item's highest factor loading was then used as an indication of the importance of the variable to the factor and served as a basis for allocation to a specific factor.

Some of the important constructs such as social norms and moral norms seemed to converge once the EFA was restricted to less than 11 factors and after much consideration, as well as thorough investigation into different EFA options in terms of the amount of factors, eleven factors (**Table 4.6**) provided the most feasible solution for this study with variables relating to "controllability" split into four factors. The resulting eleven factors were labelled as follows:

Factor 1: Awareness of consequences (AW)
Factor 2: Social Norms (SN)
Factor 3: Attitude (ATT)
Factor 4: Moral Norms (MN)
Factor 5: Self-efficacy (SE)
Factor 6: Control over the availability of eco-friendly apparel (CONA)
Factor 7: Control over the perceptions associated with classical apparel (CONP)
Factor 8: Control over finances and time in eco-friendly apparel purchases (CONEF)
Factor 9: Control over finances and time in limiting apparel acquisitions (CONL)
Factor 10: Behavioural Intent (BI)
Factor 11: Pro-environmental action (PRO)

TABLE 4.6: RESULTS OF THE EXPLORATORY FACTOR ANALYSIS (N = 305)

V	Item	Factor										
		1	2	3	4	5	6	7	8	9	10	11
		AW	SN	ATT	MN	SE	CONA	CONP	CONEF	CONL	BI	PRO
V14	Large amounts of water are wasted when clothes are produced.	0.616	0.057	0.201	0.171	0.209	-0.037	-0.022	-0.199	-0.082	0.090	0.050
V15	Textile dyeing causes a lot of water pollution.	0.661	0.067	0.149	0.005	0.311	-0.069	0.174	0.053	0.016	0.006	-0.032
V16	The environment is damaged due to people's clothing consumption.	0.668	0.142	0.083	0.149	0.175	0.047	-0.052	-0.087	-0.028	0.018	0.145
V17	In order to save the environment, people should buy clothes in a pro-environmental way.	0.525	0.175	0.208	0.220	0.168	0.150	0.033	0.089	-0.102	0.210	0.121
V18	Throwing your clothes away can increase rubbish dumps.	0.644	0.033	0.034	0.045	-0.068	0.004	-0.027	0.092	0.110	0.143	-0.189
V19	High electricity usage of clothing manufacturers causes environmental damage.	0.599	-0.047	0.203	0.167	-0.167	0.030	0.127	-0.040	0.097	0.216	-0.070
V20	Transporting clothing increases greenhouse gases.	0.627	-0.015	0.055	0.120	-0.263	0.022	0.036	0.071	0.167	0.272	-0.009
V21	Buying clothes in a pro-environmental way will help to save the environment.	0.428	0.082	0.306	0.140	-0.165	0.150	0.079	0.044	0.123	0.417	0.123
V22	People who are important to me would approve of my clothing purchases if they have less harmful implications for the environment.	0.143	0.616	0.094	0.237	-0.111	0.076	0.157	0.057	0.078	0.127	-0.089
V23	People who are important to me expect me to choose eco-friendly clothes.	0.077	0.769	0.152	0.297	-0.013	0.103	0.052	-0.031	-0.007	0.144	0.155
V24	People who are important to me probably think that I should consider the environmental impact of the clothes before buying it.	0.019	0.727	0.028	0.327	0.083	0.159	-0.011	-0.073	0.038	0.191	0.066
V26	People who are important to me think I should be pro-environmental by limiting the amount of clothing I buy.	0.034	0.584	-0.041	0.416	0.208	0.123	0.164	-0.068	0.006	0.113	0.023
V29	People who are important to me expect me to limit my clothing purchases to save the environment.	0.091	0.635	0.004	0.280	0.296	0.093	0.104	0.055	-0.141	0.105	0.189
V30	For me, buying clothing in a pro-environmental manner is good.	0.229	0.042	0.681	0.198	0.032	-0.017	-0.049	-0.042	0.027	0.267	0.060
V31	For me, buying clothing in a pro-environmental manner is wise.	0.256	0.051	0.735	0.265	0.046	0.057	0.099	0.063	0.019	0.157	0.004
V32	For me, buying clothing in a pro-environmental manner is beneficial.	0.146	0.047	0.565	0.410	0.061	0.049	0.055	0.051	0.008	0.309	0.080
V34	For me, buying clothing in a pro-environmental manner is responsible.	0.209	0.110	0.666	0.161	0.081	0.022	0.173	0.083	0.000	0.254	-0.030
V36	I feel morally obligated to buy less clothing to cause less damage to the environment.	0.215	0.294	0.110	0.702	0.158	-0.037	-0.072	0.003	0.063	0.172	0.057
V37	I feel morally obligated to pay attention to information about clothes that are eco-friendly.	0.230	0.241	0.223	0.692	0.060	0.117	0.089	0.012	0.071	0.158	-0.061
V38	I feel morally obligated to buy eco-friendly clothes, regardless of what others do.	0.193	0.206	0.124	0.782	0.070	0.097	0.080	0.054	0.067	0.136	0.013
V39	I feel morally obligated to purchase pro-environmental clothes despite the fact that other options are available.	0.137	0.278	0.124	0.741	0.099	0.126	0.153	0.042	0.030	0.146	0.092
V40	I feel morally obligated to buy clothes from companies known for being environmentally responsible.	0.050	0.168	0.135	0.779	0.041	0.003	0.066	0.020	0.076	0.234	-0.067
V41	I feel morally obligated to buy eco-friendly/organic clothing to save the environment.	0.111	0.248	0.327	0.741	0.001	0.082	0.052	0.108	0.067	0.199	-0.028
V46	I am confident that I am able to buy less clothes to help save the environment.	0.090	0.107	0.126	0.390	0.454	0.073	-0.041	0.038	0.215	0.302	-0.167
V48	By buying more classical styles I can be more pro-environmental.	0.188	-0.081	-0.089	0.202	0.455	0.135	0.435	-0.028	0.117	0.322	-0.063
V49	For me, buying less clothes to cause less damage to the environment is easy.	0.078	0.212	0.158	0.216	0.590	0.222	-0.097	-0.006	0.138	0.254	-0.050
V42	For me, retailers encourage pro-environmental behaviour by providing eco-friendly clothing options.	0.049	0.056	0.026	0.074	-0.053	0.548	0.071	-0.224	-0.101	0.132	-0.266
V47	I am confident that I can buy eco-friendly clothes in SA stores.	0.029	-0.002	0.005	0.207	0.312	0.532	0.030	0.198	0.014	0.171	-0.174
V57	Clothing retailers provide enough eco-friendly clothing options to choose from.	-0.073	0.109	0.072	-0.093	0.095	0.704	0.078	0.187	-0.102	-0.014	0.129
V60	I could easily find eco-friendly clothes in SA retail stores.	0.148	0.161	-0.025	0.101	-0.016	0.737	-0.227	0.173	0.131	-0.091	0.068
V66	I have lots of opportunities to buy eco-friendly clothes.	-0.009	0.094	0.018	0.076	0.043	0.758	-0.023	0.006	0.185	0.028	0.096
V25	People who are important to me expect me to buy clothing styles that will last a long time.	0.038	0.309	0.048	0.178	-0.077	0.031	0.640	-0.037	0.058	0.175	-0.064
V27	People who are important to me expect me to buy classical clothing styles that would not go out of fashion.	0.042	0.262	0.007	0.251	0.020	0.026	0.689	-0.109	0.120	0.006	-0.064
rV59	Quality clothing that lasts longer, is pricey.	-0.045	0.149	-0.210	0.195	0.000	0.175	-0.552	0.158	-0.052	-0.045	-0.072

rV56	Eco-friendly clothing is expensive.	-0.060	0.100	-0.016	-0.042	0.035	0.147	-0.170	0.663	0.059	-0.108	-0.231
rV58	Looking for eco-friendly clothes in stores, takes too much time.	0.005	-0.012	0.013	0.157	-0.225	0.351	-0.234	0.481	-0.077	0.078	0.075
rV67	It would be time consuming to search for eco-friendly clothes.	0.044	-0.146	-0.016	0.120	0.079	0.028	-0.004	0.675	-0.082	0.046	0.286
rV61	I find it very time consuming to put together outfits that mix and match.	-0.010	-0.327	-0.088	0.147	0.064	0.121	0.041	0.032	-0.654	0.159	0.099
V62	I could save money by limiting my clothing purchases to be more pro-environmental.	0.149	0.099	0.238	0.134	0.315	0.002	0.061	0.290	0.523	0.103	-0.086
V63	Basic clothing items for classical styles, are readily available in most SA retail stores.	0.022	-0.122	-0.064	0.129	0.026	0.241	0.097	-0.155	0.614	0.031	-0.052
V64	By limiting my shopping outings to buy clothes, I save a lot of time.	0.012	-0.174	0.007	0.271	0.178	-0.091	0.202	0.135	0.522	0.217	0.092
V65	Mix-and matching clothing outfits ultimately saves me money.	0.244	-0.075	-0.187	0.165	0.021	0.179	0.208	-0.160	0.482	0.205	0.314
V50	I would be willing to buy eco-friendly clothes from companies who do not pollute the environment.	0.180	0.056	0.183	0.206	-0.021	-0.040	0.083	-0.013	-0.051	0.649	-0.232
V51	I would be willing to buy classical clothing styles to cause less waste.	0.053	0.083	0.134	0.079	0.020	-0.051	0.433	-0.012	0.086	0.580	-0.002
V52	I would be willing to buy eco-friendly clothes to be more pro-environmental.	0.126	0.185	0.203	0.170	-0.012	0.123	0.123	-0.069	0.065	0.735	0.058
V53	I would be willing to limit my clothing purchases to be more sustainable.	0.227	0.135	0.169	0.133	0.233	-0.076	-0.049	0.009	0.056	0.653	0.035
V54	I would be willing to buy eco-friendly clothes next time I go shopping.	0.114	0.100	0.157	0.175	0.079	0.150	0.047	-0.002	-0.039	0.708	0.007
V55	I would be willing to limit my clothing purchase to waste less.	0.154	0.164	0.097	0.247	0.322	0.028	-0.032	0.052	0.059	0.628	0.005
rV28	People who are important to me would not care about my pro-environmental clothing purchases.	0.136	0.313	0.084	0.105	-0.142	-0.008	-0.006	0.126	-0.018	0.127	0.630
V45	I rather purchase good quality clothes that last longer to minimize clothing wastage.	0.220	-0.028	-0.037	0.152	0.012	-0.059	0.105	0.048	0.054	0.337	-0.539
	Mean	**2.934**	**2.294**	**3.003**	**2.447**	**2.637**	**2.114**	**2.381**	**2.067**	**2.70**	**2.858**	
	Standard deviation	**0.689**	**0.744**	**0.625**	**0.772**	**0.758**	**0.743**	**0.755**	**0.72**	**0.739**	**0.698**	
	% Variance explained	**7.316**	**6.764**	**5.280**	**10.25**	**3.592**	**5.574**	**4.162**	**3.245**	**3.864**	**8.293**	
	Cronbach Alpha	**0.818**	**0.861**	**0.824**	**0.926**	**0.661**	**0.721**	**0.275**	**0.447**	**0.327**	**0.848**	

Note: AW = Awareness of consequences; SN = Social Norms; ATT = Attitude; MN = Moral Norms; SE = Self-efficacy; CON = Controllability; CONA = Control over the availability; CONP = Control over the perceptions associated with classical apparel; CONEF = Control over finances and time in eco-friendly apparel; CONL = Control over finances and time in limiting apparel acquisitions; BI = Behavioural Intent; PRO = Pro-environmental action

The means for the 11 factors varied between 2.07 and 3.00. Together with that, the standard deviations ranged from 0.69 – 0.77, which indicates that the results of the factors are close in value to the means, and are thus acceptable in terms of the research study and quality control. The cumulative % variance explained is 61.124, which was deemed acceptable in terms of explaining variance in the data. More specifically, Attitude ($M_{Factor3}$=3.00) had the highest mean, which indicates consumers' strong association with it in terms of pro-environmental apparel acquisitions. Attitude can be described as a behavioural belief – it is the degree to which a consumer has a favourable or unfavourable evaluation of a specific issue (Tang *et al.*, 2011; Jackson, 2005:46). Furthermore, it is the lasting feeling concerning a certain issue and is closely related to beliefs, which can be explained as the knowledge a person has about an issue (Gupta & Odgen, 2006; Kollmuss & Agyeman, 2002). Therefore it can be assumed that the male consumers have relatively strong, favourable attitudes regarding pro-environmental apparel acquisitions and form part of their beliefs.

Reliability can be described as "the degree to which a measuring instrument is free from random error so as to supply consistent results" (Cooper & Schindler, 2006:323). The reliability of the

variables included in this study were determined by calculating the Cronbach's alphas for every factor/construct to measure the extent to which the items in the scale were able to correlate with the total measure of the scale and whether they fell within the acceptable range (i.e. 0.7 to 0.95) (Delport & Roestenburg, 2011:177; Tavakol & Dennick, 2011). As indicated in **Table 4.6**, the Cronbach's alphas for most of the factors were in the acceptable range, indicating consistency in the responses to the items (Field & Miles, 2010:583). Self-efficacy (factor 5), which is a sub dimension of perceived behavioural control, had a Cronbach's alpha of 0.66, which is just below the acceptable threshold of 0.7. Prior empirical research points to the complexity and problems related to the measurement of perceived behavioural control (Azjen, 2002 ; Armitage & Conner, 2001).

Based on the results reported in **Table 4.6**, it becomes apparent that the controllability dimension of perceived behavioural control also proved to be particularly problematic. Only one factor that relates to this concept, namely CONA, had an acceptable Cronbach's alpha (α = 0.72) (Tavakol & Dennick, 2011). Factors 7, 8 and 9, which represents further sub dimensions of controllability had Cronbach's alphas that were below the acceptable threshold of 0.7. Numerous challenges seem to persist in the measurement of controllability as an underlying motivational factor for pro-environmental apparel acquisitions (Tavakol & Dennick, 2011), which highlights the need for further empirical research and scale development to accurately capture the underlying dimensions of this concept. The Cronbach's alpha of factor 11, which was labelled as "Pro-environmental action" (PRO), could not be determined, due to the fact that the construct only included two items. However, SPSS software was used to perform the "Spearman's rho" correlation on rV28 and V45 and it was found that these two items remained problematic in terms of the EFA, as well as correlating with each other (r = -0.161). Although consideration was given toward the elimination of these items, the resulting factor structure did not provide a more logical grouping of variables. The decision was therefore made to retain the items. Despite the questionable reliability of factor 7, 8, 9 and 11, they form the basis for future research recommendations and are thus discussed in the section to follow. They were however eliminated from further statistical analysis including the confirmatory factor analysis and the multiple regression analysis that is reported in the latter part of the chapter.

Factor 1: Awareness of consequences (AW)

"Awareness of consequences" was measured with eight items (V14 – V21) that tapped into respondents' understanding of the environmental consequences of the textile and apparel industry, as well as the negative consequences that could occur if they do not act in a pro-

environmental manner (De Groot & Steg, 2010). All of the items were retained and achieved a Cronbach's α of 0.82, confirming consistent responses to the items. The mean for Awareness of consequences was 2.93, which indicates a relatively strong association in terms of consumers' knowledge and understanding of environmental issues, and more specifically pro-environmental issues regarding apparel acquisitions. This, in turn, could most likely motivate them in some way to attempt to live more environmentally responsible lifestyles (Park & Ha, 2014; Bamberg & Möser, 2007). Certain studies have also illustrated that an increase in environmental knowledge could lead to a greater awareness, as well as a positive attitude, and an increased intent to act pro-environmentally (Kozar & Hiller-Connell, 2013; Hiller-Connell, 2011; Brosdahl & Carpenter, 2010; Grob, 1995). This "awareness" can be seen as a vital component in initiating pro-environmental behaviour.

Factor 2: Social Norms (SN)

Of the original eight items (V22 – V29) that were included in the questionnaire to measure "social norms", five items achieved acceptable factor loadings for the factor/construct in question. The remaining three items seemed to achieve higher loadings for factors associated with the controllability construct and were thus re-allocated. The five items that were retained had an acceptable Cronbach's α of 0.86, indicating internal consistency in responses to the items. It should however be noted that in exploring eight, nine and ten factor solutions, the social norm and moral norm items seem to converge, which highlights the close association of these two constructs. Research has indicated that consumers are ultimately social beings that need to be guided in terms of their own beliefs and behaviour because they act according to the social norms of the broader society (Sonnenberg, 2014; Jackson, 2005:131).

In terms of the mean value of Social Norms, it was calculated as 2.29, which is relatively close the mid-point of 2.00, yet the majority of male consumers still leaned towards "agreement" in terms of the items relating to social norms in the questionnaire. This indicates that the consumers did not agree strongly with items regarding the social norms and are not significantly favourable to social norms in terms of pro-environmental apparel acquisition issues in South Africa. A contributing factor could be that the consumers in emerging markets such as South Africa, are often characterized as being an amalgamation of Western as well as more traditional cultures (Sonnenberg, 2014; Bodur & Sarigöllü, 2005) and differ in their interpretations and concepts of social norms with regards to issues such as pro-environmental apparel acquisitions. Therefore, every consumer that took part in this study did not necessarily feel the same towards social norms in this regard. The Western cultures tend to adopt individual decision-making, while

traditional cultures have a more collectivistic orientation (Sonnenberg, 2014; Burgess & Steenkamp, 2006). These two factors are closely intertwined and consumers make use of both these constructs interchangeably to make decisions regarding their pro-environmental behaviour.

Factor 3: Attitude (ATT)

Of the six items (V30 – V35) that were included in the questionnaire to tap into respondents' attitudes, four were retained and two (V33 and V35) were eliminated. The two items that were eliminated remained problematic throughout the process of selecting the most appropriate factor solution with factor loadings below 0.4 and cross loading into multiple factors. The four remaining items had an acceptable Cronbach's alpha of 0.82, confirming consistent responses to the items. In terms of the mean value of Attitude, it was calculated as 3.00, which was the highest mean, and indicates consumers' strong association with it in terms of pro-environmental apparel acquisitions. As mentioned before, attitude is the degree to which a consumer has a favourable or unfavourable evaluation of a specific issue (Tang *et al.*, 2011; Jackson, 2005:46). Furthermore, it is the lasting feeling concerning a certain issue and is closely related to beliefs, which can be explained as the knowledge a person has about an issue (Gupta & Odgen, 2006; Kollmuss & Agyeman, 2002). Therefore it can be assumed that the male consumers have relatively strong, favourable attitudes regarding pro-environmental apparel acquisitions and the majority of the respondents agree with the statements in the questionnaire namely that the purchasing of clothing in a pro-environmental manner is good, wise, beneficial, and responsible.

Factor 4: Moral Norms (MN)

All of the items included in the questionnaire as a measure of moral norms (V36 – V41) were retained and loaded as expected under the "moral norm" factor. These items also had an acceptable Cronbach's alpha of 0.93, which indicates internal consistency within the factor. The mean for Moral Norms was 2.45, which indicates a relatively strong association with regards to the consumers' moral feelings towards pro-environmental intent and more specifically, pro-environmental apparel acquisitions. Moral norms is mainly related to the consumers' personal beliefs regarding moral correctness or incorrectness of performing a certain action and are based on the interplay of cognitive, emotional, and social factors (Tang *et al*., 2011; Steg & Vlek, 2009). It can also be seen as feelings of moral obligation that consumers experience when engaging in pro-environmental behaviour (Bamberg & Möser, 2007). Based on the mean value, the respondents that took part in this study feel relatively strongly about acting morally correct in

terms of pro-environmental intent in terms of apparel acquisitions; however, there is still a certain amount of uncertainty whether they see it as a moral obligation based on the mean that leans towards the mid-point of 2.00.

Factor 5: Self-efficacy (SE)

Originally, eight items (V42 – V49) were included in the questionnaire to measure "self-efficacy", of which only three items were retained under the relevant factor/construct. Two items (V43 and V44) had to be eliminated due to factor loadings below the specified threshold and cross loading on to multiple factors. The remaining items seem to mostly converge with items relating to controllability (i.e. the other sub dimension of perceived behavioural control) and behavioural intent. As mentioned before, perceived behavioural control can be defined as control beliefs and can be seen as the presence of factors that may influence or hinder the intent to perform or behave in a specific way (Bamberg, 2003; Ajzen, 1991; Ajzen & Fishbein, 1977). Based on the above it is apparent that the dimensions of perceived behavioural control and intent are closely related. However, Azjen (2002) provides a precise definition of self-efficacy, as the ease or difficulty of performing a specified task, together with the consumers' confidence in being able to perform the intended behaviour. In terms of this research study, it refers to the degree to which male consumers believe in their own capabilities to perform pro-environmental intents and acquire apparel that has positive environmental consequences.

Based on Ajzen's (2002) recommendations regarding the conceptualisation and measurement of self-efficacy (i.e. capability aspects), three items (as specified in the EFA results) were retained as a measure of self-efficacy and achieved a Cronbach's α of 0.66, which is just below the acceptable consistency of 0.7. The need for further scale development and empirical evidence is apparent. In terms of the mean value of Self-Efficacy, it was calculated at 2.64. This value indicates that the consumers do in fact have some confidence in being able to perform pro-environmental intents such as acquiring eco-friendly apparel to contribute positively to minimizing the environmental consequences (Ajzen, 2002). It is not one of the highest means amongst the applicable constructs, yet it does portray some sort of confirmation in terms of the respondents' ease to perform the intended behaviour.

Controllability factors

As emphasized in the preceding discussions, the "controllability" construct posed several challenges in the context of this study. As a dimension of perceived behavioural control,

controllability is concerned with consumers' views about the control they have over their own behaviour (Ajzen, 2002), which may depend on several factors such as availability, affordability and/or time constraints (Barr, 2007; Tonglet *et al*., 2004). Consumers do not always have control over such factors that may inhibit the performance of the behaviour in question (Ajzen, 2002). For the purposes of this research study, 12 items (V56 – V67) were developed and included in the questionnaire to measure controllability in terms of male consumers' beliefs about external factors that may impact on their ability to acquire eco-friendly apparel. The EFA results reveal that controllability is an intricate factor with various dimensions.

Two items (V42 and V47) originally intended as a measure of self-efficacy, in addition to three self-developed controllability measures (V57, V60 and V66), converged as the first controllability factor that was labelled as "Control over the availability of eco-friendly apparel" (CONA). Upon close scrutiny of the item's wording, it became apparent that all five items are related to the availability of eco-friendly apparel. Availability has been identified as an important facilitating condition for consumers to engage in eco-friendly apparel behaviour in the South African retail environment (Momberg *et al*., 2012). A Cronbach's α of 0.72, indicates internal consistency of the items. Based on the mean value of 2.11, the respondents did not necessarily present strong feelings towards the availability of eco-friendly apparel in South Africa. The mean value remains close to the mid-point of 2.00, which indicates that there were contrasting responses in terms of the availability of eco-friendly or classically styled clothing and that consumers could possibly still value availability as a contextual barrier of pro-environmental behaviour (Momberg *et al*., 2012).

The second controllability factor was labelled as "Control over perceptions associated with classical apparel" (CONP). As mentioned in the literature, one of the easiest pro-environmental apparel intentions for consumers to act on is to limit the amount of apparel they acquire. One way to do that is to limit their apparel purchases by selecting classically styled items that could last multiple years and does not lose its appeal after one season (Hiller-Connell, 2011). This notion could drastically reduce the apparel waste of consumers in South Africa by lengthening the apparel's lifespan (i.e. time of use) and only disposing of it when that life time is over. The only obstacle in terms of this intent is the desire for trendy apparel that is disposed of after one season because of various reasons such as poor quality, damaged apparel or outdated trends – all of which add to the textile waste deposited into landfills on a yearly basis (Birtwistle & Moore, 2007). One item (V59), which formed part of the controllability measures, in addition to two items (V25 and V27) that were originally intended to measure social norms, converged to produce this factor. Further examination of the items revealed an underlying social dimension that is linked to

perceptions surrounding classical or “longer lasting quality” clothing. The low Cronbach’s Alpha of 0.28 indicated a high level of disparity and inconsistency in the responses to these items and could therefore not be used in further statistical analysis. However, for future research purposes it is important to take note of a social dimension that may underscore certain controllability issues. Consumers are influenced by peers/reference groups to varying degrees, which may manifest in their choice of particular clothing items, whether it be conventional, eco-friendly or classical clothing items (Tang *et al.*, 2011; Bamberg & Möser, 2007; Ajzen, 1991). The mean had a value of 2.38, which indicates some sort of agreement in terms of the statements regarding classical clothing in the questionnaire. Once again, the mean is close to the mid-point of 2.00, but still leans towards the positive side, which could indicate that a portion of the respondents that took part in this study, tend to agree that the purchasing of classical clothing could ultimately contribute to reducing apparel waste in South Africa (Hiller-Connell, 2011; Birtwistle & Moore, 2007).

The third controllability factor was labelled as “Control over finances and time in eco-friendly apparel purchases” (CONEF). This factor comprised of three self-developed controllability items (V56, V58, V67) that all relate to eco-friendly clothing. Eco-friendly clothing can be defined as products that were produced with consideration of the environmental impact of the production process, e.g. replacing damaging chemicals or components with more sustainable options (Brosdahl & Carpenter, 2010; Joergens, 2006). The items further explored external factors such as time constraints and financial ability that could either facilitate or inhibit the acquisition of these products (Steg *et al.*, 2014; Momberg *et al.*, 2012; Steg & Vlek, 2009). The mean value for this sub-dimension was 2.07, which is very close to the mid-point of 2.00. It could indicate that the consumers that took part in this study did not necessarily strongly agree, or disagree with statements relating to the control of time and money in eco-friendly apparel purchases, or that the opinions of the respondents were very divided in terms of agreement/disagreement. While some concluded that eco-friendly apparel is expensive, others found it acceptable. The same counts for the time it takes to acquire eco-friendly apparel; a portion of the respondents agreed that it takes up too much time, while others were not bothered by the time issue. The low Cronbach’s Alpha ($\alpha = 0.48$) confirms a high level of inconsistency in responses to these items and emphasises the need for future research to develop measurement scales that could accurately capture this dimension of controllability.

The fourth controllability factor, namely “Control over finances and time in limiting apparel acquisitions” (CONL) included five items (V61 – V65) derived from the original set of controllability variables. All of the items included in this factor relate to external factors that may

inhibit/promote an individuals' ability to limit apparel purchases. In terms of the mean, it was calculated as 2.70. This indicates a relatively strong association with issues regarding time and money, as well as the limitation of apparel acquisitions based on these two external factors. The respondents that took part in this study seemed to agree that time and money could play a crucial part when limiting one's apparel acquisitions. As mentioned in the literature, men tend to spend less on clothing than women (Workman & Studak, 2007) and it was found that male consumers are more likely to minimise their expenditure on clothing if they are faced with financial constraints and were forced to reduce their overall expenditure (Pentecost & Andrews, 2010). Therefore, acquiring apparel on a need-to-have basis may be a viable pro-environmental option for them as they seem to agree that it could save time and money. Similar to the second and third controllability factors, a Cronbach's Alpha of 0.33 confirms a high level of inconsistency in the responses to the items and substantiates the need for further scale development.

Factor 10: Behavioural Intent (BI)

Six items (V50 – V55) were included in the questionnaire to measure "behavioural intent". All the items were retained and achieved acceptable factor loadings for the relevant factor/construct. The behavioural intent items had a Cronbach's α of 0.85, confirming consistent responses to the items and reliability. The mean for Behavioural Intent was 2.86, which indicates that the respondents are very favourable towards their pro-environmental intent regarding eco-friendly apparel acquisitions and are willing to act accordingly to minimize the damaging effects of the textile and apparel industry on the environment. As mentioned before, intent is the indication of a consumer's willingness to try and act in a certain way, and of the amount of effort they are planning to apply to perform the behaviour, such as pro-environmental apparel acquisition which includes the purchasing of eco-friendly apparel items and the limitation of apparel purchases (Saeed *et al.*, 2013; Wang *et al.*, 2013). Therefore it can be assumed that the respondents that took part in this research study are more than willing to try and act pro-environmentally.

Although pro-environmental intent does not necessarily mean that the consumers will take part in environmental action, it is seen as an important predictor of pro-environmental behaviour (Steg & Vlek, 2009; Kollmuss & Agyeman, 2002) and forms the basis of recommendations that can be made towards the development and assessment of environmental intervention programmes and marketing campaigns in the textile and apparel industry of South Africa (Steg & Vlek, 2009; Bator & Cialdini, 2000; Zelezny & Schultz, 2000).

Factor 11: Pro-environmental action (PRO)

The last factor, labelled as Pro-environmental action (PRO), only contained two items (V28 and V45), which represented a social norm and self-efficacy measure. As mentioned before, consideration was given toward the elimination of these items, but due to the resulting factor structure that did not provide a more logical grouping of the variables; the decision was made to retain the items as a separate factor. Both items include statements that suggest some form of engagement in pro-environmental action, but no further interpretation or conclusion could be drawn without additional items to substantiate the underlying components of the factor. An apparent limitation of this study relates to its exclusive focus on pro-environmental intent. Future studies may benefit from including additional measures of actual behaviour that may relate to this dimension of pro-environmental action.

In summary the distribution of the components that were extracted from the EFA differed somewhat from the anticipated components in the questionnaire with the various constructs now labelled as AW (Factor 1), SN (Factor 2), ATT (Factor 3), MN (Factor 4), SE (Factor 5), CONA (Factor 6), CONP (Factor 7), CONEF (Factor 8), CONL (Factor 9), BI (Factor 10) and PRO (Factor 11). The controllability construct presented a number of challenges in terms of separating into various sub dimensions and items overlapping into other factors such as self-efficacy. Armitage and Connor's (2001) meta-analysis, which includes the findings of over 100 TPB studies, found that controllability significantly influenced the behaviour of consumers, rather than the intentions. However, research has shown that a mixed set of items (i.e. items including self-efficacy and controllability) significantly improved the prediction of intentions. Together with that, research has shown that self-efficacy and controllability can be separately distinguished, but they should remain correlated with each other (Ajzen, 2002). Therefore both self-efficacy as well as controllability was included, as separate components, into this research study in order to determine the effect of these components on the pro-environmental intent of male consumers' eco-friendly apparel acquisitions. Future recommendations would be to explore controllability as a motivational factor in terms of male consumers' pro-environmental behaviour.

4.3.2 Confirmatory Factor Analysis (CFA)

Confirmatory factor analysis is related to Structural Equation Modelling (SEM) and specifically deals with measurement models, which enables the researcher to assess whether the measurement of latent variables (i.e. awareness, social norms, moral norms, self-efficacy, controllability and behavioural intent) by means of certain manifest indicators, is satisfactory. Unlike EFA, CFA is hypothesis-driven and is based on existing theory (Mazzocchi, 2008:319; Brown, 2006:1). For the purposes of this study, the underlying items and variables retained from the EFA were composed as a measurement model and evaluated by means of CFA. The measurement model was patterned after existing theory and the theoretical framework presented in Chapter 2.

Factor loadings can be described as the relationships between every original variable, as well as the factor and the statistical relevance of a factor loading which ultimately depends on the absolute value and sample size (Jackson, 2005:227-228). Jackson (2005:228) and Hair *et al*. (1998) suggest that a sample of 100 units requires factor loadings of at least 0.55 in order to be relevant, while a sample of 200 units or more only requires a minimum threshold of 0.40 to be relevant. In terms of this research study, where a sample of 305 male consumers was used to collect data, a minimum threshold of 0.40 was considered relevant. As seen below in **Table 4.7**, the CFA results, with regards to the factor loadings, are all above the acceptable threshold of 0.40 as they range from 0.50 – 0.86.

TABLE 4.7: STANDERDIZED FACTOR LOADINGS/REGRESSION WEIGHTS

Latent variable items	Factor loadings
AW 1	0.59
AW 2	0.55
AW 3	0.58
AW 4	0.64
AW 5	0.53
AW 6	0.65
AW 7	0.61
AW 8	0.65
SN 1	0.61
SN 2	0.84
SN 3	0.83
SN 4	0.73
SN 5	0.73
ATT 1	0.72
ATT 2	0.80
ATT 3	0.75

ATT 4	0.70
MN 1	0.78
MN 2	0.81
MN 3	0.85
MN 4	0.84
MN 5	0.80
MN 6	0.86
SE 1	0.71
SE 2	0.54
SE 3	0.65
BI 1	0.58
BI 2	0.78
BI 3	0.70
BI 4	0.73
BI 5	0.72
BI 6	0.67
CONA 1	0.50
CONA 2	0.61
CONA 3	0.79
CONA 4	0.73

Based on the factor loadings presented in **Table 4.7**, the resulting measurement model had the following fit indices: CMIN = 1232.99, DF = 573, $p < 0.05$, CMIN/DF = 2.15, GFI = 0.82, AGFI = 0.79, RMSEA = 0.06, NFI = 0.80 and CFI = 0.88.

The *minimum sample discrepancy* (CMIN) is used to test if the model fits the data correctly, but according to Mazzocchi (2008:322), this occurrence is very unlikely and not always a useful test to use. When the CMIN/DF is calculated, the so-called Chi-square test is obtained. With regards to the acceptable CMIN/DF thresholds, there is no clear definition of what the ratio–should be, but sources have recommended an acceptable range varying as high as 5 (Hooper, Coughlan & Mullen, 2008) to as low as 2 (Hooper *et al*., 2008; Tabachnick & Fidell, 2007). From the fore mentioned model fit indices, it can be observed that the CMIN/DF ratio for this measurement model is 2.15, which falls within the acceptable range.

The *goodness-of-fit* index (GFI) has a minimum threshold of 0.9; however the GFI for this research study could not reach the minimum and was calculated as 0.82. This could be due to a small sample size. On the other hand, the *root mean square error of approximation's* (RMSEA) acceptable threshold include values less than 0.07 (Hooper *et al*., 2008; Steiger, 2007), which makes this research study's RMSEA of 0.06 acceptable in terms of showing how well the model would fit the populations covariance matrix.

The general recommendation for a good fit in terms of the *normed fit index* (NFI) and the *comparative fit index* (CFI) is for the value to be as close as possible to 1 (Mazzocchi, 2008:322), but preferably greater than 0.9 (Hooper *et al*., 2008). With regards to this research study the NFI was calculated as 0.80, which is relatively close to 1, but does not fall within the acceptable range above 0.9. However, NFI is very sensitive to sample size and cannot be solely relied upon in terms of statistics. The CFI for this research study was 0.88 which is just below the acceptable, minimum threshold of 0.9, but can be deemed acceptable.

In summary, certain fit indices (CMIN/DF and RMSEA) reached the acceptable thresholds, while others (GFI, NFI and CFI) all ranged between 0.8 and 0.9, which was just below the acceptable, minimum threshold of 0.9. According to Mazzocchi (2008:322), larger sample sizes present better statistics and a sample size of at least 200 is necessary to present a good model. With regards to the complexity of CFA as a SEM related technique, it is not an unfamiliar occurrence to find that the initial proposed model is not always acceptable and may have a poor fit (Hooper *et al*., 2008). Further ongoing analysis and modifications will ensure that the model obtains acceptable thresholds on all the required fit indices, but for the purposes of this thesis, only the initial proposed model fit indices are reported. Together with that, no further items were eliminated for the CFA, and thus the means, standard deviations, and Cronbach's α remained the same as discussed during the EFA.

In addressing the questions surrounding the relationship among the various motivational factors that underlie respondents' pro-environmental intent, three statistical tests are presented, including the most commonly used Pearson correlation coefficient (r), multiple regression and path analysis.

4.3.3 Bivariate correlation: Pearson's correlation coefficient

In terms of this research study, behavioural intent was identified as a dependent variable, which was predicted by six other independent variables, namely awareness of consequences, social norms, attitude, moral norms, self-efficacy and control over the availability of eco-friendly apparel. The Pearson correlation coefficient (*r*), which is the most common bivariate correlation technique, assesses the association between two variables without further delineation between the independent and dependent variables (Mazzocchi, 2008:174; Mertler & Vannatta, 2002). Although this analysis does not clarify much regarding the contribution of each explanatory/ independent variable (Mazzocchi, 2008:174), it does pave the way toward further regression analysis that is reported in the sections to follow.

Table 4.8 contains three values, the first of which is the Pearson's correlation coefficient, which offers a numerical outline of the direction and strength of the linear relationship between two variables and ranges from -1 to +1 (Mazzocchi, 2008:174; Pallant, 2005:114). The second value indicates the *p-value* of the correlation and the third value indicates the sample size on which every correlation was calculated. The *p-value* can be described as the observed level of significance and is used to make a decision in the hypothesis test. According to Anderson, Sweeney and Williams (2002:346) the *p-value* is "the probability of obtaining a sample result that is at least as unlikely as what is observed". In terms of thresholds, if the *p-value* is less than the level of significance, which is 0.05, it indicates that the stated null hypothesis should be rejected (Mazzocchi, 2008:175).

Based on the results from **Table 4.8** below, all the correlations between the various constructs are positive; however the values of all the correlations were not exceedingly high. The positive correlations merely suggest that the two constructs of interest move together in some way, and does not have any relation with regards to causality (Mazzocchi, 2008:174). In addition to that, Pallant's (2005:126) guidelines suggest that Pearson correlation coefficient (*r*) values between 0.50 and 1.00 are termed as strong. If the value is between 0.30 and 0.50, the strength is regarded as medium and if the value is less than 0.30, the strength of the relationship is considered small. Based on Mazzocchi's (2008:175) description of bivariate correlation, the correlation coefficients (*r)* as well as the *p-value* are used to describe the correlation between two constructs. With that being said, the three highest correlations between the variables are the moral norms construct and the social norms construct ($r = 0.64$, $p < 0.001$), the moral norms construct and the attitudes construct ($r = 0.57$, $p < 0.001$) and lastly, the behavioural intent construct and the attitudes construct ($r = 0.58$, $p < 0.001$). The correlation coefficients (*r*) of all three correlations indicate a relatively strong relationship, while the *p-value* of all three correlations is below 0.01, indicating a 99% level of confidence that there is a positive relationship between the two variables.

TABLE 4.8: CORRELATIONS BETWEEN THE TOTAL SCORES OF THE CONSTRUCTS

Pearson Correlation Coefficients

		Awareness of Consequences	Social norms	Attitude	Moral norms	Self -efficacy	Behavioural intent	Control over the availability of eco-friendly apparel
Awareness of Consequences	Pearson Correlation	-						
	Sig. (2-tailed)							
	N							
Social norms	Pearson Correlation	.31**	-					
	Sig. (2-tailed)	.000						
	N	305						
Attitude	Pearson Correlation	.56**	.36**	-				
	Sig. (2-tailed)	.000	.000					
	N	305	305					
Moral norms	Pearson Correlation	.47**	.64**	.57**	-			
	Sig. (2-tailed)	.000	.000	.000				
	N	305	305	305				
Self –efficacy	Pearson Correlation	.38**	.41**	.40**	.53**	-		
	Sig. (2-tailed)	.000	.000	.000	.000			
	N	305	305	305	305			
Behavioural intent	Pearson Correlation	.52**	.41**	.58**	.54**	.55**	-	
	Sig. (2-tailed)	.000	.000	.000	.000	.000		
	N	305	305	305	305	305		
Control over the availability of eco-friendly apparel	Pearson Correlation	.13*	.28**	.11	.25**	.30**	.14*	-
	Sig. (2-tailed)	.019	.000	.053	.000	.000	.012	
	N	305	305	305	305	305	305	

Note: *Correlation is significant at the 0.05 level (2-tailed), **. Correlation is significant at the 0.01 level (2-tailed).

With regards to the research study, the following correlations also indicated strong relationships as well as *p-values* below 0.01, indicating a 99% level of confidence that there is a positive relationship between the two variables: the attitude construct and awareness of consequences construct ($r = 0.56$, $p < 0.001$), the self-efficacy construct and moral norms construct ($r = 0.53$, $p < 0.001$), the behavioural intent construct and awareness of consequences construct ($r = 0.52$, $p < 0.001$), the behavioural intent construct and moral norms construct ($r = 0.54$, $p < 0.001$), and the behavioural intent construct and self-efficacy construct ($r = 0.55$, $p < 0.001$). The majority of the remaining correlation coefficients had some sort of relationship and were deemed significant, in that a positive relationship between the constructs could be assumed at a 95% confidence level. The only exception was the correlation between 'the control over the availability of eco-friendly apparel construct' and the attitude construct ($r = 0.11$, $p < 0.053$), where the relationship between these two constructs is weak and the *p-value* is above 0.05, indicating that the hypothesis that the actual correlation is zero, cannot be rejected at a 95% confidence level.

More specifically, the majority of the correlations that had 'control over availability of eco-friendly apparel' as one of the variables were classified as small/weak relationships, with the exception of self-efficacy, which portrays a medium strength relationship. Ajzen (2002) explained that self-efficacy and controllability form underlying dimensions of perceived behaviour control, which may explain the strong relationship between the two constructs. However, despite efforts to extend the concept of controllability there might several other underlying aspects that encapsulate this sub-dimension of perceived behavioural control and further scale development is needed.

Overall, there will always be a certain degree of correlations amongst the socio-psychological factors that form part of the NAM as well as the TPB, as the constructs of interest (awareness of consequences, social norms, attitude, moral norms, self-efficacy, behavioural intent and controllability) that are used to explain pro-environmental behaviour are very closely linked and intertwined and cannot always be compartmentalised as separate constructs in the consumers' minds. It is evident in the EFA, as well as the correlations that the constructs that are applicable in this research study correlate with each other in some degree, but not to such an extent that they cannot be distinguished from one another. It can also be seen from above, that 'control over the availability of eco-friendly apparel' has very little correlation to any of the other constructs and it needs to be further explored as it is an intricate factor with various components as it remained a challenging construct that has not been fully comprehended.

4.3.4 Multiple regression analysis

Multiple regression analysis is a statistical technique that can be used to analyse the relationship between a dependent variable and other independent variables and the ultimate objective is to predict the dependent variable by making use of the observed independent variables (Hair, Black, Babin, Anderson & Tatham, 2006:176). In order to identify the best possible predictors of the dependent variable (Mertler & Vannatta, 2002), every variable is weighted by the regression analysis procedure, known as regression coefficients. The regression coefficients then indicate the relative contribution of the specified independent variable to the overall prediction of the dependent variable, while the other independent variables are kept constant. The set of independent variables ultimately forms the regression equation (Hair *et al*., 2006:176). Multiple regression analysis is based on correlation, but allows for more sophisticated exploration of the relationship between a set of variables.

In terms of this research study, a multiple regression analysis was conducted where all the independent variables (i.e. awareness of consequences, social norms, attitude, moral norms, self-efficacy and control over the availability of eco-friendly apparel) are entered into the equation simultaneously. The purpose of the regression analysis was to estimate the magnitude and direction of the impact of each of the independent variables on the dependent variable (behavioural intent). Furthermore, the regression analysis was also conducted to determine the proportion of the variation in the dependent variable that can be explained by the independent variables as a group (Pallant, 2005:141).

The regression model should be statistically significant to provide empirical assessment on whether a regression model is generalisable to other samples drawn from the same population (Hair *et al*., 2006:219). This empirical assessment is based on rejecting or not rejecting a null hypothesis and makes use of a significance level of 0.05. Tabachnick and Fidell (2007:142) say the following: “The overall inferential test in multiple regression analysis is whether the sample of scores is drawn from the population in which *R* is zero. This is equivalent to the null hypothesis that all correlations between the dependent variable and the independent variables and all regression coefficients are zero”. With that being said, if the null hypothesis is not rejected, then not one of the independent variables in the model is related to the dependent variable, as there is no sufficient evidence to conclude a significant relationship (Anderson *et al*., 2002:662). Furthermore the *F* test is a statistical test used to determine how successfully the regression model fits the data (Norusis, 2005:530) and can also be described as the test for overall significance. It is used to determine if a significant relationship exists between the dependent

variable and the independent variables (Mazzocchi, 2008:181; Anderson *et al*., 2002:661). In simple terms, the *F* test determines whether the independent variables predict the dependent variable or not.

The following results can be seen in **Table 4.9** below. In terms of the analysis of variance (ANOVA) model, the results indicate that the *F* value is 48.44 and the associated *p*-value of the *F* test is 0.000, which is less than the significance level of 0.05. A *p-value* of 0.000 indicates that some non-zero decimal number comes at a later digit. It also explains that the null-hypothesis is rejected at the 99% confidence level (Mazzocchi, 2008:184). Therefore, the overall model is statistically significant and the null hypothesis, which states that the overall dependent variable (behavioural intent) is not a function of the independent variables (awareness of consequences, social norms, attitude, moral norms, self-efficacy and control over the availability of eco-friendly apparel), is rejected. It can be concluded that the independent variables as a group, do in fact contribute significantly towards explaining the dependent variable.

TABLE 4.9: ANOVA REGRESSION MODEL

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	41.780	6	6.963	48.436	.000[b]
	Residual	42.841	298	.144		
	Total	84.621	304			

a. Dependent Variable: Behavioural intent

b. Predictors: (Constant), Controllability Availability of eco-friendly apparel , Attitude, Social norms, Self -efficacy, Awareness of Consequences, Moral norms

Another typical output of regression analysis is the *coefficient of determination* (R^2). The overall explanatory power of a regression model can be determined by interpreting R^2, which is the ratio that measures the variance of the dependent variable that is explained by the independent variables (Mazzocchi, 2008:181). Thus, the explanatory power of the regression model becomes larger, as the value of R^2 become higher (Hair *et al*., 2006:170). It can be seen in **Table 4.10** that R^2 is 0.494, which means that 49.4% of the variability in the dependent variable (behavioural intent) is explained by the independent variables (awareness of consequences, social norms, attitude, moral norms, self-efficacy and control over the availability of eco-friendly apparel) (Norusis, 2005:529). The adjusted explanatory value, adjusted R^2, as seen below, indicates that 48.4% of the variations in behavioural intent to acquire eco-friendly apparel in a pro-environmental manner, can be explained by the combination of the independent variables.

This value is preferable as it takes the amount of variables into consideration. According to Mazzocchi (2008:184), the acceptable model should explain at least 40% of the original variability. From the above, it is evident that this model is very acceptable in terms of explaining the original variability.

TABLE 4.10: MODEL SUMMARY

Model	*R*	R^2	Adjusted R^2	Std. Error of the Estimate
1	.703[a]	.494	.484	.37916

a. Predictors: (Constant), Controllability Availability of eco-friendly apparel, Attitude, Social norms, Self -efficacy, Awareness of Consequences, Moral norms

To summarize, and keeping in mind what the above results have proven, it is possible to conclude that a significant relationship exists between the dependent variable and the independent variables. Thus, the null hypothesis is rejected.

In the next section, the significance of every construct of the model will be explained by interpreting the regression analysis and more specifically, the significance of the various individual regression coefficients. This is done to determine what role each independent variable plays in the prediction of the dependent variable, and researchers make use of the *t-test* in order to explain it (Anderson, 2002:661). Another aspect of interest is *B* and β which can be explained as the regression coefficient that measures the impact of the independent variable on the dependent variable (Mazzocchi, 2008:179; Hair *et al*., 2006:174).

TABLE 4.11: REGRESSION COEFFICIENTS [a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta (β)		
1	(Constant)	.429	.172		2.496	.013
	Awareness of Consequences	.207	.060	.180	3.485	.001
	Social norms	.066	.048	.074	1.372	.171
	Attitude	.284	.057	.274	4.975	.000
	Moral norms	.088	.051	.110	1.729	.085
	Self -efficacy	.264	.046	.293	5.762	.000
	Control over the availability of eco-friendly apparel	-.046	.043	-.047	-1.075	.283

a. Dependent Variable: Behavioural intent

The regression coefficients provide information regarding the strength of the relationship between the independent variables and the dependent variable, and secondly, it also indicates the type of relationship. Based on the results reported in **Table 4.11** it can be summarised that self-efficacy (β = 0.293; t = 5.762, p < 0.0001) and attitudes (β = 0.274; t = 4.975, p < 0.0001) are statistically the two most significant predictors of behavioural intent. With regards to the *p-value* or significance level that should be smaller than 0.05, awareness of consequences (β = 0.180; t = 3.485, p < 0.05) can also be classified as a significant predictor of behavioural intent in terms of acquiring eco-friendly apparel in a pro-environmental manner. However, social norms (β = 0.074; t = 1.372, p < 0.171), moral norms (β = 0.110; t = 1.729, p < 0.085), and control over the availability of eco-friendly apparel (β = -0.047; t = -1.075, p < 0.283) were not significant in predicting male consumers' pro-environmental intent to acquire eco-friendly apparel in South Africa.

The findings that awareness of consequences is a positive, significant predictor, is supported by various other studies which have reported similar findings regarding awareness of consequences as a predictor of behavioural intent (Park & Ha, 2014; Bamberg & Möser, 2007; Wall *et al*., 2007). Therefore it can be assumed that awareness of consequences regarding the acquisition of eco-friendly clothing amongst male consumers plays a significant role in determining their pro-environmental intent. As mentioned above, attitude is also deemed significant in terms of predicting behavioural intent when it comes to acquiring eco-friendly apparel in a pro-environmental manner. Once again, these findings are supported by various foregoing studies, such as Bamberg and Möser (2007), who classifies attitude as a significant independent predictor of intentions, as well as Park and Ha (2014), Kollmuss and Agyeman (2002) and Armitage and Connor (2001). Self-efficacy was also found to contribute significantly to behavioural intent. This coincides with the findings of Armitage and Connor's (2001) meta-analysis that reported self-efficacy as a significant influence on the intentions of consumers, as well as other studies in the past (Ajzen, 2002).

The findings that social norms and moral norms were not a significant predictor of the overall behavioural intent were not expected. Most literature to date indicates that moral norms are positively associated with pro-environmental intent and behaviour (Park & Ha, 2014; Bamberg & Möser, 2007; Wall *et al*., 2007). On the other hand, social norms seem to remain questionable in terms of being a significant predictor of behavioural intent or not. Some studies (Park & Ha, 2014; Bamberg & Möser, 2007) have deemed it significant in terms of exerting an indirect influence on intentions through attitude, moral norms and PBC, while other studies (Wall *et al*., 2007; Armitage & Connor, 2001) question the significance of it as a measure of intentions.

Researchers have also suggested that social norms rarely predict intentions and have removed it from analysis (e.g. Sparks, Shepard, Wieringa & Zimmermanns, 1995). Armitage and Connor's (2001) meta-analysis supports this notion to some extent from the point of view that social norms were the least significant in terms of influencing intentions. These findings coincide with the findings of social norms that were deemed insignificant in this research study. Wall *et al*. (2007) suggests that social norms' insignificant influence could be explained by the inclusion of moral norms that capture the perceived social pressures. However, these findings do not explain why both the moral norms, as well as the social norms were deemed insignificant.

In terms of this research study, the insignificance of the norms on the behavioural intent could possibly relate to the sample that was used in terms of gender and environmental issues. As mentioned before, gender can be seen as one of the most important determinants in this study, because it significantly influences environmental awareness and pro-environmental motivations and intent (Mobley & Kilbourne, 2013; Kollmuss & Agyeman, 2002, Zelezny *et al*., 2000). Male consumers were selected as the sample for this research study and it has been mentioned that gender with regards to pro-environmental issues are determined by consumers' attentiveness to knowledge, especially when considering the extent of concern for others around them, other species, as well as the environment and is ultimately, the result of socialisation and life experience (Mobley & Kilbourne, 2013; Dietz *et al*., 2002, Zelezny *et al*., 2000). Together with that, research has also revealed that men are less concerned about the environment than women and will not easily change their behaviour in terms of acting pro-environmentally (Mostafa, 2007; Mitchell & Walsh, 2006; Zelezny *et al*., 2000). Norms could possibly contribute to this occurrence, based on the results of this research study. Another contributing fact to these findings could be supported by the notion that males are controlled by certain goals, which form part of assertion and mastery, rather than communal goals like affiliation and development of harmonious relations (Solomon & Rabolt, 2004:151). This could relate to the notion that males are less expressive in terms of their emotions, social standards and "ethic of care" and tend to be independent (Lee, 2009). Therefore they do not necessarily express personal norms and do not deem social norms as important. Based on the findings of this research, in which moral and social norms were deemed insignificant as predictors of behavioural intent, it could be interpreted as just another issue of interest of modern society which does not personally or socially influence them in terms of their norms or lifestyles.

Based on the discussion above, it is clear that these components require further attention. Recommendations for future researchers would be to investigate the possible differences of

norms in terms of gender and how or if it influences their pro-environmental intent to acquire eco-friendly apparel in South Africa.

Lastly, the negative association between the 'control over the availability of eco-friendly apparel' and behavioural intent (β = -0.047; t = -1.075, p < 0.283) may be due to various factors surrounding the complexity of PBC as a construct and more specifically controllability as part of the extended conceptual framework relating to TPB. With regard to the research study, PBC was extended and separated into two sub-components, namely perceived self-efficacy, which is related to capability aspects, and controllability, which is related to opportunities aspects. (Tang *et al*., 2011; Rhodes & Courneya, 2003; Armitage & Connor, 2001). Items that have to do with either the ease or difficulty of a performance, or the confidence that a consumer has in his/her abilities to perform a certain task, usually measure the perceived self-efficacy, while items concerning the control of a certain behaviour usually measures the controllability (Ajzen, 2002). This is substantiated by Armitage & Connor's (2001) meta-analytic review that captures the findings of over 100 TPB studies. Armitage and Connor (2001) also stated that the effects that perceived behavioural control have on intentions and behaviour, may vary.

As mentioned before, self-efficacy was considered a positive, significant predictor of behavioural intent, which leads to the assumption that the male consumers are confident in their intentions to acquire eco-friendly apparel in a pro-environmental manner (Ajzen, 2002; Armitage & Connor, 2001). In terms of this research study, it was also found that controllability is not a significant predictor of male respondents' intentions, but as pointed out by Armitage and Connor (2001) it could potentially have a more significant influence on actual behaviour. The negative, insignificant association of the control over the availability of eco-friendly apparel may also be due to the fact that male consumers might not believe that they have control over their own behaviour in lure of certain external factors that impact on their ability to acquire eco-friendly apparel (Barr, 2007; Tonglet *et al*., 2004; Armitage & Connor, 2001). Based on the foregoing information, the male consumers might not always be able to control their behaviour towards pro-environmental apparel acquisition, because of external factors such as availability of eco-friendly apparel options in the country (Steg *et al*., 2014; Momberg *et al.*, 2012; Steg & Vlek, 2009).

Therefore future recommendations would be to explore controllability as a motivational factor in terms of male consumers' actual pro-environmental behaviour to determine the significance of it on the actual behaviour rather than the behavioural intent.

4.3.5 Path analysis

Path analysis can be described as an extension of multiple regression analysis and focuses on the causal relations amongst the various constructs. It also determines whether the causal model, as hypothesized by the researcher, is acceptable (Mazzocchi, 2008:320; Mertler & Vannatta, 2002). The distinguishing factor between the path analysis and structural equation models is that all the constructs in the path analysis are directly measured, while latent constructs are included in the structural equation models instead. The path diagram illustrates the relationship of the different constructs (which appear in boxes) by means of arrows, which leave the boxes containing the predictors and point to the boxes containing the dependent constructs, thus indicating the causality (Mazzocchi, 2008:320).

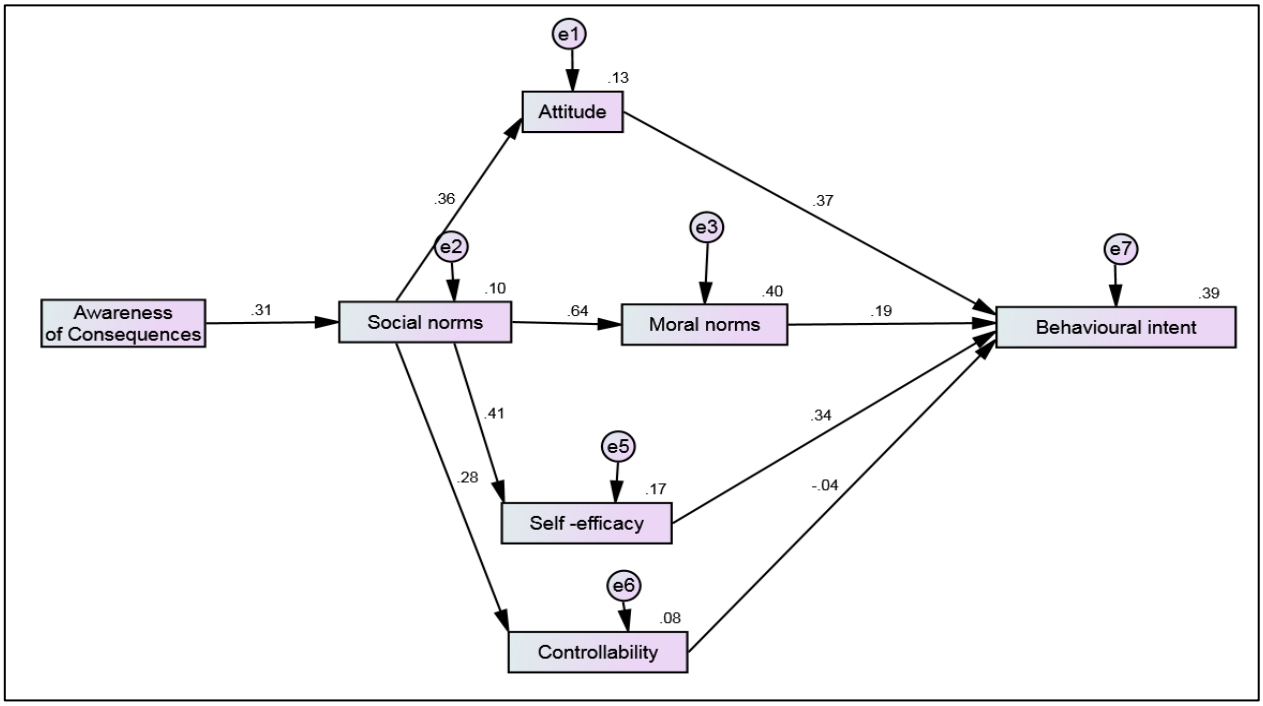

FIGURE 4.10: PATH ANALYSIS

The measurement model for the path analysis had the following fit indices: CMIN = 263.91, DF = 12, $p < 0.05$, CMIN/DF = 22, GFI = 0.77, AGFI = 0.473, RMSEA = 0.26, NFI = 0.66 and CFI = 0.66. From the statistics above, it can be observed that the CMIN/DF ratio of this research study is 22, which does not fall within the acceptable range. The goodness-of-fit index (GFI) has a minimum threshold of 0.9; however the GFI for this research study could not reach the minimum and was calculated as 0.77. As mentioned before, this could be due to a small sample size. The root mean square error of approximation's (RMSEA) acceptable threshold include values less

than 0.07 (Hooper *et al*., 2008; Steiger, 2007), which makes this research study's RMSEA of 0.26 unacceptable in terms of showing how well the model would fit the populations covariance matrix. With regards to this research study the NFI and the CFI were calculated as 0.66 which does not fall within the acceptable range above 0.9. However, NFI is very sensitive to sample size and cannot be solely relied upon in terms of statistics. In summary; the model's overall fit to the data was poor. Together with that, with regards to the complexity of SEM, it is not an unfamiliar occurrence to find that the proposed model is not always acceptable and may have a poor fit (Hooper *et al*., 2008). Therefore this research study has the potential of producing a proposed model with good fit, if alterations are made in terms of sample size and problematic items.

In terms of the path analysis illustrated in **Figure 4.10**, attitude, moral norms, self-efficacy and controllability explained only 39% of the variance of the behavioural intent construct. With that being said, the variance explained is 13% for attitudes, 10% for social norms, 40% for moral norms, 17% for self-efficacy and 8% for controllability.

The results of the path analysis are presented in **Table 4.12** below.

TABLE 4.12 RESULTS OF THE PATH ANALYSIS

Hypotheses		Standardised β (SE)	Supported
H1	Awareness → Social norms	0.31*** (0.071)	Yes
H2	Social norms → Attitude	0.36*** (0.046)	Yes
H3	Social norms → Moral norms	0.64*** (0.049)	Yes
H4a	Social norms → Self-efficacy	0.41*** (0.051)	Yes
H4b	Social norms → Controllability	0.28*** (0.050)	Yes
H5	Attitude → Behavioural intent	0.37*** (0.045)	Yes
H6	Moral norm → Behavioural intent	0.19*** (0.036)	Yes
H7a	Self-efficacy → Behavioural intent	0.34*** (0.039)	Yes
H7b	Controllability → Behavioural intent	-0.04 (0.041)	No

As seen in **Table 4.12**, Hypotheses H1, H2, H3, H4a, H4b, H5, H6 and H7a were all supported by the data and reiterates the findings presented in various studies relating to pro-environmental motivation and intent (Park & Ha, 2014; Bamberg & Möser, 2007). The path coefficients of the above mentioned hypotheses were also all positive, as well as statistically significant ($p < 0.001$). More specifically, attitude is the strongest predictor of behavioural intent ($\beta = 0.37$; $p < 0.001$), which supports H5. The results also indicate a positive, significant relationship between moral norms and behavioural intent ($\beta = 0.19$; $p < 0.001$), as well as self-efficacy and

behavioural intent (β = 0.34; p < 0.001); thus supporting H6 and H7a. In addition to that, social norms were positively related to attitude (β = 0.36; p < 0.001), moral norms (β = 0.64; p < 0.001), self-efficacy (β = 0.41; p < 0.001), and controllability (β = 0.28; p < 0.001) which confirms H2, H3, H4a and H4b. It can be seen that social norms have a great influence on the moral norms and could be explained by a situation where a social group's standards pertaining to what is appropriate behaviour are internalised by consumers, and become the content of their personal moral norms (Bamberg & Möser, 2007). Lastly, based on the results above, awareness is positively related to social norms (β = 0.31; p < 0.001), which supports H1.

Hypothesis H7b was not supported because the relationship between controllability and behavioural intent was not statistically significant (p = 0.374). With that being said, the relationship between these two constructs was negative, as well as very weak (β = -0.04). This could possibly be explained by Armitage and Connor's (2001) meta-analysis, where they found that controllability significantly influenced the behaviour of consumers, rather than the intentions. As mentioned before, research has also shown that a mixed set of items (i.e. items including self-efficacy and controllability) significantly improved the prediction of intentions. In addition to that, research has shown that self-efficacy and controllability can be separately distinguished, but they should remain correlated with each other (Ajzen, 2002). Therefore both self-efficacy, as well as controllability, was included as separate components into this research study in order to determine the effect of these components on the pro-environmental intent of male consumers' eco-friendly apparel acquisitions. Once again, the future recommendations would be to explore controllability as a motivational factor in terms of male consumers' pro-environmental behaviour rather than behavioural intent.

Together with that, the majority of applications of the TPB where perceived behavioural control has a significant positive influence on the pro-environmental intent, have thus far mainly focused on habitual behaviours and not necessarily on more complex behaviours such as eco-friendly apparel acquisitions (Sonnenberg, 2014; Armitage & Connor, 2001). Therefore the consumers might not be as confident in their ability to acquire eco-friendly apparel in South Africa due to a lack of awareness and knowledge, a lack of availability of these alternative options, or a lack of experience in terms of infrequent purchases in terms of eco-friendly apparel.

4.4 CONCLUSION

In conclusion, this chapter presented the discussion and interpretation of the results of this research study. Firstly, the demographic characteristics of the sample were explained by means of tables, graphs and numerical summaries, such as frequencies and percentages to present the results using descriptive statistics (Fouché & Bartley, 2011:249). Thereafter, EFAs, Cronbach's Alphas, CFAs, correlations, multiple linear regression- and path analysis were used in order to interpret the results and indicate which motivational constructs influence the behavioural intent of male consumers in South Africa with regards to acquiring apparel in a pro-environmental manner.

CHAPTER 5: CONCLUSIONS

In this chapter a brief reflection is provided to encapsulate the research study as a whole. Thereafter the findings of this research study are observed and summarized in accordance to the problem statement as well as the hypotheses. This chapter includes the implications for the industry and policy formulations, theoretical contributions of this research study, as well as the limitations, and the future research recommendations.

5.1 REFLECTION OF THE STUDY

The pursuit of environmental conservation as well as acting in an environmentally responsible manner has become a global concern of organizations and consumers worldwide (World Wide Fund Global, 2013; Quinn & Dalton, 2009; Mohr, Webb & Harris, 2001). However, at the rate humans are currently living and existing, they are drastically depleting the earth's natural resources, and endangering various living creatures for their own benefit (World Wide Fund for Nature, 2012). Unless they change their way of living and acknowledge the need for pro-environmental behaviour, the damage to the environment will become so extensive that the world will be in danger of total destruction. With regards to the apparel industry, the whole process of consumption leads to pollution, which threatens the livelihood and wellness of humans, animals, and every living being that forms part of the ecosystem on this planet (Midgley, 2007). Therefore pro-environmental apparel consumption is a crucial alternative to reduce and consume fewer resources (Joung & Park-Poaps, 2013; Wang *et al*., 2013; Hiller-Connell, 2010).

Research has shown that although consumers are aware and even concerned about the environmental issues, they are reluctant to change their way of living to preserve natural resources (Joung & Park-Poaps, 2013; Hiller-Connell, 2010; Gupta & Odgen, 2006). This attitude-behaviour gap has been the topic of much debate in environmental consumerism with various contributing factors identified as the underlying basis of such inconsistency (Ha-Brookshire & Norum, 2011; Gupta & Ogden, 2009). However, empirical evidence has to date mainly addressed these issues in developed countries, which is not necessarily relevant in emerging markets such as South Africa. Therefore this research study mainly focused on the

relationship between the motivational factors (awareness of consequences, social norms, attitudes, moral norms, self-efficacy and controllability) and male consumers' pro-environmental intent to acquire eco-friendly apparel by means of acquisition limits, eco-friendly apparel products, as well as environmentally preferable product attributes and sources (Hiller-Connell, 2011).

The intention was to introduce empirical evidence that could contribute to addressing the factors that could influence pro-environmental intent with regards to apparel in the South African context. In order to accomplish this, a quantitative research approach was used, with a cross-sectional survey design, for explanatory research purposes. This research study was conducted in the Gauteng province with a sample of 305 male consumers. Male consumers were specifically chosen as previous literature in more developed markets has indicated that pro-environmental behaviour seems to be less prevalent among male consumers (Mostafa, 2007; Mitchell & Walsh, 2006) and therefore evidence was required to substantiate such claims in the local context. There also seems to be limited research regarding male apparel consumers and their apparel consumption behaviours in the South African context (Du Preez *et al*., 2007), compared to female consumers and their apparel consumption behaviours (Sonnenberg *et al*., 2014; Meyer, 2014; Momberg *et al*., 2012; Visser, Du Preez & Janse van Noordwyk, 2006; Du Preez & Visser, 2003). The data that was collected from the sample of male consumers was then analysed according to the hypotheses of the research study, by making use of descriptive and inferential statistics.

The research hypotheses, as well as the conceptual framework, were based on associations and constructs from the Norm-Activation Theory (NAT) (Bamberg *et al*., 2007; Schwartz, 1977) and the Theory of Planned Behaviour (TPB) (Ajzen, 1991). The relevant concepts of the NAT (i.e. awareness of consequences and moral norms) together with the applicable concepts related to the TPB (i.e. social norms, attitude, perceived behavioural control, and behavioural intent) were included to form the proposed conceptual framework for the study, based on Bamberg and Möser's (2007) theoretical framework that involved a meta-analysis of studies that interpreted pro-environmental behaviour. Perceived behavioural control in particular was extended and separated into two sub-components namely, perceived self-efficacy and controllability based on the recommendations of Ajzen (2002). These two theories were chosen as they have both been identified as key frameworks when explaining pro-environmental behaviour (Park & Ha, 2014) and supports the research that pro-environmental behaviour ultimately stems from a person's self-interest and volitional intentions, as well as from moral- or norm-based beliefs (Park & Ha, 2014).

Based on the results of this research study, the following findings were made and interpreted and will be discussed below as part of the summary of findings.

5.2 SUMMARY OF FINDINGS

The focus of this research study was to investigate the relationship between the motivational factors and male consumers' pro-environmental intent to acquire eco-friendly apparel in the South African market. In terms of the demographic results, the respondents for this research study were all males, 18 years and older, with most of them between the ages of 18 and 24 years. The majority were White with a minimum education level of Grade 12. Most of the respondents resided in Pretoria and earned an approximate individual income of less than R 5 000 per month.

As a first step in the data analysis, the data set pertaining to motivational factors were subjected to EFA. The EFA indicated the significant dimensions of the constructs within the variables and interpreted the factor loadings to develop labels for every factor that occurs (Williams, Brown & Onsman, 2010; Jackson, 2005:221). Although the distribution of all the components that were extracted differed from the components as anticipated in the questionnaire, they generally distributed well amongst the various constructs that were labelled AW (Factor 1), SN (Factor 2), ATT (Factor 3), MN (Factor 4), SE (Factor 5), CONA (Factor 6), CONP (Factor 7), CONEF (Factor 8), and CONL (Factor 9), BI (Factor 10) and PRO (Factor 11). "Controllability" as a factor, did however, present a number of challenges in terms of items loading onto various factors as well as overlapping with other factors such as self-efficacy. Thus, controllability needs to be further explored as it is an intricate factor with various components. Prior empirical evidence points to the fact that it may not necessarily be a significant predictor of intentions, but that it may be more relevant in terms of explaining actual behaviour (Armitage & Connor, 2001).

In terms of the Cronbach's Alphas, AW, SN, ATT, MN and BI had Cronbach's α above the 0.70 threshold, indicating internal consistency in responses to items relating to these constructs (Field & Miles, 2010:583). SE had a Cronbach's α of 0.66, which is just below the acceptable threshold, but was nevertheless retained for further statistical analysis. With regards to the concept of controllability, only one sub-dimension that relates to the availability of eco-friendly apparel could be retained for further statistical analysis and the factor that represents this

dimension was labelled CONA with a Cronbach α of 0.72 which indicates its internal consistency (Tavakol & Dennick, 2011).

The items and variables retained from the EFA were further validated by means of CFA. The CFA indicated that some fit indices (CMIN/DF and RMSEA) reached the acceptable thresholds, while others (GFI, NFI and CFI) all ranged between 0.8 and 0.9, which was just below the minimum thresholds of 0.9. It is not uncommon to find that the initial proposed model is below the acceptable thresholds and therefore further statistical refining is necessary to establish a measurement model that will comply with good fit parameters and which can then be used for further structural equation modelling purposes (Hooper *et al*., 2008). For this research study the results of the CFA was deemed acceptable, since Pearson's correlation, multiple regression and path analysis were chosen as appropriate statistical techniques to explain the underlying associations between the various motivational constructs and respondents' pro-environmental intent.

The complexity of controllability is further explained by means of the correlations, where the majority of the correlations that had 'control over the availability of eco-friendly apparel' as one of the variables, were classified as small/weak relationships, with the exception of self-efficacy, which portrays a medium strength relationship. Ajzen (2002) explained that self-efficacy and controllability form underlying dimensions of perceived behaviour control, which may explain the strong relationship between the two constructs. However, despite efforts to extend the concept of controllability, there might be several other underlying aspects that encapsulate this sub-dimension of perceived behavioural control and further scale development is needed.

Overall, there will always be a certain degree of correlations amongst the socio-psychological factors that form part of the NAM, as well as the TPB as the constructs of interest (i.e. awareness of consequences, social norms, attitude, moral norms, self-efficacy, behavioural intent and controllability). These are used to explain pro-environmental behaviour, are very closely linked and intertwined and cannot always be compartmentalised as separate constructs in the consumers' minds. It is evident in the EFA, as well as the correlations, that the constructs that are applicable in this research study correlate with each other to some degree, but not to such an extent that they cannot be distinguished from one another. "Control over the availability of eco-friendly apparel" has very little correlation to any of the other constructs and as previously mentioned it needs to be further explored.

In terms of the multiple linear regression analysis, the model of all the constructs that influence the overall behavioural intent holds an overall significance. In conclusion, awareness of consequences, attitude, and self-efficacy were positive, significant predictors of the overall behavioural intent in terms of pro-environmental apparel acquisitions amongst male consumers in South Africa. On the other hand, social norms, moral norms and control over the availability of eco-friendly apparel were not significant predictors of behavioural intent, which is contradictory to existing empirical evidence (Park & Ha, 2014; Bamberg & Möser, 2007; Wall *et al*., 2007), with some exceptions regarding social norms as a potential insignificant predictor (Wall *et al*., 2007; Armitage & Connor, 2001; Sparks *et al*., 1995).

In terms of this research study, the insignificance of the norms on the behavioural intent could also possibly relate to the sample that was used in terms of gender and environmental issues. Research has revealed that men are less concerned about the environment than women and will not easily change their behaviour in terms of acting pro-environmentally (Mostafa, 2007; Mitchell & Walsh, 2006; Zelezny *et al*., 2000). Norms could possibly contribute to this occurrence, based on the results of this research study. Another contributing factor to these findings could be supported by the notion that males are controlled by certain goals, which form part of assertion and mastery, rather than communal goals like affiliation and development of harmonious relations (Solomon & Rabolt, 2004:151). This could relate to the notion that males are less expressive in terms of their emotions, social standards and “ethic of care” and tend to be independent (Lee, 2009). Therefore they do not necessarily express personal norms and do not deem social norms as important. Based on the findings of this research, in which moral and social norms were deemed insignificant as predictors of behavioural intent, it could be interpreted as just another issue of interest of modern society which does not personally or socially influence them in terms of their norms or lifestyles. Based on the discussion above, it is clear that these components require further attention in the future. Future researchers could determine whether norms are significant in terms of pro-environmental intent and behaviour, as well as determine whether the sample had an influence on the outcome of norms in terms of acquiring eco-friendly apparel in a pro-environmental manner. This occurrence could lead to the development of an alternative conceptual framework in terms of pro-environmental behaviour, which represents the motivational factors that influence male consumers’ pro-environmental intent in an emerging economy such as South Africa. It could also lead to the adjustment of marketing strategies in terms of promoting pro-environmental behaviour in the textile and apparel industry.

With regards to the 'control over the availability of eco-friendly apparel' construct, that was also deemed an insignificant predictor of intentions, Armitage and Connor (2001) stated that the effects that perceived behavioural control have on intentions and behaviour may vary. Thus it drastically needs to be further explored in the future to gain a better understanding of the influence of controllability and all its facets, on behavioural intent, or behaviour rather, as suggested in Armitage and Connor (2001).

In terms of the path analysis of this research study, the model's overall fit to the data was poor. However, based on the complexity of the SEM, it is not an unfamiliar occurrence to find that the proposed model is not always acceptable and may have a poor fit (Hooper *et al*., 2008). Therefore this research study has the potential of producing a proposed model with good fit, if alterations are made in terms of sample size and problematic items. In terms of the results of the path analysis, Hypotheses H1, H2, H3, H4a, H4b, H5, H6 and H7a were all supported by the data and reiterates the findings presented in various studies relating to pro-environmental motivation and intent (Park & Ha, 2014; Bamberg & Möser, 2007). Hypothesis H7b was not supported because the relationship between controllability and behavioural intent was not statistically significant ($p = 0.374$). It was also negative, as well as very weak ($\beta = -0.04$). This could possibly be explained by Armitage and Connor's (2001) meta-analysis, where they found that controllability significantly influenced the behaviour of consumers, rather than the intentions.

5.3 CONCLUSIONS

The overall objective of this research study was to investigate the relationship between motivational factors and male consumers' pro-environmental intent to acquire eco-friendly apparel.

Based on the hypotheses, as well as the overall objectives, a proposed conceptual framework (Figure 5.1) was developed by integrating the foregoing literature with the extended version of the Theory of Planned Behaviour (TPB) as illustrated in Bamberg and Möser's (2007) meta-analysis. It included underlying concepts related to the NAT (awareness of consequences, moral norms) (Schwartz, 1977), as well as concepts related to the TPB (social norms, attitudes, perceived behavioural control, behavioural intent) (Tonglet *et al*., 2004; Ajzen, 1991). As mentioned before, perceived behavioural control was separated into two sub-components,

namely, perceived self-efficacy and controllability (Ajzen, 2002) in order to fully comprehend the concept of interest. The relevant concepts were adapted for the purposes of this study to investigate motivational factors that influence male consumers' pro-environmental intent to acquire eco-friendly apparel.

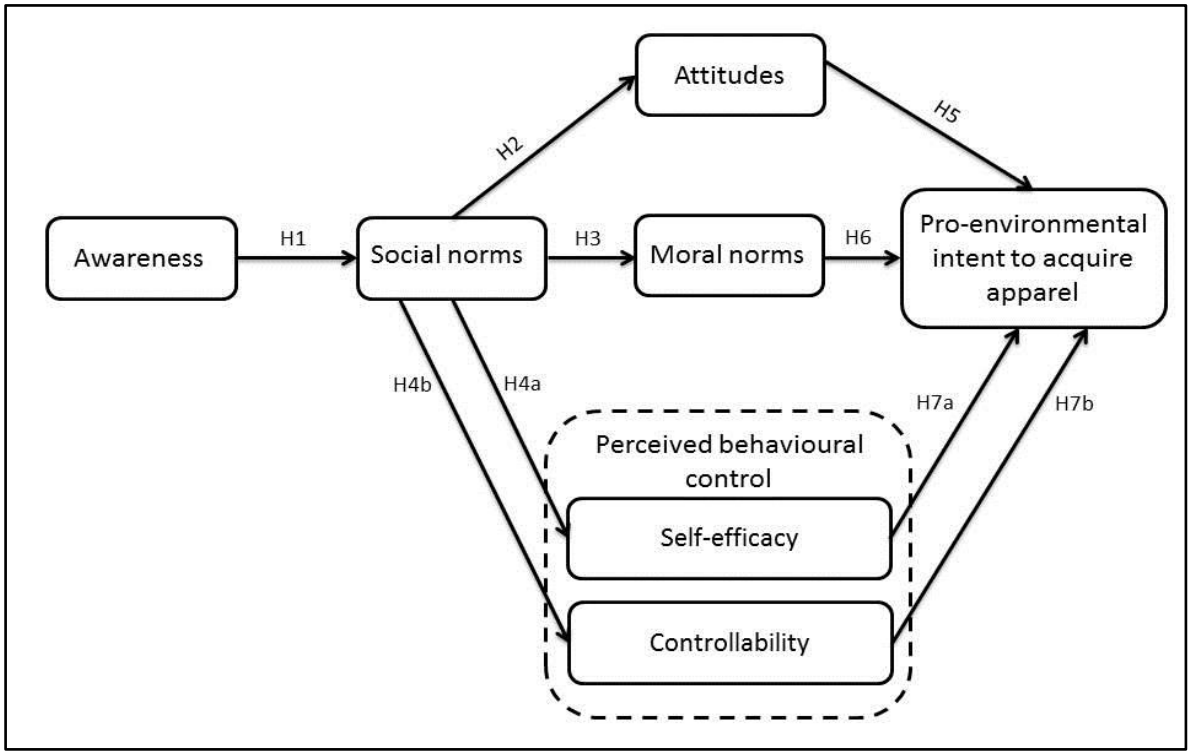

FIGURE 5.1: PROPOSED CONCEPTUAL FRAMEWORK (Adapted from Bamberg & Möser, 2007; Ajzen, 1991)

Many techniques were implemented during data analysis to determine the overall objectives, as well as determine which of the hypotheses in this research study were accepted or supported. One of the techniques included multiple regression analysis together with a path analysis which produced a path diagram quite similar to the proposed conceptual framework, as well as findings regarding every individual hypothesis which will be discussed in the next section.

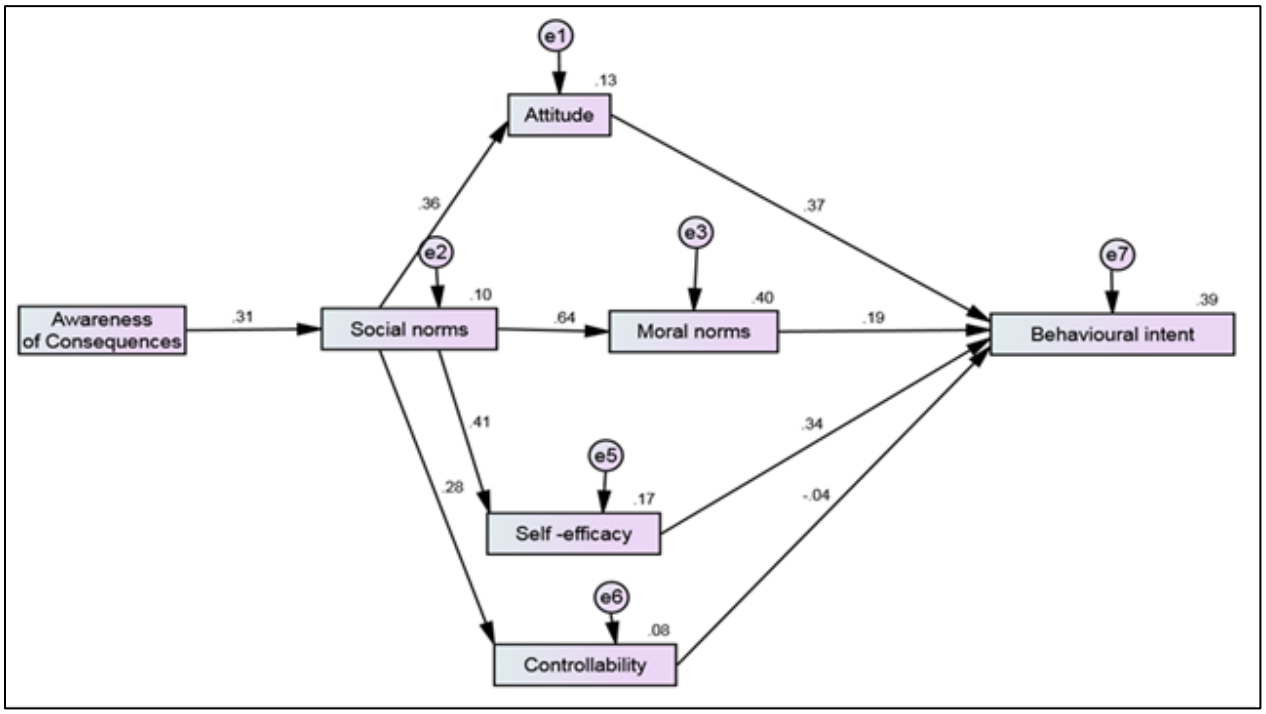

FIGURE 5.2: PATH ANALYSIS

Hypothesis 1 stated that awareness of the environmental consequences has a positive effect on the social norms of male consumers in terms of pro-environmental intent to acquire eco-friendly apparel. Based on the results from the analysis, awareness of consequences has a positive, significant influence on social norms (β = 0.31; p < 0.001). These findings seem to be supported by previous studies such as Bamberg and Möser (2007) who depicted awareness of consequences as a direct predictor of social norms, as well as Park and Ha (2014), who stated that consumers who are aware of environmental issues tend to be more sensitive to what others do or think in terms of environmental issues. In terms of the multiple regression analysis, it can also be seen that awareness of consequences (β = 0.180; t = 3.485, p < 0.05) can also be classified as a significant predictor of behavioural intent in terms of acquiring eco-friendly apparel in a pro-environmental manner. With regards to this research study, respondents seem to be quite aware of the consequences that the apparel industry and consumers have on the environment and such awareness does influence their overall behavioural intent quite significantly, as found in various previous studies (Park & Ha, 2014; Bamberg & Möser, 2007; Wall *et al*., 2007) as well.

Hypothesis 2 proposed that social norms have a positive effect on the attitudes of male consumers in terms of pro-environmental intent to acquire eco-friendly apparel in South Africa.

The results showed that social norms were positively related to attitude (β = 0.36; p < 0.001) and significantly influences attitudes in terms of pro-environmental intent to acquire eco-friendly apparel. Consumers' attitudes are often affected by social norms in terms of being influenced by their social groups or reference groups around them. These findings are consistent with previous literature regarding social norms that directly influence attitudes (Park & Ha, 2014; Bamberg & Möser, 2007).

Hypothesis 3 stated that social norms have a positive effect on the moral norms of male consumers with regards to pro-environmental intent to acquire eco-friendly apparel. The results presented the following conclusions: Social norms have a very significant, positive influence on the moral norms (β = 0.64; p < 0.001). In terms of all the constructs and their influences on each other, this relationship seemed to be the strongest in this research study. These findings are supported by previous literature such as Bamberg & Möser's (2007) meta-analysis. They found that social norms have a direct impact on the development of moral norms, when a social group's standards pertaining to what is appropriate behaviour, are internalised by consumers and become the content of their personal moral norms.

In terms of pro-environmental intent to acquire eco-friendly apparel, **Hypothesis 4** proposed that social norms have a positive effect on the perceived behavioural control of male consumers.

- More specifically, **Hypothesis 4a** stated that social norms have a positive effect on the perceived self-efficacy of male consumers and
- **Hypothesis 4b** stated that social norms have a positive effect on the controllability of male consumers.

Based on the results, social norms do in fact have a positive, significant influence on self-efficacy (β = 0.41; p < 0.001). Together with that, social norms is also positively related to controllability and significantly influence it (β = 0.28; p < 0.001). This seems to be in accordance with the literature that indicates that not only attitudes and moral norms are affected by social norms, but perceived behavioural control is also directly influenced by social norms (Bamberg & Möser, 2007). By taking the above mentioned research into consideration and by further distinguishing perceived behavioural control as two sub-components, namely perceived self-efficacy and controllability, it can be assumed that social norms also contributes to the formation of these separate components in terms of pro-environmental intent and behaviour. Thus, the influence of social norms on self-efficacy is closely related to that of perceived behavioural

control, where the consumers' friends and family greatly influence how the consumers think, as well as determining their confidence that they can actually perform a task, such as acquiring apparel in a pro-environmental manner should they choose to (Park & Ha, 2014; Ajzen, 2002). Controllability is also closely related to perceived behavioural control and leads to the notion that consumers are influenced by their reference groups' beliefs in terms of the control they think they have over certain behaviours, which ultimately plays an integral part in the development of consumers' own perceptions regarding a certain behaviour, such as acquiring apparel in a pro-environmental manner regardless of the external factors (Park & Ha, 2014).

With regards to **Hypothesis 2, 3, 4a** and **4b** that are related to social norms influencing various other motivational factors, it can be assumed that social norms have a positive influence on the behavioural intent of male consumers in terms of acquiring eco-friendly apparel in a pro-environmental manner. However, this was not reflected in the results of this research study. Based on the results, social norms (β = 0.074; t = 1.372, p < 0.171) were not significant in predicting male consumers' pro-environmental intent to acquire eco-friendly apparel in South Africa. This notion seemed to occur across various previous studies (Wall *et al*., 2007; Armitage & Connor, 2001; Sparks *et al*., 1995); however, it also contradicts the findings of existing empirical evidence (Park & Ha, 2014; Bamberg & Möser, 2007; Wall *et al*., 2007). As mentioned before, the insignificance of norms could relate to the sample of male consumers that were used to collect data, based on differences surrounding gender and environmental issues. It has been found that gender, with regards to pro-environmental issues are determined by consumers' attentiveness to knowledge, especially when considering the extent of concern for others around them, other species, as well as the environment and is ultimately, the result of socialisation and life experience (Mobley & Kilbourne, 2013; Dietz *et al*., 2002, Zelezny *et al*., 2000). Together with that, research has also revealed that men are less concerned about the environment than women and will not easily change their behaviour in terms of acting pro-environmentally (Mostafa, 2007; Mitchell & Walsh, 2006; Zelezny *et al*., 2000). Taking the findings, as well as the aforementioned information into consideration, gender could play an integral part in determining the influence that norms exert on male consumers' pro-environmental intent when it comes to decisions regarding eco-friendly apparel acquisitions.

Hypothesis 5 stated that attitudes have a positive effect on the male consumers' pro-environmental intent to acquire eco-friendly apparel. Results of this research study, in terms of the path analysis, indicated that attitudes are the strongest predictors of behavioural intent (β = 0.37; p < 0.001). In terms of the multiple regression analysis, it can also be seen that attitudes (β = 0.274; t = 4.975, p < 0.0001) are statistically one of the two most significant predictors of

behavioural intent, together with self-efficacy. These findings echo various studies (Park & Ha, 2014; Bamberg & Möser, 2007; Ajzen, 1991) that indicated attitude as an indirect determinant of behaviour and only influences behaviour via behavioural intent. Furthermore, research also mentions attitude as a direct predictor of behavioural intent and plays a significant part in shaping consumers' overall intentions towards certain issues (Kollmuss & Agyeman, 2002; Armitage & Connor, 2001; Ajzen, 1991).

Hypothesis 6 proposed that moral norms have a positive effect on the male consumers' pro-environmental intent to acquire eco-friendly apparel. Based on path analysis results of this research study, moral norms have a positive, significant relationship with behavioural intent (β = 0.19; $p < 0.001$). However, based on the multiple regression analysis, moral norms (independent variable) were not significant in predicting male consumers' pro-environmental intent (dependent variable) to acquire eco-friendly apparel in South Africa (β = 0.110; t = 1.729, $p < 0.085$). With that being said, it can be assumed that moral norms as an independent construct, does not influence behavioural intent; but does have a significant influence on behavioural intent as part of a path analysis, or as part of various motivational factors that influence male consumers' pro-environmental intent to acquire eco-friendly apparel in South Africa. The findings can partially be supported by the following research that states: Through the inclusion of the moral norm factor into models various studies and models relating to behaviour, it has considerably improved the prediction of behavioural intent in various studies involving environmental issues and pro-environmental behaviour (Chen & Tung, 2014; Park & Ha, 2014; Tang *et al*., 2011; Tonglet *et al*., 2004). Most literature to date indicates that moral norms are positively associated with pro-environmental intent and behaviour (Park & Ha, 2014; Bamberg & Möser, 2007; Wall *et al*., 2007). Therefore it can only be assumed that moral norms, as part of various other motivational factors, could influence behavioural intent, but will not necessarily be the sole determinant in swaying a male consumer's decisions in terms of pro-environmental intent to acquire eco-friendly apparel.

As mentioned before in **Hypothesis 2, 3, 4a** and **4b**, the insignificance of norms could relate to the sample of male consumers that were used to collect data, based on differences surrounding gender and environmental issues. It has been found that gender, with regards to pro-environmental issues are determined by consumers' attentiveness to knowledge, especially when considering the extent of concern for others around them, other species, as well as the environment and is ultimately the result of socialisation and life experience (Mobley & Kilbourne, 2013; Dietz *et al*., 2002, Zelezny *et al*., 2000). Together with that, research has also revealed that men are less concerned about the environment than women and will not easily change their

behaviour in terms of acting pro-environmentally (Mostafa, 2007; Mitchell & Walsh, 2006; Zelezny *et al*., 2000). Taking the findings as well as the aforementioned information into consideration, gender could play an integral part in determining the influence that norms exert on male consumers' pro-environmental intent when it comes to decisions regarding eco-friendly apparel acquisitions.

In terms of pro-environmental intent to acquire eco-friendly apparel, **Hypothesis 7** proposed that perceived behavioural control has a positive effect on the male consumers.

- More specifically, **Hypothesis 7a** stated that perceived self-efficacy has a positive effect on the male consumers and
- **Hypothesis 7b** stated that controllability factors have a positive effect on the male consumers.

According to the TPB, the three most important determinants of intention is a consumer's overall evaluation of a specific behaviour (i.e. attitude towards it), perceived social pressures that are applicable to it (i.e. social norms), as well as perceived behavioural control over relevant factors that may constrain the consumers' performances (Wall *et al.*, 2007; Bamberg & Schmidt, 2003; Armitage & Connor, 2001; Foxall & Goldsmith, 1994:101; Ajzen, 1991). Therefore it is clear that PBC can be seen as a significant predictor of behavioural intent.

Based on the results of the path analysis, self-efficacy has a positive, significant effect on the behavioural intent of male consumers in terms of acquiring eco-friendly apparel in a pro-environmental manner ($\beta = 0.34$; $p < 0.001$). In terms of the multiple regression analysis, it can also be seen that self-efficacy ($\beta = 0.293$; $t = 5.762$, $p < 0.0001$) is statistically one of the two most significant predictors of behavioural intent, together with attitudes. These findings are supported by research such as Armitage and Connor's (2001) meta-analysis, which includes the findings of over 100 TPB studies. It reported that self-efficacy seemed to significantly influence the intentions of consumers, whereas controllability on the other hand, significantly influenced the behaviour of consumers. With that being said, a mixed set of items (i.e. items including self-efficacy and controllability) significantly improved the prediction of intentions and lead to the conclusion that self-efficacy and controllability can be separately distinguished, but they should remain correlated with each other (Ajzen, 2002).

On the other hand, controllability continues to be a challenging construct with various dimensions that need to be explained, or further explored in the future. With that being said, the one dimension of controllability that was further explored in this study, namely the 'control over the availability of eco-friendly apparel', still seemed to be insignificant in predicting behavioural intent. Based on the results of the path analysis, controllability (control over the availability of eco-friendly apparel) does not have a significant effect on behavioural intent ($p = 0.374$) and the relationship between these two constructs was negative and weak ($\beta = -0.04$). In terms of the multiple regression analysis results, control over the availability of eco-friendly apparel ($\beta = -0.047$; $t = -1.075$, $p < 0.283$) was not significant in predicting male consumers' pro-environmental intent to acquire eco-friendly apparel in South Africa. In terms of this research study, the negative association may be due to the fact that although respondents were confident in their own abilities and the ease of performing the behaviour (i.e. self-efficacy and the internal locus of control), they were less convinced about the availability of pro-environmental options in the South African retail sector (i.e. external locus of control). To date, the availability of eco-friendly apparel remains limited in South African stores, because the market is flooded by cheaper imports that make alternative options such as pro-environmental apparel less appealing to the mass population, especially if the eco-friendly options are more expensive (PwC & Economist Intelligence Unit, 2012). Where durable and classical styles are concerned, male respondents may lack the necessary understanding and knowledge of such options.

Research that supports this occurrence includes Armitage and Connor's (2001) meta-analysis, where they found that controllability significantly influenced the behaviour of consumers, rather than the intentions. As mentioned above, research has also shown that a mixed set of items (i.e. items including self-efficacy and controllability) significantly improved the prediction of intentions. In addition to that, research has shown that self-efficacy and controllability can be separately distinguished, but they should remain correlated with each other (Ajzen, 2002). Therefore both self-efficacy, as well as controllability was included as separate components into this research study, in order to determine the effect of these components on the pro-environmental intent of male consumers' eco-friendly apparel acquisitions.

Previous research has argued that the dependence of the behaviour on motivational variables depends on the difficulty, price or time of the type of behaviour (Sonnenberg, 2014; Tanner *et al*., 2004; Stern, 2000). The argument brought forward is that the more time-consuming and expensive the behaviour becomes, the higher the risk and the less rewarding it becomes to try and behave accordingly, which makes the dependence of the behaviour weaker on the motivational variables. Based on the factors that extend beyond the male consumers' personal

domain such as the above mentioned availability of eco-friendly apparel, these issues seem likely to remain significant in facilitating consumers' eventual enactment of their pro-environmental intent. This will only be fully explained by further investigation in this regard. Once again, the future recommendations would be to explore controllability as a motivational factor in terms of male consumers' pro-environmental behaviour rather than behavioural intent.

5.4 IMPLICATIONS FOR INDUSTRY AND POLICY FORMULATION

Based on the findings of this study it becomes apparent that marketers need to be cautious in their approach to solely rely on the underlying willingness and intent of male consumers to acquire eco-friendly apparel options in the South African retail sector. Although social norms and a personal moral obligation might not constitute appropriate underlying motivational factors to encourage male consumers to engage in eco-friendly apparel behaviours, they did exhibit positive attitudes toward pro-environmental intent, which may form the basis of promotional campaigns to encourage eco-friendly apparel behaviour. Awareness also seems to be a significant predictor of intent and therefore much can be done in terms of raising more awareness about the availability of these products and other alternatives that also constitute pro-environmental options e.g. classical styles. The textile and apparel industry could create awareness by means of aggressive marketing strategies to promote eco-friendly apparel. They could also benefit from it by teaching their consumers what pro-environmental apparel entails and make use of information sources such as clothing labels and in-store displays to present the available eco-friendly options to consumers.

Informational campaigns should underscore the fact that the textile and apparel industry represents one of the most polluting industries in the world (Institute of Public & Environmental Affairs, 2012; Moore & Ausley, 2004). Another aspect that could also be emphasized is that the South African textile and clothing industry currently imports 90% of their apparel (PwC & Economist Intelligence Unit, 2012), which causes various environmental implications of its own in terms of transportation and distribution (Luiz *et al*, 2011; Mont & Bleischwitz, 2007). Emphasis of these issues could drastically change consumers' attitudes in terms of the textiles and apparel they are purchasing and make them think of the consequences of their actions on the environment. This is viable, based on the results in this research study that indicated that male consumers' pro-environmental intentions are strongly influenced by attitudes. Such campaigns could harness support from the South African consumer population which could in turn

encourage manufacturers to find new ways to reduce the environmental footprint, from acquiring the raw, natural resources to the production processes. Such efforts may also promote pro-environmental care, maintenance, as well as the disposal of products among consumers (Armstrong, Niinmaki, Kujala, Karell & Lang, 2014; Business for Social Responsibility, 2009).

Pro-environmental campaigns are imperative since opportunities to produce eco-friendly apparel options in South Africa has not yet realised its full potential because the industry is being flooded with cheap imports, which has not made it easy for South African manufacturers to compete against the market of cheaper imported goods (Luiz *et al*., 2011; Vlok, 2006:234). It is therefore evident that more effort is required by the textile and apparel industry to promote pro-environmental behaviour from their side to create awareness and establish availability of pro-environmental options to consumers in this country. This could drastically influence consumers' behavioural intentions and is based on the fact that awareness of consequences was classified as a significant predictor of behavioural intent in terms of acquiring eco-friendly apparel in a pro-environmental manner. Woolworths has been a significant leader in this area during the past few years, and could serve as an example to other competitors in the South African industry to incorporate sustainable living into the lifestyles of South African consumers. They have aggressively and extensively promoted the fact that they strive to preserve the planet and offer eco-friendly products to consumers. They also offer an organic clothing range to consumers and continuously promote the use of local, natural fibres as part of their new image and slogan, "Woolworths – The Difference" (World Wide Fund and Woolworths, 2012).

The implementation of improved environmental awareness and education in all areas of South African industries could ultimately create a better understanding of the factors and processes related to the destruction of the environment and ultimately encourage pro-environmental behaviour. Previous research indicated that intervention strategies could influence consumer behaviour (Steg & Vlek, 2009). However, information and awareness alone will not make the necessary impact to change the behaviour of individual consumers to act more pro-environmentally. Consumers are ultimately social beings that need to be guided in terms of their behaviour because they act according to the social norms of the bigger society (Jackson, 2005:131). Therefore, the contribution of government and policies, that have the power to send important signals to consumers regarding the desired behaviours, the valued attitudes, the appropriate goals and aspirations and ultimately the worldview of how consumers are expected to behave, is important (Steg & Vlek, 2009; Jackson, 2005:130). The government could thus take the initiative to provide that guidance and strive to act accordingly by setting an example

and acting in a pro-environmental manner, as well as providing viable pro-environmental messages and interventions to consumers.

Government policies are needed to initiate sustainable procurement programmes and environmental management efforts in the public and private sectors (Mastamet-Mason, 2013; Jackson, 2005:132). They have the ability to sway businesses and consumers through the setting of legislation, regulations and standards. These include product standards such as recyclability, trading standards such as sustainable consumption patterns and marketing standards such as encouraging pro-environmental behaviour (Steg & Vlek, 2009; Jackson, 2005:129).

An example of the South African government initiating sustainable consumption patterns includes the implementation of Local Agenda 21 programmes. They play a key role in promoting the principles of sustainable development at the local level, and also encourage the population of South Africa to work towards a society where everybody contributes to living more sustainably and preserving the environment for future generations. Some industries have voluntarily adopted environmental management measures and systems; however it is not necessarily the norm yet. Industries are also responding to international trends, trade requirements and sustainable development legislation, by increasing their efforts towards energy and resource efficiency and waste and pollution minimisation (United Nations: Sustainable Development).

5.5 THEORETICAL CONTRIBUTION

To date, there is limited research regarding male consumers' pro-environmental apparel consumption in the South African context. This research study provides empirical evidence on the topic and could serve as a platform for future research regarding similar topics in the field of Consumer Science e.g. pro-environmental apparel disposal and recycling of male consumers in South Africa.

In addition to the above, very few studies have tested and applied behavioural theories such as the Theory of Planned Behaviour (TPB) and the Norm-Activation Theory (NAT) to gather information regarding the determinants of pro-environmental behaviour in developing countries, such as South Africa, which has a diverse culture and complex conditions. This research study could therefore serve as a platform for further exploration of the relevance of the extended

version of the Theory of Planned Behaviour as seen in the proposed conceptual framework, which includes constructs from the NAT (Bamberg *et al*., 2007; Schwartz, 1977) and the TPB (Park & Ha, 2014; Ajzen, 1991) with regards to pro-environmental apparel acquisitions in the South African context.

More specifically, this research study relates to the motivational constructs that might contribute to consumers' engagement in pro-environmental acquisitions. These issues have not yet been extensively explored in South Africa and could contribute to the development and understanding of pro-environmental efforts in emerging markets such as South Africa. The scale items that were used in this research study were adapted for the purposes of this study and have to date not been used to establish the relevance of constructs related to the NAT and the TPB in the context of eco-friendly apparel behaviour. Therefore an exploratory factor analysis was performed to isolate relevant constructs and concepts in the dataset to determine which items were relevant in terms of male consumers in Gauteng. In summary the distribution of the components that were extracted from the EFA differed somewhat from the anticipated components in the questionnaire with the various constructs now labelled as AW (Factor 1), SN (Factor 2), ATT (Factor 3), MN (Factor 4), SE (Factor 5), CONA (Factor 6), CONP (Factor 7), CONEF (Factor 8), CONL (Factor 9), BI (Factor 10) and PRO (Factor 11). The controllability construct presented a number of challenges in terms of separating into various sub dimensions and items overlapping into other factors such as self-efficacy. Therefore both self-efficacy, as well as controllability was included, as separate components into this research study in order to determine the effect of these components on the pro-environmental intent of male consumers' eco-friendly apparel acquisitions. The analysis of the scale items contributed to the clarification of motivational factors that influence male consumers' pro-environmental intent to acquire eco-friendly apparel in South Africa, but will only be fully explained by further investigation in this regard. Once again, the future recommendations would be to explore controllability as a motivational factor in terms of male consumers' pro-environmental behaviour rather than behavioural intent. The scale items that were used in this research study may prove to be of practical value for researchers in other developing countries that want to explore the relationship between motivational factors and consumers' pro-environmental intent or behaviour when acquiring apparel in emerging markets.

5.6 LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

Despite the fact that this research study provides some exploratory evidence regarding the pro-environmental motivation and intent of male consumers to acquire eco-friendly apparel in the South African market, the results are based on non-probability sampling. The respondents were recruited by means of convenience and snowball sampling techniques in the restricted area of the Gauteng province. The majority of the respondents were in the age category 18 - 24 years and most of the respondents were white male consumers. All of the respondents who took part in the research study had a minimum education level of Grade 12 and the majority of the respondents were located in Pretoria. Lastly, just over half of the respondents indicated that their approximate individual income per month is “less than R 5 000”. Based on the results, as well as the sampling techniques mentioned above, the results cannot be generalised to the larger South African population (Strydom, 2011b:231). In order to better inform marketing campaigns and intervention initiatives, a more representative sample would be needed to be able to make conclusions about South African male consumers in general. However, it is not always easy to attain representative data in developing countries such as South Africa due to the lack of sampling frames (Burgess & Steenkamp, 2006). Therefore, researchers must be cautious when considering the unit of analysis, as well as the approach used when selecting study participants in a country with diversities such as South Africa.

Response bias is also a continual concern in terms of environmentally related studies (Bamberg & Möser, 2007). Respondents have a tendency to overrate their willingness in terms of pro-environmental options in relation to their actual behaviour concerning these issues (Steg & Vlek, 2009). In terms of the research study, only the intentions of the respondents were measured with regards to their pro-environmental apparel acquisitions, so therefore response bias might be inevitable. However, future research could include the actual behaviour, as well to determine the pro-environmental apparel acquisition behaviour of South African consumers and determine to what extent the motivational factors influence the intent and behaviour.

Quantitative methodologies such as this research study offer much potential in the exploration of consumers’ pro-environmental motivation and intent to acquire eco-friendly apparel. However, a need also exists in the research for a more in-depth understanding of how and why consumers react towards pro-environmental notions such as eco-friendly apparel products and the limitation of acquiring apparel to help save the environment, and what influence the socio-psychological factors have on their intentions and behaviours. Therefore, future research could explore and

describe these issues by making use of qualitative research methods to gain insight regarding these matters. Qualitative approaches are especially useful in emerging contexts where methodological challenges, such as incomplete questionnaires due to lower literacy, are often experienced during survey-based projects (Chatterjee, 2008; Burgess & Steenkamp, 2006).

With regards to the data analyses, several issues were identified in terms constructs and scale development. To build forth on the results of this study and limit these difficulties in the future, intensive instrument development can be pursued to make sure that all the items being used in the data collection process is clear and understandable, as well as provide researchers with data that is easily interpreted. Furthermore, multiple regression analysis was used to interpret the results and analyse the relationship between the dependent variable (i.e. behavioural intent) and the independent variables (i.e. awareness of consequences, social norms, attitude, moral norms, self-efficacy and controllability). Path analysis was also incorporated as an extension of multiple regression analysis and focused on the causal relations amongst the various constructs. The distinguishing factor between the path analysis and structural equation models is that all the constructs in the path analysis are directly measured, while latent constructs are included in the structural equation models instead. Therefore future research could benefit from data analysis techniques such as structural equation modelling (SEM) that could provide the researcher with a more in-depth understanding of the constructs that were used in the conceptual framework and how much they relate to each other to ultimately influence the intent or behaviour. It could also be used to explore the relationship and relevance of the various variables or constructs (Mazzocchi, 2008:316) and enable researchers to further interpret and improve on the proposed conceptual framework.

5.7 FINAL CONCLUSION

This chapter includes a reflection of the study, the summary of findings, the conclusions regarding the overall research study in terms of the hypotheses, the implications for the industry and policy formation, theoretical contributions, as well as limitations and future research recommendations. As mentioned before, humans are currently using 50% more resources than the earth can provide, and are busy endangering various living creatures for their own benefit (World Wide Fund for Nature, 2012). Unless we change our lifestyles, the environmental damage will become so significant that the whole world and all the people on it will be affected negatively and could even lead to the extinction of various resources and living creatures.

"The greatest threat to our planet is the belief that someone else will save it"
– Robert Swan.

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ADDENDUM A: QUESTIONNAIRE

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA
Faculty of Natural and Agricultural Sciences
Department of Consumer Science

Dear Participant,

This study forms part of my Masters degree in Consumer Science: Clothing Retail Management. It focuses on **MALE consumers' pro-environmental motivation and intent to acquire eco-friendly clothing in the South African market, more specifically in GAUTENG.**

Pro-environmental intent is when you plan to be more aware of the environment and to do things that would not damage the environment e.g. take your own shopping bags when you go shopping or to recycle and reduce your waste.
Together with that, "pro-environmental clothing purchases" is when you buy:

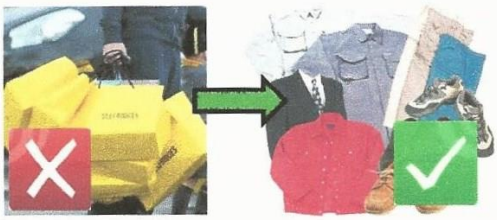
- **clothes that are made in an environmental-friendly manner (e.g. with organic cotton or locally) and/or**
- **buy less items (limit your purchases) and/or**
- **only buy clothes when you need something and/or**
- **classical, high quality items that will last a long time.**

E.g. I **buy clothes in a pro-environmental manner** by either:

Buying eco-friendly clothing
(Organic cotton, recycled polyester, hemp)

OR

Limit my clothing purchases
(Buying less; buying classic or lasting styles of good quality)



Your opinion is valuable for the research and it would be greatly appreciated if you could find time to complete the questionnaire. It will take approximately **10 minutes** to complete. Please complete every question. If you leave out a question, the whole questionnaire might have to be discarded. There are no right or wrong answers. You are requested to fill in the questionnaire as freely and honestly as possible. You may refuse to participate and may withdraw at any time if you wish to do so but please keep in mind that **all the questionnaires are completed anonymously and therefore the content will remain confidential**.

For any further enquiries, please contact me via phone or e-mail.

Kind Regards,

Hanri Taljaard
Student: M Consumer Science: Clothing Retail Management
072 811 8999
hanri.taljaard@hotmail.com

QUESTIONNAIRE		FOR OFFICE USE ONLY
For office use only - Respondent number		V0

SECTION A

Please answer the following questions by **marking the applicable number with an X or filling in the answer.**		For office use only
Do you buy your own clothes?		V1
Yes	1	
No	2	
Where do you buy most of your clothes? (Indicate more than one shop if applicable)		V2

Please answer the following questions by **marking the applicable number with an X or filling in the answer.**	Never	Rarely	Sometimes	Often	Always	For office use only
How often have you purchased eco-friendly/organic clothes?	1	2	3	4	5	V3
Have you ever bought less clothes to help save the environment?	1	2	3	4	5	V4

Please answer the following questions by **marking the applicable number with an X or filling in the answer.**	Very poor	⟷		Excellent	For office use only
Compared to other people, how would you describe your knowledge of eco-friendly clothes?	1	2	3	4	V5
In general, how would you describe your knowledge about classical clothing styles?	1	2	3	4	V6
Compared to other people, how much experience do you have with eco-friendly clothing?	1	2	3	4	V7

SECTION B

DEMOGRAPHIC INFORMATION

Please answer the following demographic questions **by marking the applicable number with an X or filling in the answer.**		For office use only
What was your age at your last birthday?		V8
_____ years		
According to the Employment Equity Act, how would you classify yourself?		V9
Black	1	
White	2	
Coloured	3	
Indian	4	
Other, please specify		V9.1
What is your highest level of education?		V10
Lower than grade 12	1	
Grade 12	2	
Tertiary degree/diploma	3	
Honours	4	
Masters	5	
Other, please specify		V10.1
In which city/town in Gauteng do you live?		V11
Please specify the suburb that you live in.		V12
What is your approximate individual income per month?		V13
Less than R 5000	1	
Between R 5001 - R15 000	2	
Between R 15 001 - R 25 000	3	
Between R 25 001 - R 35 000	4	
Between R 35 001 - R45 000	5	
More than R 45 001	6	

SECTION C

Please **rate the level to which you agree** with the following statements, with 1 indicating that you strongly disagree and 4 indicating that you strongly agree with the statement. **Mark the number with an X** in the shaded box which is most applicable to your answer.

AWARENESS OF CONSEQUENCES

	Strongly disagree	Disagree	Agree	Strongly agree		For office use only	
Large amounts of water is wasted when clothes are produced.	1	2	3	4		V14	
Textile dyeing causes a lot of water pollution.	1	2	3	4		V15	
The environment is damaged due to people's clothing consumption.	1	2	3	4		V16	
In order to save the environment, people should buy clothes in a pro-environmental way.	1	2	3	4		V17	
Throwing your clothes away can increase rubbish dumps.	1	2	3	4		V18	
High electricity usage of clothing manufacturers causes environmental damage.	1	2	3	4		V19	
Transporting clothing increases greenhouse gases.	1	2	3	4		V20	
Buying clothes in a pro-environmental way will help to save the environment.	1	2	3	4		V21	

SOCIAL NORMS

People who are important to me...	Strongly disagree	Disagree	Agree	Strongly agree		For office use only	
Would approve of my clothing purchases if they have less harmful implications for the environment.	1	2	3	4		V22	
Expect me to choose eco-friendly clothes.	1	2	3	4		V23	
Probably think that I should consider the environmental impact of the clothes before buying it.	1	2	3	4		V24	
Expect me to buy clothing styles that will last a long time.	1	2	3	4		V25	
Think I should be pro-environmental by limiting the amount of clothing I buy.	1	2	3	4		V26	
Expect me to buy classical clothing styles that would not go out of fashion.	1	2	3	4		V27	
Would not care about my pro-environmental clothing purchases.	1	2	3	4		V28	
Expect me to limit my clothing purchases to save the environment.	1	2	3	4		V29	

ATTITUDE

For me, buying clothing in a pro-environmental manner is...	Strongly disagree	Disagree	Agree	Strongly agree		For office use only	
Good.	1	2	3	4		V30	
Wise.	1	2	3	4		V31	
Beneficial.	1	2	3	4		V32	
Satisfying.	1	2	3	4		V33	
Responsible.	1	2	3	4		V34	
A waste of time.	1	2	3	4		V35	

MORAL NORMS

I feel morally obligated to...	Strongly disagree	Disagree	Agree	Strongly agree		For office use only	
Buy less clothing to cause less damage to the environment.	1	2	3	4		V36	
Pay attention to information about clothes that are eco-friendly.	1	2	3	4		V37	
Buy eco-friendly clothes, regardless of what others do.	1	2	3	4		V38	
Purchase pro-environmental clothes despite the fact that other options are available.	1	2	3	4		V39	
Buy clothes from companies known for being environmentally responsible.	1	2	3	4		V40	
Buy eco-friendly/organic clothing to save the environment.	1	2	3	4		V41	

SELF-EFFICACY							
	Strongly disagree	Disagree	Agree	Strongly agree		For office use only	
For me, retailers encourage pro-environmental behaviour by providing eco-friendly clothing options.	1	2	3	4		V42	
I can limit my clothing purchases to act more pro-environmental.	1	2	3	4		V43	
I know that I can cause less damage to the environment if I buy eco-friendly clothes.	1	2	3	4		V44	
I rather purchase good quality clothes that last longer to minimize clothing wastage.	1	2	3	4		V45	
I am confident that I am able to buy less clothes to help save the environment.	1	2	3	4		V46	
I am confident that I can buy eco-friendly clothes in SA stores.	1	2	3	4		V47	
By buying more classical styles I can be more pro-environmental.	1	2	3	4		V48	
For me, buying less clothes to cause less damage to the environment is easy.	1	2	3	4		V49	
BEHAVIOURAL INTENT							
I would be willing to ...	Strongly disagree	Disagree	Agree	Strongly agree		For office use only	
Buy eco-friendly clothes from companies who do not pollute the environment.	1	2	3	4		V50	
Buy classical clothing styles to cause less waste.	1	2	3	4		V51	
Buy eco-friendly clothes to be more pro-environmental.	1	2	3	4		V52	
Limit my clothing purchases to be more sustainable.	1	2	3	4		V53	
Buy eco-friendly clothes next time I go shopping.	1	2	3	4		V54	
Limit my clothing purchase to waste less.	1	2	3	4		V55	
CONTROLLABILITY							
	Strongly disagree	Disagree	Agree	Strongly agree		For office use only	
Eco-friendly clothing is expensive.	1	2	3	4		V56	
Clothing retailers provide enough eco-friendly clothing options to choose from.	1	2	3	4		V57	
Looking for eco-friendly clothes in stores, takes too much time.	1	2	3	4		V58	
Quality clothing that lasts longer, is pricey.	1	2	3	4		V59	
I could easily find eco-friendly clothes in SA retail stores.	1	2	3	4		V60	
I find it very time consuming to put together outfits that mix and match.	1	2	3	4		V61	
I could save money by limiting my clothing purchases to be more pro-environmental.	1	2	3	4		V62	
Basic clothing items for classical styles, are readily available in most SA retail stores.	1	2	3	4		V63	
By limiting my shopping outings to buy clothes, I save a lot of time.	1	2	3	4		V64	
Mix-and matching clothing outfits ultimately saves me money.	1	2	3	4		V65	
I have lots of opportunities to buy eco-friendly clothes.	1	2	3	4		V66	
It would be time consuming to search for eco-friendly clothes.	1	2	3	4		V67	

THANK YOU FOR YOUR PARTICIPATION!!

ADDENDUM B: ETHICS APPROVAL

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

ETHICS COMMITTEE
Faculty of Natural and Agricultural Sciences

17 April 2014

Dr N Sonnenberg

Department of Consumer Science

University of Pretoria

Pretoria

0002

Dear Dr Sonnenberg

EC140403-026 Male consumers' pro-environmental motivation and intent to acquire eco-friendly apparel In the South African market.

Your application conforms to the requirements of the NAS Ethics Committee

Kind regards

Prof NH Casey

Chairman: Ethics Committee

Agriculture Building 10-20
University of Pretoria
Private bag X20, Hatfield 0028
Republic of South Africa

Tel: 012 420 4107
Fax: 012 420 3290

ethics.nas@up.ac.za

ADDENDUM C: PLAGIARISM DECLARATION

DECLARATION OF ORIGINALITY
UNIVERSITY OF PRETORIA

The Department of Consumer Science places great emphasis upon integrity and ethical conduct in the preparation of all written work submitted for academic evaluation.

While academic staff teach you about referencing techniques and how to avoid plagiarism, you too have a responsibility in this regard. If you are at any stage uncertain as to what is required, you should speak to your lecturer before any written work is submitted.

You are guilty of plagiarism if you copy something from another author's work (eg a book, an article or a website) without acknowledging the source and pass it off as your own. In effect you are stealing something that belongs to someone else. This is not only the case when you copy work word-for-word (verbatim), but also when you submit someone else's work in a slightly altered form (paraphrase) or use a line of argument without acknowledging it. You are not allowed to use work previously produced by another student. You are also not allowed to let anybody copy your work with the intention of passing if off as his/her work.

Students who commit plagiarism will not be given any credit for plagiarised work. The matter may also be referred to the Disciplinary Committee (Students) for a ruling. Plagiarism is regarded as a serious contravention of the University's rules and can lead to expulsion from the University.

The declaration which follows must accompany all written work submitted while you are a student of the Department of Consumer Science. No written work will be accepted unless the declaration has been completed and attached.

Full names of student:	**Hanri Taljaard**
Student number:	**29111774**
Topic of work:	**Male consumers' pro-environmental motivation and intent to acquire eco-friendly apparel in South Africa**

Declaration

1. I understand what plagiarism is and am aware of the University's policy in this regard.
2. I declare that this research proposal is my own original work. Where other people's work has been used (either from a printed source, Internet or any other source), this has been properly acknowledged and referenced in accordance with departmental requirements.
3. I have not used work previously produced by another student or any other person to hand in as my own.
4. I have not allowed, and will not allow, anyone to copy my work with the intention of passing it off as his or her own work.

SIGNATURE