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The influence of perceived behavioural control in determining Millennials' pro-environmental intent and disposal of activewear

MA Olwoch (10018362)

Dissertation

M Consumer Science (Clothing Retail Management)

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Co-Supervisor: Mrs. Bertha Jacobs

2018

The influence of perceived behavioural control in determining Millennials' pro environmental intent and disposal of activewear

By

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Dissertation submitted for fulfilment of the requirements for the degree

M Consumer Science (Clothing Retail Management)

In the

Department of Consumer Science

Faculty of Natural and Agricultural Science

University of Pretoria

The financial assistance of the National Research Foundation (NRF) towards this research is hereby acknowledged. Opinions expressed, and conclusions arrived at are those of the author and are not necessarily to be attributed to the NRF.

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2018

Die invloed van waargenome gedragsbeheer in die bepaling van millenniërs se omgewingsvriendelike voorneme en wegdoening van aktiewe drag

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Verhandeling voorgelê ter vervulling van die vereistes vir die graad

M Verbruikerswetenskap (Kleding: Kleinhandelbestuur)

In die

Department Verbruikerswetenskap

Fakulteit Natuur- en Landbouwetenskappe

Universiteit van Pretoria

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DECLARATION

I, **Margaret Alobo Olwoch**, declare that the contents of this dissertation are 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:

1. This dissertation was done exclusively for M Consumer Science: Clothing Retail Management research degree at the University of Pretoria.
2. Published work of others referred to in this dissertation was always clearly accredited
3. The work of this dissertation is my own, while acknowledging the contribution of causative supervisors.

MARGARET ALOBO OLWOCH

March 2018

ACKNOWLEDGEMENTS

I wish to thank:

- Dr Nadine Sonnenberg for her patience, support and loving nature throughout my masters' degree. Would love to work with her again.
- Mrs Bertha Jacobs for her continuous guidance in both my masters and bachelors' degree.
- My parents for being my biggest inspiration throughout this dissertation.
- Irene Olwoch, for her unconditional love, continuous motivation and encouraging words.
- My friends for helping me to stay strong and motivating me to never give up.

Dedicated to my mom and dad,

Dr Ian Olwoch (Father) and Dr Jane Olwoch (Mother),

for giving me the best life, any person could ever ask for.

Thank you and Love you!

SUMMARY

The influence of perceived behavioural control in determining Millennials' pro environmental intent and disposal of activewear

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Keywords: climate change, clothing disposal, controllability, fast fashion, pro-environmental behaviour, sustainability, Theory of Planned Behaviour, perceived behavioural control, self-efficacy, South African consumers, Millennials, activewear.

Preventing climate change and further environmental deterioration is high on the agenda in many African countries, including South Africa. The impact of human behaviour is resulting in excessive waste especially in the clothing and textiles industry, as solid waste is generated throughout the manufacturing process as well as in the post-purchase stages of consumer consumption. Textile and clothing disposal is an increasing problem throughout the world as it leads to excessive waste, which causes several problems such as overflowing landfill sites. Due to fast fashion, an increasing number of clothing and textile products are disposed of in landfill sites with severe environmental consequences. It is therefore important that clothing and textile consumers discover ways to reduce their waste, such as opting for eco-friendly disposal methods. Various disposal options exist for unwanted garments that could prevent excessive amounts of textile waste from reaching landfill sites. These include donating,

reselling, and recycling, all of which contribute to more positive environmental consequences than simply discarding it. However, there may be influencing factors that hinder consumers from disposing their clothing in an eco-friendly manner.

The purpose of this study was to introduce empirical evidence that could explain some of the underlying factors that influence Millennials' pro-environmental intent and their eco-friendly disposal of activewear. This study focused on activewear as it has become a dominate apparel category in the clothing and textile industry. A theory that has been extensively used to explore various types of eco-friendly behaviours is Ajzen's Theory of Planned Behaviour (TPB). The research objectives as well as the theoretical framework of this study consequently focused on a central construct in the TPB, namely perceived behavioural control. For the purposes of this study, perceived behavioural control was further extended and conceptualised into two sub-dimensions, namely perceived self-efficacy and controllability. Self-efficacy is consumers' confidence in their capabilities to perform a certain behaviour (i.e. donate, resell or recycle) to produce the desired outcome. Controllability Consumers' views/beliefs that they have control over their behaviour, and that they actual performance or non-performance of a specific behaviour is ultimately up to them.

Data for this study was collected from a sample of 299 millennial consumers, aged between 18 and 35 years. Millennials were specifically chosen because they are prone to adopt pro-environmental behaviours such as eco-friendly clothing disposal methods. A quantitative, cross-sectional survey design was used to address the study's exploratory research purposes. Millennial respondents were reached by means of a non-probability, purposive sampling method to make sure that suitable respondents were included i.e. they had to participate in at least one physical activity and subsequently have some experience relating to the acquisition and disposal of activewear. Respondents who resided in various South African regions completed an online questionnaire that was developed according to the key constructs and objectives of the study. The resulting data was captured, coded and thereafter analysed in both a descriptive and inferential manner.

The results indicate that Millennials are quite confident in their ability to donate their unwanted activewear. They felt strongly that situational factors including cost, time and convenience, inhibited their ability to resell their unwanted activewear. In terms of intent, Millennials were more willing to donate their activewear than to resell or recycle it, which may have been a result of the high levels of self-efficacy and the belief that situational factors do not inhibit donation to the same degree as recycling and reselling efforts. Ultimately, Millennials may

prefer to donate their unwanted activewear, because apart from pro-environmental consequences, it may also include underlying altruistic benefits. In the multiple regression analysis, self-efficacy was the strongest predictor of donation. Thus, self-efficacy could therefore not only be a predictor of intent (as indicated in existing literature) but also of actual behaviour. Further research is needed in this regard, and similar studies could be conducted to explore the relevance of self-efficacy in other types of environmentally responsible consumer behaviour. It seems that highlighting the ease of donating to others and the subsequent environmental benefits of doing so may significantly advance efforts to reduce textile waste in the local context. Yet, much can still be done to address situational factors that inhibit Millennials' efforts to recycle and resell unwanted activewear

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OPSOMMING

Die invloed van waargenome gedragsbeheer in die bepaling van millenniërs se omgewingsvriendelike voorneme en wegdoening van aktiewe drag

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Sleutelwoorde: klimaatsverandering, kitsmodes, omgewingsvriendelike gedrag, volhoubaarheid, wegdoen van klere, Teorie van Beplande Gedrag, Teorie van Planmatige Gedrag, waargenome gedragsbeheer, selfdoeltreffendheid, beheerbaarheid, Suid-Afrikaanse verbruikers, millenniërs, sportdrag, aktiewe drag.

Die voorkoming van klimaatsverandering en verdere agteruitgang van die omgewing is ’n belangrike agendapunt in baie Afrikalande, insluitend Suid-Afrika. Die gedrag van mense het oormatige uitskot to gevolg, veral in die kleding- en tekstielbedryf, aangesien vaste afval voortdurend tydens vervaardigingsprosesse gegenereer word, sowel as deur die na-verkope gedrag van verbruikers. Die wegdoen van klere en tekstiele is ’n probleem wat wêreldwyd toeneem omdat dit tot oormatige afval lei, wat verskeie probleme, soos oorvol stortingsterreine, veroorsaak. Kitsmodes veroorsaak dat toenemende hoeveelhede klere en tekstielprodukte weggegooi word op stortingsterreine, met ingrypende gevolge vir die omgewing. Daarom is dit belangrik dat kleding- en tekstielverbruikers maniere vind om hul uitskot te verminder, soos om omgewingsvriendelike metodes van wegdoening te gebruik. Daar is verskeie maniere om van onnodige kledingstukke ontslae te raak en te verhoed dat oormatige hoeveelhede tekstielafval op stortingsterreine beland. Hierdie metodes sluit donasies, herverkope en herwinning in, wat almal bydra tot meer positiewe

omgewingsuitkomste as wanneer dit summier weggegooi sou word. Daar mag egter faktore wees wat verbruikers verhinder om op ’n ekovriendelike manier met hulle klere weg te doen.

Die doel van hierdie studie was om empiriese bewyse te vind wat die faktore onderliggend aan millenniërs se omgewingsvriendelike voornemens en ekovriendelike wegdoen van aktiewe drag te verklaar. Hierdie studie het op aktiewe drag gefokus omdat dit ’n belangrike kategorie in die kleding- en tekstielbedryf geword het. ’n Teorie wat wyd gebruik word om verskillende soorte omgewingsvriendelike gedrag te bestudeer is Ajzen se Teorie van Planmatige Gedrag (TBP). Beide die navorsingsdoelwitte en die teoretiese raamwerk van hierdie studie het gevolglik gefokus op ’n sentrale konsep van die TBP, naamlik waargenome gedragsbeheer. Vir die doeleinde van hierdie studie is waargenome gedragsbeheer verder uitgebrei na en gekonseptualiseer in terme van twee subdimensies, naamlik waargenome selfdoeltreffendheid en beheerbaarheid. Selfdoeltreffendheid is verbruikers se vertroue in hul vermoë tot spesifieke gedrag (d.i. skenking, herverkope of herwinning) om sodoende die gewensde uitkoms te verskaf. Beheerbaarheid verwys na verbruikers se sienings of oortuigings dat hulle hul eie gedrag kan beheer en dat dit uitsluitlik hulle keuse is om sekere gedrag te openbaar of nie.

Data vir hierdie studie is verkry van ’n steekproef bestaande uit 299 millenniër-verbruikers tussen die ouderdomme van 18 en 35 jaar. Millenniërs is spesifiek gekies omdat hulle geneig is om omgewingsvriendelike gedrag, soos die ekovriendelike wegdoen van klere, te openbaar. ’n Kwantitatiewe, dwarsdeursnit-navorsingsontwerp is gebruik om die studie se verkennende navorsingsdoelstellings aan te spreek. Millenniërrespondente is bereik deur middel van nie-waarskynlike, doelgerigte steekproefneming, om te verseker dat geskikte deelnemers ingesluit word, d.i. dat hulle aan ten minste een fisiese aktiwiteit moes deelneem en dus ondervinding sou hê in die aankoop en wegdoen van aktiewe drag. Respondente, woonagtig in verskeie streke van Suid-Afrika, het ‘n aanlyn vraelys voltooi wat ontwikkel is volgens die sleutelkonsepte en doelwitte van die studie. Data is gevolglik vasgelê, gekodeer en daarna ontleed op beide ’n beskrywende en afgeleide wyse.

Die resultate toon dat millenniërs redelike vertroue het in hul vermoë om aktiewe drag wat hulle nie meer wil hê nie, te skenk. Hulle voel sterk dat omstandigheidsfaktore, insluitend koste, tyd en gerief, hul vermoë inhibeer om aktiewe drag wat hulle nie meer wil hê nie te herverkoop. Wat voorneme betref, is millenniërs meer geneig om hul aktiewe drag te skenk as om dit te herverkoop of te herwin. Dit mag die gevolg wees van hoë vlakke van selfdoeltreffendheid en die oortuiging dat omstandigheidsfaktore nie skenking soveel inhibeer

as wat die geval is met pogings tot herwinning of herverkope nie. Uiteindelik mag millenniërs verkies om hul ongewensde aktiewe drag te skenk omdat dit ook altruïstiese voordele inhou, bo en behalwe die omgewingsvriendelike gevolge. In die veelvuldige regressie-analise was selfdoeltreffendheid die sterkste voorspeller van skenking. Selfdoeltreffendheid kan dus ’n voorspeller van voorneme wees (soos in die literatuur aangedui), maar ook van werklike gedrag. Verdere navorsing is nodig in hierdie verband, en soortgelyke studies kan die toepaslikheid van selfdoeltreffendheid in ander tipes omgewingsvriendelike verbruikersgedrag ondersoek. Dit wil voorkom asof beklemtoning van die gerief van donasies aan ander, en die gevolglike voordele vir die omgewing, pogings tot die vermindering van tekstielafval plaaslik betekenisvol kan bevorder. Baie kan egter nog gedoen word om die omgewingsfaktore aan te spreek wat millenniërs inhibeer om aktiewe drag wat hulle nie meer wil hê nie te herwin of te herverkoop

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CHAPTER 1

THE STUDY IN PERSPECTIVE

This chapter includes a general introduction of the research topic and a brief discussion of the theoretical background for this study. The research problem, justification for the study and objectives of the study will be addressed. Definitions of important terms and concepts will be explained, concluding with an outline of the dissertation.

1.1 INTRODUCTION

The effects of climate change and the depletion of natural resources is becoming increasingly relevant (Rust & Rust, 2013). Currently, humanity's use of natural resources exceeds the earth's capacity to renew such resources by 50% (World Wide Fund (WWF), 2014). Over the last few decades, the atmospheric concentration of greenhouse gases such as methane, nitrous oxide and chlorofluorocarbons has also increased considerably due to human activity (Solomon, Plattner, Knutti & Friedlingstein, 2008). In 2010, carbon emissions comprised 53% of humanity's ecological footprint (i.e. the area that is required to sustain people's demand for goods and services) (WWF, 2014) and further increases are expected in the near future with adverse environmental implications (Solomon *et al*., 2008). The potential repercussions of climate change that are predicted over the next 50 years include increased temperatures, reduced rainfall, and an increase in floods and droughts (Madzwamuse, 2010). Africa is considered to be the most vulnerable to these changes because national economies are largely dependent on natural resources (Madzwamuse, 2010). Agriculture is the largest domestic producer of employment, household foods and income across the continent (Rust & Rust, 2013) and remains the backbone of most African economies (Hussien & Zolait, 2014).

An aspect that fulfils an important role in curbing further environmental deterioration and climate change is waste management (Reinhardt, Richers, Suchomel, 2008), which involves minimizing and handling waste (Dictionary.com, 2014). Waste disposal is the root cause of a

significant amount of greenhouse gases that contribute to global warming (Mondini, 2008). Waste management discussions have frequently highlighted environmental implications especially emissions of pollutants, such as dioxins (Reinhardt *et al*., 2008). Despite the important role of waste management in conserving the environment, waste management is described as uncoordinated and poorly funded within the South African context (Nahman & Godfrey, 2012). Issues surrounding waste management include inadequate waste collection services, illegal dumping, insufficient recycling programs and, lack of waste information (Fiehn & Ball, 2005). Although waste reduction initiatives such as buy-back and deposit-refund schemes for glass, plastic, steel beverage cans and other containers have been implemented (Nahmaan, 2010), initiatives that address clothing and textile waste remain limited. This is discouraging when considering the overall environmental impact of the clothing and textile industry.

1.1.1 The impact of the clothing supply chain on the environment

Over the last 15 years, issues surrounding the environmental damage caused by the manufacture, distribution, and consumption of clothing and textile products have become an increasing concern amongst consumer groups and other stake holders (Kozar & Hiller Connell, 2013). Due to the increasing need for the reduction of waste and greenhouse gas emissions, reducing environmental impacts has become a concern for clothing companies (Subic, Shabani, Hedayati & Crossin, 2012). Furthermore, the clothing and textile industry is recognised as being amongst the world's largest and most polluting industries (Islam, Mahmud, Faruk & Billah, 2011), and the increasing volumes of clothing and textile that are being manufactured, bought and thrown away in landfill sites is negatively affecting the environment (Morgan & Birtwistle, 2009). Clothing companies need to manage how they throw away the chemical pollutants and other solid wastes, while also checking to what extent the textile fibres are biodegradable, as well as the high consumption of water (Kozar & Hiller Connell, 2013). Therefore, it is crucial for the clothing and textile industry to reconsider their environmental impact and discover ways to reduce their environmental footprint (Mohr, Web & Harris, 2001), such as eco-friendly disposal methods of apparel.

Apart from its environmental impact, it is however important to recognise that the clothing industry is vital for developing countries such as South Africa (Lila, Truett & Dale, 2010). The South African clothing industry is relatively developed and is one of the top ten sources of employment in the country (Pricewaterhouse Coopers (PwC), 2015). To remain viable, the local clothing industry has had to contend with fashion cycles that have become increasingly

fast paced throughout the world. Unfortunately, this may also contribute to environmental consequences in the local context similar to those documented abroad.

1.1.2 Fast fashion

The relationship between a phenomenon called “fast fashion” and increased clothing and textile waste is widely acknowledged (Morgan & Birtwistle, 2009). In general, fast fashion is the quick turnover of fashion trends into multi-channel volume (Thornbeck, 2015). It offers the latest fashion trends at low prices just a few weeks after they appeared on the runway (Keynote, 2008; Sielge, 2008; Morgan & Birtwistle, 2009). Fast fashion has become increasingly popular amongst retailers that target Generation Y (i.e., Millennial) consumer groups (Hill & Lee, 2015). The increase in sourcing from low-cost countries as wells as high impulse buying and price sensibility are factors that are contributing the growth of fast fashion (Birtwistle, *et al.,* 2003; Hampson & McGoldricka, 2011; Yeoman, 2011). Today clothing companies have to increase the variety of their collections and introduce entry prices that are more affordable in order to attract a more price-conscious buyer, (Macchion, Danese, Vinelli, 2015).

Young consumers, such as the Millennials[1], are the most devoted age group involved in fast fashion (Birtwistle & Moore, 2006) and are more involved with fast fashion trend than any other consumer group (Martin & Bush, 2000). Fast fashion companies such as Zara, H&M, and TopShop have furthermore changed the fashion landscape by making trendy looks more affordable (Loeb, 2015). However, the problem with bringing new fast fashion styles from design to shop floor very quickly, is that these designs are made to be worn very few times (i.e. ten times) (McAfee *et al.,* 2004; Morgan & Birtwistle, 2009). Fast fashion has led to consumers getting rid of more clothing more frequently (Morgan & Birtwistle, 2009). This has been linked to cheap, readily available, fast fashion clothing (Morgan & Birtwistle, 2009).

1.1.3 Activewear

In addition to fast-fashion that has taken over major sectors of the clothing industry, activewear has become a prevalent apparel category, which is purchased for everyday use and not just for the use in physical activity, such as sports (Wray & Hodges, 2008). Activewear was once defined as apparel bought primarily for the use in sporting activity (Sports Apparel Monitor

[1] Millennial: Also known as ‘generation Y’, these consumers are born between early 1980s and 2000

1998 cited in Wray & Hodges, 2008). However, due to fashion trends, activewear's definition also includes apparel made for everyday leisure and casual activities (Ko, Taylor, Sung, Lee, Wagner, Navarro, & Wang, 2012). Major categories include T-shirts, sweaters and footwear, which have experienced substantial increases in consumption over the past few years (Chi & Kilduff, 2011). In 2008, more than five billion T-shirts and nearly one billion sweaters were sold in the U.S market alone (Chi & Kilduff, 2011).

Globally, the activewear market has grown (Chang, Cho, Turner, Gupta & Watchravesringkan, 2015) and this growth has motivated several retailers to enter this apparel category such as the leading fast-fashion brand, Zara (Euromonitor International, 2015), and its competitor, TopShop, which recently collaborated with the well-known Adidas activewear brand (Kilcooley-O'Halloran, 2015). Similarly, NIKE Inc, the largest sport and fitness company in the world (WBS, 2006), made activewear available to non-sports people, increasing the number of consumers purchasing activewear across the globe (Dawes, 2008). In South Africa, Edcon operates ten retail brands that generated R27.3 billion in the 2011/2012 fiscal year (PwC, 2015) and houses some of the top sports brands such as Nike, Adidas, Reebok and Puma. These international brands continue to characterise the South African activewear market with very few local brands competing for market share (Euromonitor International, 2015).

Activewear brands have also aligned with luxury fashion brands by co-branding with well-known designers to introduce luxury lines of activewear (Lim, Kim & Cheong, 2016). Adidas for example teamed up with the famous fashion designer Stella McCartney to create a luxury activewear line called "Adidas Stella McCartney" (Lim *et al*., 2016). This line targets a less accessible but more luxury segment with a higher price premium (Hines & Bruce, 2007). In so doing, the activewear market has grown from being exclusively for athletes to mainstream fashion (Dawes, 2008).

Consumers' growing level of health awareness has resulted in an increased number of consumers participating in sports and outdoor activities to achieve healthier lifestyles (Balfour, 2015; Chang *et al*., 2014). This lifestyle has influenced the high demand for activewear (Wray & Hodges, 2008). This has benefitted the activewear industry and contributed to its competitiveness (Wits Business School (WBS), 2006). In addition to escalating fitness and health conscious lifestyles, some consumers simply purchase activewear for leisure purposes, which has become a trend referred to as 'athleisure' (WBS, 2006). The athleisure segment has shown high growth (WBS, 2006), and remained a popular trend in South Africa in 2015 (Euromonitor, 2016). Adidas (South Africa) Pty Ltd led activewear in 2015 with a value share

of 14%, while Nike South Africa Pty Ltd followed in second position with a value share of 12% (Euromonitor, 2016). With the rising use of athletic wear in everyday life and the continued rise of the 'athleisure' trend, sales of activewear are expected to continue performing well throughout the next few years (Euromonitor, 2016).

In order to remain competitive and sustain or grow their margins, activewear brands have had to increase efforts to create innovative products (Chi & Kilduff, 2011). Such efforts are often characterised by collaboration among different product industries, such as Nike and Apple that jointly developed innovative footwear (Shoul & Kerris, 2006) that has led to consisiten value growth in the activewear market (Euromonitor International, 2014). Other examples of innovative ideas in the activewear market can be found in the footwear segment. Adidas estimated that the value of the footwear sports/causal industry equalled R4 billion, calculating to 10.6 million pairs of sports shoes being sold (WBS, 2006). One has to wonder, what happens with all those shoes once they have reached their end-life phase? NIKE Inc, for example, has since 1990 collected and remade 28 million pairs into NIKE Grind for use in many locations around the world creating running tracks and playgrounds to carpet backing and soles for new footwear (Nike, 2015). The success of this "Reuse-a-shoe" initiative indicates to some extent, consumers' willingness to participate in eco-friendly disposal methods if opportunities are made available to them to engage in such initiatives. Eco-friendly disposal methods include donating, reselling, reusing and recycling, all of which contribute to more positive environmental consequences than simply discarding it (Meyer, 2013). Still, many questions remain regarding consumers' disposal of apparel in general, but also more specifically their activewear because this product category is known to have short product life cycles, resulting in high disposal rates and waste (Subic *et al*., 2012).

Empirical evidence shows that consumers prefer to dispose of their apparel and footwear by donating, reselling or simply throwing it away (Domina & Koch, 2002). Even though textile components can be disposed of in an environmentally responsible manner, eco-friendly disposal methods have not yet gained as much momentum among consumers as the other conventional disposal methods such as just simply throwing the clothing items away (Hawley, 2008), which makes it an important topic to investigate. Based on the background presented in the preceding discussion, it becomes apparent that an investigation of consumers' eco-friendly disposal methods in the activewear apparel segment is imperative.

1.1.4 Supporting theories to interpret eco-friendly disposal of activewear

A theory that has been used to explore various eco-friendly disposal methods is Ajzen's Theory of Planned Behaviour (TPB) (Tekkaya, Killic & Sahin, 2011). The theory is an extension of the initial Theory of Reasoned Action (TRA) due to the inclusion of a measure of perceived behavioural control (PBC) (Armitage & Conner, 2001). Similar to the initial TRA, TPB is based on the assumption that behavioural intention is the primary antecedent of behaviour (de Groot & Steg, 2007). However, whereas the TRA only includes attitudes and subjective norms as determinants of intention, TPB further acknowledges PBC as a third predictor of intent (de Groot & Steg, 2007). PBC can be described as consumers' perceptions about how easy or difficult it is to perform a specific behaviour (de Groot & Steg, 2007). In other words, consumers may have certain perceptions surrounding their ability to dispose of activewear in an eco-friendly manner, which in turn may be linked to factors over which they have limited control such as the availability and access to recycling initiatives.

PBC thus allows predictions of a behaviour over which the consumer does not have complete volitional control and provides information about consumers' perceptions about potential constraints that may surround the behaviour in question (Armitage & Conner, 2001). These constraints can be divided into two dimensions, namely self-efficacy and controllability (Ajzen, 2002). Self-efficacy is the consumers' confidence in their own capabilities towards performing the task i.e. how confident they are in terms of their ability to resell, recycle or donate their activewear. Controllability is closely associated with the concept of self-efficacy, but more specifically refers to how much control a consumer has over external factors (e.g. situational factors such as the cost, time and convenience of eco-friendly disposal) that influence the actual performance of the behaviour (Ajzen, 2002).

Consumers are increasingly concerned with sustainable production and consumption of goods including clothing and other textile products (de Barcellos, Krystallis, Saab, Kugler & Grunert, 2011). Yet, studies have also shown that although people may develop an intention to change their behaviour and become eco-friendly, they might not take action (Sniehotta, Scholz & Schwarzev, 2005, Park & Ha, 2014). This might be due to factors that intercede the intention-behaviour relationship. There is convincing evidence that self-efficacy (as a dimension of PBC) is a powerful predictor of intention (Gracia & Mann, 2003), but the relevance of this construct in determining actual behaviour as a mediator between intention and behaviour also requires further investigation (Sniehotta *et al*., 2005). Furthermore, TPB is considered one of the most useful theories to study the cognitive determinants of behaviour and intention (Amireault, Godin, Vohl & Perusse, 2008), but, as pointed out by Ajzen (2002), when including

the construct of PBC, both its dimensions, namely self-efficacy and controllability must be considered

A consumer segment that is of particular interest in exploring the relevance of self-efficacy and controllability in determining pro-environmental intent and behaviour in the activewear segment is the so-called “Millennials".

1.1.5 Millennials’ disposal of activewear

Although some discrepancies exist in current literature pertaining to the age range of the millennial generation (also known as generation Y), most authors seem to agree that this generation includes individuals that were born between the early 1980’s to 2000 (Richard & Associates, 2015). In accordance with several other studies (Richard & Associates, 2011; Moore, 2012; Branscum & Sciaraffer, 2013; Stewart, Oliver, Cravens & Oishi, 2017), this study specifies Millennials as persons born between 1981 and 2000. Empirical evidence suggests that Millennials tend to demonstrate positive views towards social issues, such as eco-friendly behaviour (Leask, Fyall & Barron, 2014). These consumers have been exposed to news of world hunger, natural disasters, issues of climate change and global warming more than any generation before them (Shaw & Fairhurst, 2008). Because they have had greater access to information, they are deemed to be more aware and knowledgeable of the danger that human behaviour has on the environment (Lee, 2009 & Otttman, 2011). Previous studies suggest that these consumers’ concern with global, environmental and social issues might significantly influence their purchase decisions (Epstein *et al*., 2010; Yan, 2003; Jayson, 2006; Hill & Lee, 2012).

In addition to the above, millennial consumers are also known to have more active lifestyles (Leask, 2014) and may therefore acquire and dispose of activewear on a regular basis. Together with their spending habits, the millennial consumer group represents a profitable target segment for corporations and sport marketing professionals (Bennett & Lachowetz, 2004). A greater understanding of Millennials’ clothing disposal behaviour is however much needed as they reportedly enjoy making purchase of fast fashion clothing (Morgan & Birtwistle, 2009). As pointed out by Valentine and Power (2013), the millennial consumer group is unique and influential and even though their behaviour is often discussed, it is not always fully understood.

1.2 PROBLEM STATEMENT

Human demands are no longer equal to what nature can renew and at this point exceeds the earth's natural capacity (WWF, 2014). The impact of human behaviour is resulting in diminished resource stocks, excessive waste that surpasses recycling initiatives, along with growing concentrations of carbon emissions in the atmosphere (WWF, 2014). Large industries within the clothing and textile supply chain continue to grow while also contributing to the intensifying waste problem. Globally, the apparel and textile industry is acknowledged as one of the most significant contributors to pollution (Natural Resource Defence Council (NRDC), 2011). Yet, paradoxically, fast fashion retailers continue to release new fashions every few weeks, encouraging consumers to buy new fashion more frequently, thus retaining their clothing for shorter time spans and resulting in excessive amounts of clothing disposal (Bianchi & Birtwistle, 2012).

The constant introduction of new fashion is also prevalent in the activewear market, where the rise of fitness and health conscious lifestyles and activities such as Cross Fit, Yoga and Pilates have contributed to a larger need for speciality activewear that is also fashionable. (Sherman, 2014). Fast fashion retailers such as Zara are following the likes of prominent sports brands such as Nike in providing "fashion meets fitness" apparel (Sherman, 2014). These trends are also evident in local market. Recently a top sportswear brand in South Africa, namely Adidas Original, collaborated with fast fashion retailer, Top Shop, to create a contemporary sports fashion line that underscores the iconic activewear roots of Adidas (Kilcooley-O'Halloran, 2015). The prevalence of mixing fashion trends with lifestyle trends, where functionality meets fashion (Cohen, 2014) are largely targeted towards younger consumer groups such as the Millennials, as they demonstrate a strong orientation towards recreation and active participation in sport as well as fashion (Valentine & Power, 2013, Leask *et al.,* 2014). The popularity of fitness and sporting activities in South African schools and the high number of gym-goers and fitness fanatics among the country's younger population are all factors, which may continue stimulating demand for activewear in the local sector (Euromonitor, 2016). Despite its relevance, limited academic literature has been dedicated toward understanding this fast-growing clothing sector. Both in the local context and abroad, little is known regarding consumers' acquisition, but also more specifically their disposal of activewear.

Overall, clothing and textile disposal is an growing problem throughout the world (Bianch & Birtwistle, 2012), but has recently also come under scrutiny with accompanying environmental concern among various role players in the South African clothing and textile industry (Larney

& van Aardt, 2010; NRDC, 2011; Meyer, 2013). Compared to research that has addressed the re-use and recycling of other products such as glass, plastic and paper (Morgan & Birtwistle, 2009), the amount of literature and information available on the disposal of clothing and textiles within the South African emerging market context remain limited. Globally, consumers concern and interest towards environmental issues has increased with more consumers being intent on acting in a pro-environmental manner, but there is some doubt as to whether this intent translates into actual eco-friendly behaviour (Park & Ha, 2014). This may suggest that there could be possible constraints that are not allowing consumers to behave in an eco-friendly manner.

A theory that draws attention to both behavioural intent and actual behaviour is Ajzen's (1991) TPB. This theory underscores the importance of three concepts as the underlying determinants of behavioural intent namely attitude, subjective norms and PBC (Ajzen, 1991). For the purpose of this study, focus and attention is devoted toward the third concept, namely PBC (i.e., self-efficacy and controllability) (Ajzen, 2002), as scholars have argued that it may coincide with the aforementioned problem, namely that there could be possible constraints that prevent consumers from behaving in an eco-friendly manner (Kim & Hiller, 2010). Self-efficacy deals with the consumer's confidence towards his/her capabilities to perform the behaviour, while controllability addresses the issue of how much control a consumer exerts over external factors such as cost, time and convenience that inhibit/ promote the performance of the specific behaviour (Ajzen, 2002). To date, no known study has explored the influence of self-efficacy and controllability regarding the eco-friendly disposal of activewear.

Based on the aforementioned arguments, this research will explore *the influence of PBC in terms of self-efficacy and controllability in determining millennial consumers' pro-environmental intent and disposal of their activewear apparel.*

1.3 JUSTIFICATION OF THE RESEARCH

Over the past few years, there has been a growing dialogue within the clothing community regarding sustainability issues (Kozlowski, Searcy & Bardecki, 2015). The clothing and textile industry in particular causes negative environmental consequences and it is therefore important for businesses to reconsider the impact it is making on the environment and try to reduce its overall negative effect (Larney & van Aardt, 2010). The negative impact on the environment also applies to major role players in the sports apparel industry such as Nike, Adidas, Puma and Reebok along with other brands (Forbes, 2013). NIKE Inc, is an example of a sports brand that has made considerable effort to decrease the amount of energy, natural resources and waste in the manufacturing and selling of their products by for example collecting and regrinding shoes for other purposes (Nike, 2015).

To optimize production and minimise environmental risks in the textile supply chain, manufactures and retailers require a sound understanding of consumers clothing disposal behaviour, which will enable them to modify their sales plans and make and effort in investing in creating textiles of a higher quality so that they can be re-used (Bianchi & Birtwistle, 2010). Manufactures and distributors of sportswear such as NIKE Inc. pride themselves of having good knowledge of their consumers. The millennial consumers, who are known to engage in active lifestyles (Leask, Fyall & Barron, 2014), which together with their spending habits and perspectives on how companies should act (Winston, 2016) are of particular interest to the manufacturers and distributors of sport related goods (Bennett & Lachowetz, 2004). Increasingly, Millennials and other consumers segments will not be able to take resources for granted because resources are scarcer and in greater demand, which necessitates eco-friendly behaviour to reduce over use of resources (PwC, 2015). Manufactures and retailers play an important role in this regard by not only promoting sustainable business practises, but also in shaping and modifying consumer behaviour (Tsarenko, Ferraro, Sands & McLeod, 2013). Further modification can be commonly done through consumer education and information campaigns (Tsarenko, *et al*, 2013), this study may provide insight that could inform such campaigns. Empirical findings derived from the proposed research could also shed some light on ways to help millennial consumers to behave in environmentally conscious way and identify situational factors that may inhibit consumers' engagement in eco-friendly disposal behaviour.

In addition to the practical implications of this study, it may also contribute to existing theoretical insight regarding consumers' clothing disposal behaviour. To protect our

environment, consumers can make pro-environmental decisions when clothing needs to be disposed of (Bianchi & Birtwistle, 2012). However, the disposal stage is often overlooked in consumer research (Bianchi & Birtwistle, 2012), especially in the local context. To date, with the exception of research conducted by Taljaard (2015) and Meyer (2013), few studies have tested and applied behavioural theories such as TPB to gather information regarding the determinants of pro-environmental apparel behaviour in developing countries such as South Africa. This study contributes to a further understanding of self-efficacy and controllability as dimensions of PBC, which posed several challenges in Taljaard's (2015) study. Recommendations derived from the findings of this study suggested that controllability and self-efficacy should be investigated in relation to actual behaviour and not just intent alone, which this study will do by including eco-friendly disposal methods in the TPB framework.

1.4 OBJECTIVES OF THE STUDY

Based on the background presented in this chapter, the main aim of this study is to investigate the influence of perceived behavioural control in determining Millennials' pro-environmental intent and disposal of activewear. Specific research objectives include the following:

Objective 1: To explore and describe Millennials' perceived behavioural control in terms of two sub-dimensions namely;

1.1. *self-efficacy* i.e. the level of confidence Millennial's have in their own capabilities to dispose of activewear in an eco-friendly manner (i.e. to donate, recycle and/ or resell); and

1.2. *controllability* i.e. Millennials' beliefs regarding the level of control they have over factors that might inhibit or promote the eco-friendly disposal of activewear.

Objective 2: To investigate *situational factors* (including *cost, time* and *convenience/ accessibility* of eco-friendly disposal methods) that may influence Millennials' perceived behavioural control.

Objective 3: To determine Millennials' *intent* regarding the disposal of unwanted activewear and whether such intent be motivated by environmental, economic and/ or altruistic reasons.

Objective 4: To determine Millennials' preferred method of *activewear disposal* including options such as *donating* (to organisations/ family /friends), *reselling, recycling* or simply *discarding* to landfill.

Objective 5: To explain the interrelationship of Millennials' perceived behavioural control, situational factors surrounding the behaviour in question, pro-environmental intent and their preferred method of activewear disposal.

1.5 RESEARCH DESIGN AND METHODOLOGY

To address the objectives of this study, a survey was conducted among a sample of 299 male and female millennial consumers between the ages of 18 to 35 years. Millennial consumers were specifically selected as they tend to follow active lifestyles and are supportive of social and environmental causes (Bennett & Lachowetz, 2004, Valentine & Powers, 2013). Globally, the millennial consumer group has the potential to drive green consumerism as they were born into an era of environmental consciousness therefore making this group more likely to take on environmentally friendly behaviour compared to other consumer groups (Awad, 2011; Lee, 2008). A quantitative research approach was followed, with a cross-sectional design thus measuring characteristics of the sample at one specific point in time. This study used a non-probability, purposive sampling method to reach respondents who complied with the prerequisites for participation (Leedy & Ormrod, 2013), for example they needed to participate in at least one physical activity. Furthermore, a structured, self-administered questionnaire was developed according to the constructs and objectives of the study. Willing respondents that formed part of the Consulta online community panel completed the questionnaire electronically. The data was then captured and coded to be further analysed, using both descriptive and inferential statistical procedures. Chapter 3 provides a more in-depth discussion of the aforementioned research design and methodology aspects.

1.6 DEFINITIONS OF TERMS AND CONCEPTS

TABLE 1.1 DEFINITION OF TERMS AND CONCEPTS

TERMS AND CONCEPTS		
TERM/CONCEPT	**DEFINITION**	**REFERENCE**
Activewear	Defined as "apparel made for sports and recreation involvement, commonly purchased for the use in active sports and includes casual clothes worn by anyone for daily activities beyond the participation of sports or physical activity. Activewear implies a focus on active sports thus; footwear is an essential component of the activewear category of apparel".	Ko, E., Taylor, C., Sung, H., Lee, J., Wagner, U., Navarro, D.M. & Wang, F.2012. Global marketing segmentation usefulness in the sportswear industry. *Journal of Business Research*. 65(11): 1565-1575. Wray, A.Z. and Hodges, N.N. 2008. Response to activewear apparel advertisements by US baby boomers: an examination of cognitive versus chronological age factors. J*ournal of Fashion Marketing and Management*.12 (1): 8-23.
Behavioural intent	Behavioural intent is defined as "a person's perceived likelihood or "subjective probability that he or she will engage in a given behaviour."	Armitage, C.J & Conner M. 2001. Efficacy of the theory of planned behaviour: a meta-analytic review. British Journal of Social Psychology. 40(4):471-499
Climate change	Refers to "any long-term change in Earth's climate, or in the climate of a region or city. This includes warming, cooling and changes besides temperature."	May, S. 2011. What are climate and climate change. Nasa. Available at [Online]: http://www.nasa.gov/audience/forstudents/5-8/features/nasa-knows/what-is-climate-change-58.html. [Accessed: 2016-06-16]
Controllability	"Consumers' views/beliefs that they have control over their behaviour, and that they 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
Donation	Something that you give (food, money, clothes etc.) in order to help a person or organization.	Merriam-Webster: An Encyclopaedia Britannica Company. 2016. Available at [Online]: http://www.merriam-webster.com/dictionary/donation. [Accessed: 2016-10-02]
Ecological footprint	Measures the area (in hectares) required to supply the ecological goods and services we use	World Wide Fund (WWF). 2016. Ecological Footprint. Available at [Online] : http://wwf.panda.org/about_our_earth/teacher_resources /webfieldtrips/ecological_balance/ eco_footprint/ [Accessed: 2016-06-16]

Fast-fashion	It is a "phenomenon that offers consumers the latest trends at low prices just weeks after they appear on the catwalk."	Morgan, L & Birtwitstle, G. 2009. An Investigation of Young Fashion Consumer Disposal Habits. International Journal of Consumer Studies. 33. 190-198
Greenhouse gases	Gases in the atmosphere that absorb thermal infrared radiation. The most significant greenhouse gases are water vapour, carbon dioxide, methane and nitrous oxide	Lallanilla,M. 2015.Greenhouse Gas emissions. Livescience. Available at [Online]: http://www.livescience.com/37821-greenhouse-gases.html. [Accessed: 2016-06-16]
Global warming	Refers to the long-term increase in Earth's average temperature.	May, S. 2011. What are climate and climate change. Nasa. Available at: http://www.nasa.gov/audience/forstudents/5-8/features/nasa-knows/what-is-climate-change-58.html. [Accessed: 2016-06-16]
Millennial	Also known as 'generation Y', these consumers are born between the early 1980s and 2000.	Main, D. 2013. Who are the Millenials? Live Science. Available at: http://www.livescience.com/38061-millennials-generation-y.html. [Accessed: 2015- 07-15]
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 behavior. *Organizational Behavior and Human Decision Processes*, 50(2):179–211.
Pro-environmental consumer behaviour	It is the conscious actions performed by a consumer so as to lessen the negative impact of human activities on the environment or and to enhance the quality of the environment	Sawitri, D., Hadiyanto, H. & Hadi, S. 2015. Pro-environmental Behavior from a SocialCognitive Theory Perspective. Procedia Environmental Sciences. 23: 27-33.
Recycling	Recycling is "the process of collecting and processing materials that would otherwise be thrown away as trash and turning them into new products."	US Environmental Protection Agency. Recycling. Basics. Available at: https://www.epa.gov/recycle/recycling-basics. [Accessed: 2016-10-02]
Resell	To sell (something one has bought) to someone else.	English: Oxford Living Dictionaries. 2016. [Online] Available at: https://en.oxforddictionaries.com/definition/resell. [Accessed: 2016-10-02]
Self-efficacy	"The consumers' confidence in their capabilities to organise and perform a certain course of action that is needed to produce the desired outcome."	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
Sportswear	A general-purpose description of many types and styles of garments worn for sporting activities' 'Refers to a specifically American style of casual everyday clothing loosely based on clothing developed for participation in sports	Horton, K., Ferrero-Regis & Payne, A. 2016. The hard work of leisure: healthy life, activewear and Lorna Jane. Annals of Leisure Research. 19(2):180-193.

1.7 PRESENTATION AND OUTLINE OF THE STUDY

This chapter introduced the study and discussed the nature and background of the research topic. The succeeding chapters are outlined and summarised below:

CHAPTER 2 provides an overview of the relevant literature concerning the topic of this study. Greater insight will be presented on global warming, clothing and textile waste, the millennial consumer group and their pro-environmental consumer behaviour, along with the types of eco-friendly disposal methods of clothing. It also introduces the Theory of Planned Behaviour (TPB) employed in this study, focusing on its third determinant, PBC. The dimensions of PBC, namely self-efficacy and controllability, are extensively looked at for the purpose of this study. An illustration 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 objectives

CHAPTER 3 provides descriptions of the research design and methodology. It includes a discussion of the sample, sampling technique, the development of the questionnaire, data collection, and data analysis. Measures to ensure validity and reliability in addition to ethical issues are highlighted in this chapter.

CHAPTER 4 presents results and interpretations of the study. The chapter includes demographic characteristics of the sample, which is presented in tables and graphs. Thereafter exploratory factor analysis and multiple regression results are reported and indicate the influence of perceived behavioural control in determining Millennials' pro-environmental intent and eco-friendly disposal of activewear.

CHAPTER 5 is the final chapter of the dissertation and includes the conclusions resulting from the main findings. The practical implications of the findings, the limitations of the study and suggestions for future research are also discussed.

1.8 CONCLUSION

This chapter provided an introduction to the nature and background of the research topic. It highlighted the environmental impact of the greenhouse gases and the importance of reducing clothing and textile waste. It also introduced the relevance of activewear and pro-environmental ways to dispose of it. Further emphasis was directed toward supporting theories to interpret eco-friendly disposal behaviour and the importance of the millennial consumer segment in the activewear market. A research problem and justification of the research was presented in addition to the objectives of the study, a brief overview of the methodology as well as the definitions of key concepts included in the study. The next chapter will provide a more in-depth review of literature in addition to the theoretical framework upon which the study is based.

CHAPTER 2

A REVIEW OF LITERATURE

This chapter provides a literary overview of the nature and background of the study as introduced in Chapter 1. This chapter will elaborate on the selected Millennial consumer group and will give greater insight on relevant aspects such as global warming, textile and apparel waste as well as environmentally friendly disposal methods of activewear. Furthermore, the theoretical framework will be discussed with specific reference to the Theory of Planned Behaviour, elaborating on the concept of perceived behavioural control that includes dimensions of both self-efficacy and controllability. The theoretical perspective will then be incorporated into the proposed conceptual framework with specific referral to the study's research objectives.

2.1 INTRODUCTION

The production and consumption of clothing and textile significantly contributes to environmental deterioration (Fletcher, 2008). Overall, the clothing and textile industry remains the second largest industrial polluter in the world (Conca, 2015). A major environmental burden caused by the clothing and textile sector is the solid waste that is created throughout the clothing and textile supply chain extending into consumer use and disposal (Resta, Gaiardelli, Pinto & Dotti, 2016). As most textiles are nearly 100% recyclable, there really should not be any waste in the apparel industry (Larney & van Aardt, 2010). This chapter draws attention to various aspects surrounding textile waste and the environmentally friendly ways in which consumers can dispose of clothing. Yet, current literature also acknowledges the relevance of certain barriers that may hinder consumers from performing eco-friendly disposal behaviour. The well-established Theory of Planned Behaviour (TPB) may provide insight in this regard with specific reference to the concept of perceived behavioural control as an explication of consumers' pro-environmental intent and eventual eco-friendly disposal behaviour. This chapter concludes with a discussion of TPB as an appropriate theoretical basis and conceptual framework for this study.

2.2 CLIMATE CHANGE AND GLOBAL WARMING

Globalization has increased global wealth, unfortunately at the cost of increasing resource use, resource pollution and global change beyond limits that are acceptable (Gupta, 2014). Global environmental issues are those that go beyond national borders and not only impact and damage the natural resources of individual countries but also extend to environmental deterioration on a global scale (Batley & Wenning, 2007). For these reasons, one of the most pressing global issues relate to climate change (Batley & Wenning, 2007).

Climate change and global warming are scientifically established facts and may be one of the greatest dangers facing the planet (Darkoh, 2009; Shah, 2015). Greenhouse gases, mainly carbon dioxide (CO2), trap heat in the atmosphere and keep the Earth's climate at a level incongruent with the natural order of things (Conservation, 2016). The net increasing of these greenhouse gases thus causes the climate to change (Gupta, 2014). The issue of climate change is global and Southern Africa is not excluded from its threats (Darkoh, 2009). As South Africa's climate changes due to global warming, the decline of arable areas and crop yields (Yidal, 2013) will most likely become even more severe as it is proposed that rain-fed agriculture yields could decline to a staggering 50% by 2020 (IPCC, 2007). Include here that cotton for instance is a crop that needs a lot of water.

Sadly, most of the environmental problems associated with global warming is rooted in human behaviour (Gardner & Stern, 1996, Oreskes, 2004). Humans are sending carbon into the atmosphere ten times faster than during the hottest period in the past 66 million years (Lavelle, 2016). Global warming is a phenomenon that all consumers contribute to either directly or indirectly (Swim, Clayton & Howard, 2011). An area where one could arguably say that consumers can make a worthy contribution to environmental conservation and the reduction of greenhouse gases is in the clothing and textile industry.

2.3 THE ENVIRONMENTAL IMPACT OF THE CLOTHING AND TEXTILE INDUSTRY

The clothing and textile industry is one of the largest, most globalised, and most essential industries in the modern world, worth over $450 billion, in terms of nominal sales (Resta, Gaiardelli, Pinto & Dotti, 2016; Jansson & Power, 2010). Most nations produce clothing products not only for domestic consumption but also for the entire international textile and clothing market, making this industry one of the most globalised trades (Gereffi & Frederick,

2010). Industrial activities, regardless of their nature, contribute to pollution and the same can be said for the clothing and textile industry (You, Cheng & Yan, 2009). The issue of environmental consequence in the textile industry is important as globally textile industry consumes an estimated 30 million tons a year (Chen & Burn, 2006). The production and consumption of clothing and textile products can cause significant harm to the planet (Kang, Liu & Kim, 2013). With the increased use of pesticides, fertilizers and water, fast fashion is leaving a pollution footprint during each phase of the clothing life cycle (Hollingsworth, 2007; Kaye, 2016)

Every product begins its life cycle at the raw material extraction stage and passes through various other stages, namely manufacturing, distribution and use before the cycle ends at the disposal stage (Muthu, 2014). Each step involved in the production process of carries the potential for negative environmental impact (Claudio, 2007). Determining the fashion industry's carbon footprint is however, a great task due to the huge variety and differences between garments (Sweeny, 2015).

A few production issues include, the renewability of the raw materials and the toxicity of the chemicals used (e.g. crop treatments, chemical by-products and solvents) that are released during production and processing (Chen & Burn, 2006). During the production of natural fibres such as cotton, chemical fertilizers and pesticides harm the environment and community by reducing soil fertility, as well as causing a loss of biodiversity, water pollution and severe health problems related to the exposure to toxic pesticides (Fletcher, 2008). Cotton is in fact the world's single largest pesticide-consuming crop (Conca, 2015) and the effect of cotton cultivation on the environment has been widely debated because of consumption of chemicals and pesticides (Bide, 2001; Fang 2001). The clothing and textile industry relies heavily on high yields of cotton production, thereby indirectly supporting potentially dangerous farming practices (Kang, Liu & Kim, 2013).

The process of dyeing, printing and finishing textiles has also long been criticised for its unfavourable environmental impact because of the dyes and chemicals used (Chen & Burn, 2006). The dye wastewater is discharged, often untreated, into nearby rivers, where it reaches the sea, eventually spreading around the globe (Sweeny, 2015). In terms of distribution and the retailing of textiles and apparel, there are CO2 emissions, related to transportation that must also be taken into account (Shen, 2014) especially given the supply chains' global dimensions that span from manufacturing plant locations to demand markets (Choi, 2013).

The sustainability and environmental impact of the clothing and textile supply chain is however not the sole responsibility of manufacturers and retailers (Chen & Burn, 2006). A major environmental burden caused by the clothing and textile sector is the solid waste arising, mostly from consumers' disposal of products at the end of the product life cycle (Resta, Gaiardelli, Pinto & Dotti, 2016). Fuelled by globalization, which has made it possible to produce clothing at increasingly lower prices, many consumers consider their clothing easier to dispose of (Hollingsworth, 2007). The accelerating fashion cycles also demand frequent replacement of garments with updated modern versions, which inevitably generates more textile waste (Fletcher, 2008). Fast fashion garments in particular (which is worn less than ten times (McAfee *et al*., 2004), produce over 400% more carbon emissions per item per year than garments worn 50 times and kept for a full year (Conca, 2015). Although textile companies are attempting to respond to these environmental concerns, partnerships between government, industry, and consumers are important in order to create efficient solutions to environmental problems (Chen & Burn, 2006) including those related to clothing and textile waste. In retailing, ethical practices, such as offering recycling services and recyclable products in stores, can therefore better fashion consumers' awareness of sustainability (Chan & Wong, 2012).

2.4 THE SIGNIFICANCE OF TEXTILE AND APPAREL WASTE

With the increasing rates of population growth, rising living standards and urbanization, the range and volume of textile and apparel products used on a daily basis is growing exponentially and so is the problem of their disposal (Muthu, 2014; Zamani, Svanström, Peters & Rydberg, 2014). The growth in production and eventual disposal of clothing has in part stemmed from the speed of adoption and consumption of current 'fast fashion' trends (Lee, 2003; Hollingworth, 2007). Overall, the move to shorter, 'fast' fashion cycles has made the disposal and waste problem even worse by shortening the life of many fashion items including activewear, which may now be discarded by consumers very rapidly in response to changing fashion trends even if the product is still wearable (Morgan & Birtwistle, 2009).

Although other products also contribute to environmental damage, textiles and apparel have particularly significant consequences because of its broad range of application and dealing with the resulting waste. Reducing textile waste has thus become a hot topic in the field of sustainable textiles and apparel (Muthu, 2014). Excessive waste leads to several problems such as overflowing landfill sites, air, water and land contamination, weak infrastructure and

health risks (Ganiaris & Okun, 2001). Pre-consumer textile and clothing waste consists of by-product materials from fibre, yarn or fabric production (Chen & Burn, 2006). Through on-going efforts within the textile industry, approximately 75% of the pre-consumer textile waste is now moved out of the landfills and recycled (Roznev, Puzakova, Akpedeye, Sillstén, Dele & Ilori, 2011).

Post-consumer textile waste consists of any type of clothing or household textile articles that the owner no longer needs and decides to discard (Chen & Burn, 2006). It is estimated that only 48% of post-consumer textile waste is recycled as second-hand clothing, otherwise simply disposed of in municipal landfills (Council for Textile Recycling, 2003; Chen & Burn, 2006). Thus, even though various role players in the textile and apparel industry have done a good job in recycling pre-consumer waste (Chen & Burn, 2006), much of the clothing and textile waste stream is classified as post- consumer waste (Wooldridge, Ward, Phillips, Collins & Gandy, 2006).

In 2011, South Africa only recycled 10% of the generated 108 million tons of waste, of which 98 million was disposed of at landfill sites (National Waste Information Baseline Report, 2011), indicating that eco-friendly disposal methods are not extensively used. The problem is that post-consumer waste ultimately ends up in landfills if consumers do not get rid of their clothes in a pro-environmental way (Claudio, 2007). As pointed out before, textiles are nearly 100% recyclable so there really should not be any waste in the clothing and textile industry (Larney & van Aardt, 2010).

Chemicals used in clothing and textiles production such as dyes and bleaches, drain through all the rubbish and pick up chemical and hazardous materials every time it rains (Ethical Fashion Forum, 2010). These dyes and chemicals that are prevalent in fabric and other components of clothing and shoes also leach into the soil, contaminating both surface and groundwater (3pContributor, 2012). Decomposing clothing such as woollen garments releases methane, a harmful greenhouse gas, and is a significant contributor to global warming as mentioned earlier (Waste-Online, 2004; Environment, 2013). Synthetic textiles such as polyester, which is the single most common fibre used for activewear (Shishoo, 2015), present particular problems in landfills since they are slow to decompose (Waste-Online, 2004). Polyester is resistant to natural degradation (Kadolph, 2010) and can take up to 200 years to decompose (Conca, 2015). Some polyester is made of catalytic agents that contain heavy metal and toxic chemicals/ compounds that contaminate water and soil and have a long-term impact on the environment (Kadolph, 2010). Furthermore, cheap synthetic fibres emit gasses such as nitrous dioxide (N2O), which is 300 times more damaging than carbon

dioxide (CO2) (Conca, 2015). Although the above discussion illustrates that synthetic fibres are not easily recyclable and have detrimental environmental consequences, these materials often form the basis of cheap clothing (Morgan & Birtwistle, 2009). Diverting these materials, which have recognised commercial value, from landfill remains a major challenge for the recycling and waste management sectors (Jackie King, 2012).

In sum, it has become apparent that the Earth is not able to support the current level of production and disposal of clothing and textiles due to the exhaustion of natural resources and quick filling of landfills (Claudio, 2007). It is therefore of great importance to promote appropriate textile disposal practices in order to recover post-consumer textile waste that could reduce the environmental impact of textile waste (Joung & Park-Poaps, 2013). It has been established that in general, clothing that has been disposed of still has at least 70% of its useful lifespan left (Claudio, 2007). This offers the potential for the clothing to be collected and re-used/ recycled, which is for example done in the UK by means of door-to-door collection and "bring banks" (Wooldridge *et al*, 2006). The demand to minimize the environmental pollution in the fashion industry is thus not only a priority from fashion firms' perspectives, but consumers' support also need to be leveraged (Shen, Wang & Shum, 2012).

2.5 THE NEED FOR PRO-ENVIRONMENTAL CONSUMER BEHAVIOUR

Consumers play a vital role in reducing environmental pollution due to the consumption of clothing and textile products (Chen & Burn, 2006). All consumption activities (acquisition, use and disposition) have an environmental impact (Polonsky, *et al*., 2014). The 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 eco-systems 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).

Consumer's 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 (Stern, 2000). In order for marketers to effectively find ways to address the environmental consequences of consumption behaviour, it is important that consumers integrate environmental consideration into their behaviour (Kolter, 2011; Momberg *et al*., 2012; Polonsky, *et al*., 2014). This consideration can be referred to as pro-environmental consumer behaviour (Polonsky, 2011). Pro-environmental consumer behaviour can be defined as personal actions made by

consumers to protect themselves as well as to benefit the environment (Ottman, 1992; Stern 2000). These actions performed by the consumer are to decrease the negative impact of human activities on the environment and to enhance the quality of the environment (Sawitri, Hadiyanto & Hadi, 2015). Consumers who behave in a pro-environmental manner may intend to improve social and environmental performances, in addition to meeting their needs (Wang, Liu & Oi, 2013).

Environmental concern can motivate consumers to change their everyday behaviour by reducing their consumption activities (Fule & Kenez, 2005), while knowingly attempting to reduce their own harmful impact on the environment (Kollmuss & Agyeman, 2002). Pro-environmental behaviour, such as the conservation, re-establishment or development of nature, may be seen as a result of an individual's concern for the environment (Swami *et al*., 2010). For this study, the consumer group that was explored were the millennial group, as they constitute an important consumer segment in the South African context who needs to take decisive action in order to protect their environmental heritage.

2.6 MILLENNIAL CONSUMER GROUP

The move towards more sustainable consumption is spear headed by Generation Y consumer, also known as Millennials (Muposhi, Dhurupm & Surujlal, 2015). The millennial generation includes consumers born between 1981 and 2000 (Branscum & Sciaraffer, 2013)) and is much larger than the previous generation X (Nowak, Thach, Olsen, 2006; Main 2014). Due to this consumer segment's size and growing market power, millennial consumers are currently the primary focus of several marketing campaigns and empirical research (Moore, 2012).

The millennial consumer is known for specific traits and behaviours such as their concern towards the planet, the environment, poverty and social responsibility issues (Nowak, Thach & Olsen, 2006, Leask, Fyall & Barron, 2014). They represent a group of consumers who are more prone to adopt pro-environmental behaviours compared to any other consumer segment (Muposhi, Dhurupm & Surujlal, 2015). Millennials have an optimistic nature (Lancaster & Stillman, 2002) and believe in the importance of a holistic view (Boyd, 2010). Millennial consumers are also known for being technology savvy and grew up with the internet being a source of communication and information (Nowak *et al*., 2006; Shaw & Fairhurst, 2008). Millennial consumers see themselves as part of the global community, demonstrated by their consciousness of global issues (Pendergast, 2007).

Millennials appear to be sympathetic towards ethical issues (Gorman, 2004) and are seeking brands that are regarded as making a positive effect on the environment (Valentine & Power, 2013). They are more racially and ethnically diverse than other generations (Brooks, 2005) and will turn away from brands that violate environmental or social issues (Business Wire, 2004; Nowak *et al*., 2006). An environmentally friendly approach is a key factor in attracting interest from millennials (Henrichs, 2008) because this consumer group is more likely to take on pro-environmental behaviours compared to other groups (Awad, 2011; Lee, 2008, Muposhi *et al*, 2015). Although millennials are clearly distinctive from other generations in terms of their decision making, rationales and value drivers (Boyd, 2010), they remain poorly understood (Phillips, 2007). It is argued that Millennials are defined by a combination of their demographic cohort, values, life experiences, and buying behaviours (Lee, 2003; Ordun, 2015). This cohort is described as the most consumption orientated of all generations, however the hardest to reach through advertising (Sullivan & Heitmeyer, 2008). At times, their principle concerns are self-gratification, whereas at other points it becomes social improvement (Boyd, 2010). Therefore, much data is needed to accurately pin the millennial generation's values and beliefs (Hershatter & Epstein, 2010). Published literature pertaining to this generation's environmental behaviour patterns is still lacking, particularly in the South African context (Synodinos & Bevan-Dye, 2014).

Despite minimal literature, the millennial consumers do symbolise the future of the environment and have the potential to drive green consumerism (Lee, 2008). Even though this consumer group can push forward green consumerism there is empirical evidence that suggest an existence of a 'green paradox' (Pettit & Sheppard, 1992; Muposhi, Dhurupm & Surujlal, 2015). This sustainability dilemma arises from the mismatch between actual behaviour and the reported increase in environmental concern among these consumers (Muposhi *et al*., 2015, Tseng & Hung, 2013). Despite increasing concern with sustainable production and consumption (de Barcellos, Krystallis, Saab, Kugler & Grunert, 2011), some evidence seems to suggest that their actual eco-friendly behaviour has not kept pace with their growing concern for the environment (Johnstone & Tan, 2014). Studies have also shown that although people may develop an intention to change their behaviour and become eco-friendly, they might not take action (Sniehotta, Scholz & Schwarzev, 2005). To protect our environment, it is therefore essential to understand whether consumers can make sustainable responsible decisions at the time of clothing disposal (Bianchi & Birtwistle, 2012).

2.7 ENVIRONMENTALLY FRIENDLY DISPOSAL METHODS

Another opportunity for consumers to protect the environment and make pro-environmental decisions, is at the point of clothing disposal (Bianchi & Birtwistle. 2012). Over the years consumers have realised that their purchasing behaviour can have a direct impact on the environment (Montoro-Rios *et al*., 2006). Behaviour with regards to sustainable clothing acquisition practices has been studied by many researchers (Laitala, 2014) but the disposal element is a relatively new area often overlooked in consumer and marketing research (Holbrook, 1995; Domina & Koch, 1997, 1999, 2002; de Colverly *et al*., 2003; Bianchi & Birtwistle, 2012)

Disposal refers to the act of getting rid of something (Laitala, 2014). This final component, also known as the post-purchase stage of consumer behaviour (Bianchi & Birtwistle, 2012), is basically about the reusing, recycling or discarding of clothing (Morgan & Birtwistle, 2009). Various studies (Shim, 1995; Domina & Koch, 1999; Birtwistle & Moore, 2006; Morgan & Birtwistle, 2009; Bianchi & Birtwistle, 2012; Meyer, 2013) have studied the disposal behaviour of clothing, but research is limited within emerging developing countries, especially research that is specifically focused on millennials. According to studies conducted abroad, consumers dispose of clothing by donating to family/friends, donating to organisations/charities, reselling, and throwing away into rubbish bins (Domina & Koch, 1999; Birtwistle & Moore, 2006). Unfortunately, clothing products seem to be mostly discarded and end up in municipal landfills (Bianchi & Birtwistle, 2012). In this regard, it may be said that the average consumers understanding, and knowledge of waste management issues is still relatively limited and poor (Robinson & Read, 2005). Because such discarding behaviour of clothing negatively affects the environment, consumers are encouraged to get rid of unwanted clothing in pro-environmental way, such as donations, reselling or recycling (Joung, 2013)

2.7.1 Donating to charities / organisations / family and friends

A study found that donation to non-profit organisations and giving away to family and friends are popular options for clothing disposal (Koch & Domina 1999). The clothing is either donated to charities or non-profit organisations with charitable purposes or alternatively handed down to family/friends, all of which yield no economic benefits for the donator (Laitala, 2014). The selection of particular charities is often less important (Birtwistle & Moore, 2007). The more significant issue at stake is that this form of disposal not only reduces waste and prolongs the lifespan of the clothing, it also contributes to solving problems related to poverty (Meyer, 2013).

An important reason for donating clothing includes helping the needy (Shim, 1995; Koch & Domina, 1999; Baker, 2011), which is associated with altruistic values. Altruistic values highlight a consumer's concern for the well-being of others (Alibeli & White, 2011). As an example, Woolworths, a well-known South African retailer, donates millions worth of clothing to underprivileged South Africans through local charities (Woolworths Holding Limited (WHL), 2017). Donating to family and friends may also be less about re-using the item, but rather more about helping others and sharing valuable belongings (Bianchi & Birtwistle, 2012). Bianchi and Birtwistle (2010) found that Australian fashion innovators that are aware of the environment were more likely to donate their clothing to organisations or family/ friends. Koch and Domina (1999) also found that giving clothing away to family/friends is one of the preferred methods of clothing disposal. However, their study did not specifically highlight the relevance of this disposal method in terms of activewear and therefore questions still remain as to whether consumers would be willing to donate activewear.

2.7.2 Reselling

Reselling refers to the practise of exchanging clothing for money through different channels such as consignment/ vintage stores, internet, garage sales or flea markets (Joung & Park-Poaps, 2013; Laitala, 2014). Consumers use online platforms (e.g. eBay), which allows them to sell goods directly to other consumers (Joung & Park-Poaps, 2013). Vintage shopping seems to be a particular trend amongst teenagers (Hardy, 2013). There also seems to be a large second-hand clothing movement in South Africa whereby consumers sell their unwanted clothes to a store owner, and the store owner in turn sells the clothes to other consumers at an affordable price (Meyer, 2013). This type of disposal method benefits the consumer and the less privileged who can then afford to buy clothing at significantly lower prices (Meyer, 2013). Yet, few people seem to realise how much used clothing is profitably sold abroad, and those who are somewhat more informed are completely unaware of the second-hand clothing trade's value, scale and impact (Norris, 2012). Again, the question remains whether it is a viable option in terms of activewear, as limited empirical findings exist in this regard.

2.7.3 Recycling

Recycling is a voluntary environmental protection activity, which consumers are often encouraged to participate in (Dahlen & Lagerkvist, 2010). However, in South Africa, recycling is still seen to be a fairly new concept (Meyer, 2013). Recycling involves taking redundant materials and transforming them to become re-useable in a number of ways (Meyer, 2013).

As mentioned before, Nike Inc i recycles shoes so that it can be re-used for other purposes (Nike, 2015). The advantages of recycling comprise both environmental and economic benefits (Morgan & Birtwistle, 2009). However, Morgan and Birtwistle's (2009) study on young female consumers revealed that these consumers are unaware of the need for clothing recycling and were particularly disinterested in recycling initiatives. Factors that can inhibit recycling include perceived lack of incentive to recycle, apathy towards recycling, lack of awareness of recycling provision and operational problems (e.g. householders having insufficient space to store recyclables) (Robinson & Read, 2005). Similar to the study of Morgan and Birtwistle (2009), Joung and Park-Poaps' (2013) study also found that even when young consumers are aware of pro-environmental clothing disposal options, they might still choose to discard their no longer needed clothes by simply throwing them away. It thus becomes apparent that there is a need for more research about the barriers (internal and external) that prevent sustainable clothing consumption and more specifically pro-environmental disposal (Hiller-Connel, 2010). Such research should however be guided by supporting theories, which is the focus of the sections to follow.

2.8 SUPPORTING THEORIES

The development of models to explain and predict pro-environmental behaviour has become an important aspect of environmental research (Taljaard, 2015). The Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975) and the subsequent Theory of Planned Behaviour (TPB) (Ajzen, 1991) are especially well researched intention models that have proven successful in predicting and explaining behaviour across a broad range of domains including pro-environmental behaviour (Yousafazi, Foxall & Pallister, 2010). Both models were designed to provide explanations of informational and motivational influences on behaviour (Connor & Armitage, 1998).

2.8.1 The Theory of Reasoned Action (TRA)

The TRA is a model about the determinants of consciously intended behaviours that assumes individuals are usually logical and will consider the consequences of their actions before deciding whether to perform a given behaviour such as recycling (Yousafzai, *et al*., 2010; Ajzen & Fishbein, 1980). According to the TRA, presented in Figure 1, behavioural intention is the immediate predecessor of individual's behaviour and suggest that most behaviours of social relevance are under volitional control and are thus predictable from intention (Fishbein

& Ajzen, 1985). TRA postulates that a person's behaviour is a result of their intention (Fishbein & Ajzen, 1980) with the assumption that the behaviour is under complete control of the individual (Conner & Armitage, 1998).

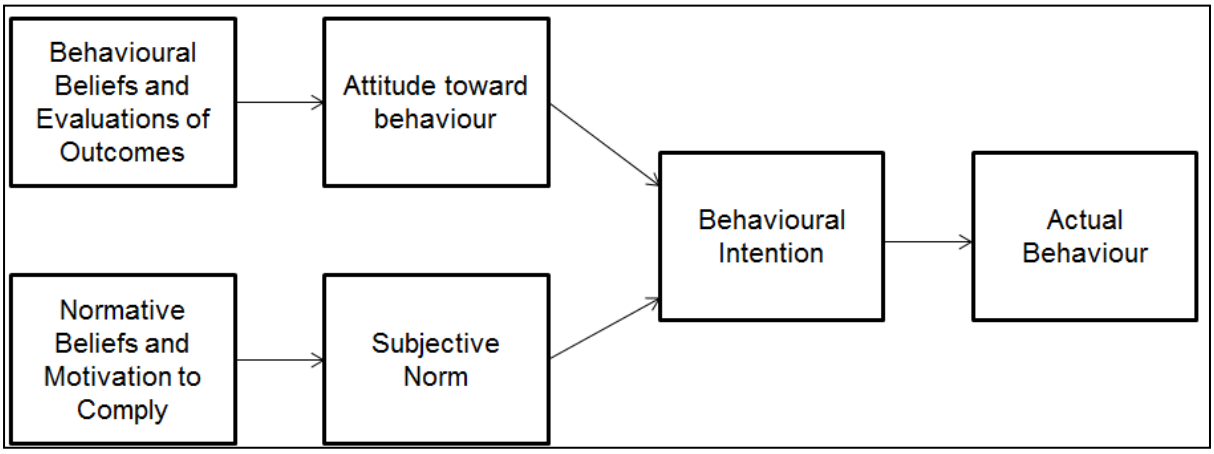

FIGURE 2.1. THEORY OF REASONED ACTION (FISHBEIN & AJZEN, 1975)

As illustrated in Figure 2.1 TRA suggests that behavioural intention, which are the immediate antecedents of behaviour are a group of beliefs about the possibility that performing a particular behaviour will lead to a desired outcome (Madden, Ellen & Ajzen, 1992). Fishbein and Ajzen (1975) divide the beliefs into two conceptually distinct sets: behavioural and normative. It is however important to note that certain behaviours, requiring skills, resources or opportunities that are not freely available, are not considered to be within the domain of applicability of the TRA (Conner & Armitage, 1998). In an effort to acknowledge situations whereby an individual does not have complete control over the behaviour in question, Ajzen (1985) extended the TRA by incorporating the notion of perceived control over behavioural achievement as a determinant of behavioural intentions and behaviour (Madden, Ellen & Ajzen, 1992).

2.9 THE THEORY OF PLANNED BEHAVIOUR (TPB)

According to the TPB, human behaviour, such as the disposal of apparel, is guided by an additional belief about the presence of factors that may help or inhibit performance of the behaviour and the perceived power of these factors (control beliefs) (Ajzen, 1971; 2002). Control beliefs give rise to perceived behavioural control, the perceived ease or difficulty of

performing behaviour (Ajzen, 1985). Ajzen noted that most behaviour are located at some point along a continuum that extends from total control to complete lack of control (Godin & Kok, 1996). The person has total control when there are no practical constraints to the adoption of a given behaviour (Godin & Kok. 1996). At the opposite extreme, if adoption of the behaviour requires opportunities, resources, or skills that are currently lacking, the person has a complete lack of control (Godin & Kok. 1996). The more resources and opportunities individuals think they possess, the greater should be their perceived behavioural control over the behaviour (Madden, Ellen & Ajzen, 1992).

Figure 2.2 schematically illustrates the TPB with perceived behavioural control (PBC) included as an exogenous variable that has both a direct effect on behaviour and indirect effect on behaviour through intentions (Madden, Ellen & Ajzen, 1992). It may also have specific implications pertaining to the relationship between behavioural intention and actual behaviour (Turaga, Howarth & Borsuk, 2014). This concept encompasses situations where a consumer may not have complete control over the behaviour, a consideration that does not feature in the initial TRA (Ajzen, 1991). PBC is said to have a significant influence on waste behaviour (Godfrey, Scott, Difford & Trois, 2012). In summary, the TPB hypothesises that intentions are influenced by attitude, the subjective norm and PBC (Tonglet *et al.,* 2004). For the purposes of this study, particular attention is devoted to the concept of PBC.

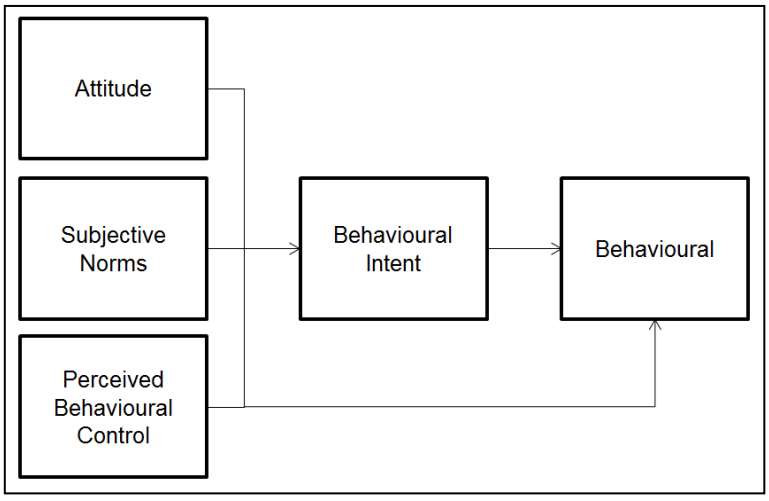

FIGURE 2.2. THEORY OF PLANNED BEHAVIOUR (AJZEN, 1985)

2.10 PERCEIVED BEHAVIOURAL CONTROL (PBC)

PBC is the extent to which a person believes the behaviour is under his/her voluntary control (Trafimow, Sheeran, Conner & Finlay, 2002). PBC is a significant predictor of behavioural

intent (Taljaard, 2015). A high level of PBC should strengthen a person's intention to perform the behaviour (Ajzen, 2002). Ajzen (1991) has also described it as the individual's perception of the ease or difficulty of performing a specific behaviour such as disposing of activewear in an eco-friendly manner. PBC is typically operationalized by asking respondents directly how much control they have over the behaviour of interest, and how easy or difficult performance of the behaviour is likely to be (Tonglet *et al*., 2004). It is important to note that perceptions of 'under my control/ not under my control' and the 'ease or-difficulty' of performing a behaviour are not necessarily the same concepts (Trafimow, *et al*., 2002.) Trafimow *et al*. (2002) argued that perceived difficulty and perceived control are separate constructs although they are not completely independent from each other. Numerous studies have drawn a distinction between 'control' vs 'difficulty' as components of PBC (Armitage & Conner, 1999a, 1999b; Terry & O'Leary, 1995; Trafimow & Trafimow, 1998; White, Terry & Hogg, 1994). Studies have shown that control and difficulty both predict intentions interdependently (Trafimow & Trafimow, 1998). Chan & Fishbein (1993) established in their study on the use of condoms how women found it embarrassing to tell their partners to use condoms and therefore viewed the behaviour as difficult despite the fact that the behaviour in question was clearly under their volitional control.

Terry and O'Leary (1995) have used the term 'self-efficacy' to refer to internal constraints, which is also referred to as 'perceived difficulty'. Self-efficacy is said to reflect internal factors whereas controllability reflects external factors (Ajzen, 2002). The perceived ease or difficulty of performing behaviour reflects beliefs about the presence of internal factors that may either aid or hinder the performance of the behaviour (Ajzen, 2002). Some factors include skills and willpower which are internal to an individual while other factors include task demand or the actions of another person/ organisation such as activewear manufacturers and retailers, which are external to an individual (Ajzen, 1985). 'Perceived control' thus refers to the extent to which the behaviour is perceived to be under a person's voluntary control, also known as 'controllability).

2.10.1 Self-efficacy

Bandura (1997) states that 'perceived self-efficacy refers to 'beliefs in one's capabilities to organize and execute the courses of action required producing given attainments'. He also stated that perceived self-efficacy is concerned not with the number of skills you have, but rather with what you believe you can do with what you have under a variety of circumstances

(Bandura, 1997). A suitable definition for self-efficacy would then be the level of confidence an individual has in their *capabilities* to perform a specific behaviour (Ajzen, 2002).

Self-efficacy was introduced to deal with coping behaviour in the context of behaviour modification (Ajzen, 2002). Self-efficacy focuses on the confidence the consumer has on his/her ability to perform a particular behaviour such as recycling (Ajzen, 2002). Self-efficacy also involves the *ease or difficulty* the individual perceives in performing the behaviour. Not only does self-efficacy have a direct influence on the choice of behaviour (e.g. particular disposal method) but also the *expectations* of eventual success (Bandura, 1977). With self-efficacy, the concern is with control over the behaviour itself i.e. the individual's perceived ability to recycle, and not with control over outcomes or events that may transpire from recycling such as reduced textile waste (Ajzen, 2002).

Self-efficacy has been used to refer to internal constraints, which is a more specific use of the term compared to Bandura's interpretation (1977) (Terry & O'Leary, 1995). Individuals tend to avoid situations that they believe exceed their coping skills, whereas they get involved in activities and behave confidently when they judge themselves capable of handling the situation (Bandura, 1977). They may for example believe it is easier to dispose of activewear by simply discarding it to landfill, rather than recycling, reselling or donating it. Individual's persistence and efforts will be dependent on their level of self-efficacy (Holloway & Watson, 2002). These expectations of difficulty will influence how much effort and how long an individual will persist if faced with obstacles during the behaviour (Hussein & Zolait, 2014). Self-efficacy may therefore also be seen a significant predictor of waste management behaviour (Barr, 2005).

Items concerned with the ease of difficulty of performing a behaviour, or confidence in one's ability to perform it, are often said to measure self-efficacy and they are contrasted with items that address control over the behaviour, or the extent to which its performance is up to the actor (Armtiage & Conner, 1999; Terry & O'Leary, 1995). Empirical research provides considerable evidence for the distinction between measures of self-efficacy and measures of controllability (i.e. beliefs about the extent to which performing the behaviour is up to the consumer) (Ajzen, 2002)

2.10.2 Controllability

Controllability refers to an "external locus of control" which comprises of external factors that do not fall under the individual's perceived influence (Ajzen, 2002). Controllability involves a consumer's belief regarding the level of control over the behaviour and whether the performance or non-performance of the behaviour is up to them (Ajzen, 2002; Kraft, Rise, Sutton & Roysamb, 2005). It is possible that people perceive control as a dichotomous issue whereby an action is either controllable or uncontrollable (Trafimow, *et.al,* 2002). Previous studies have shown that controllability added significantly to the prediction of behaviour but not necessarily to the predictions of intentions (Ajzen, 2002)

The controllability a consumer has towards behaviour can be measured by the presence and extent of factors that either facilitate or hinder a performance (Godfrey, Scott, Difford & Trois, 2012). These factors can include constraints and opportunities provided by the environment such as lack of resources or in this case lack of textile recycling facilities (Taljaard, 2015). Factors that will be addressed in this study include cost, time and convenience/accessibility of environmentally friendly disposal options.

2.10.2.1 Cost

Financial circumstances can inhibit a consumer to behave in an environmentally friendly manner (Kim & Holler, 2010). Economic aspects firmly influence individuals' choices, actions and ultimately their pro-environmentalism (Kollmuss & Agyeman, 2002). Recycling of apparel has not been fully exploited due to the fact that it is seen as uneconomical (Larney & van Aardt, 2010). Programs such as "curb-side collection", where recyclables are collected from the home can increase the volume collected, with minimal effort from the consumer (Domina & Koch, 2002). There is however a financial burden that falls on the businesses with no financial incentive to recycle. Some retailers and business therefore seem to steer clear from recycling programmes (Parsons & Kriwoken, 2010). In order to make donation a possiblity and prevent discarding of unwanted clothing items, drop-off sites and collection bins should be available and accessible (Joung & Park-Poaps, 2013). These type of programs and services cost sufficiently high, so the price of disposing in an eco-friendly manner can fall on the public and industry to pay subsidies (Domina & Koch, 2002).

On the other hand, monetary incentives or rewards can promote pro-environmental behaviours such as recycling and reusing (Joung & Park-Poaps, 2013). Money gained from

reselling is mostly regarded as a profit since the expected return was initially zero (Chu & Liao, 2007). Small and medium sized enterprises (SME) that were willing to recycle noted that information regarding methods to minimize the actual costs of recycling was of great importance (Parsons & Kriwoken, 2010). For these reasons emphasis should be placed particularly on minimizing the cost of recycling for SMEs and making recycling financially beneficial (Parsons & Kriwoken, 2010).) Joung and Park-Poaps (2013) findings indicated that economic concerns predicted both resell and reuse behaviours. More specifically, consumers want to save money, therefore they will choose the cheapest disposal method.

2.10.2.2 Time

Initiatives such as “drop off collection” requires the consumer to take recyclables to a drop off site and sort the materials into material specific containers which may require more time and effort, time that the consumer may not have (Domina & Koch, 2002). A survey done by Glass Packaging Institute (GPI) revealed that millennials have a high intent to be eco-friendly but exhibited low action especially when it comes to recycling. Millennials are least likely of any generational age group to take the time to separate their recyclables (GPI, 2014).

Public participation is crucial in recycling programs to increase recycling rates (Thomas, 2000) and therefore much effort should be directed toward making it quick and easy. Millennials have been brought up in a fast-paced, instant world that is always moving and changing (Burgess, 2008) and are less likely to participate in activities that will take too much time. Time is an aspect that relates closely to convenience or accessibility of eco-friendly disposal methods. Morgan and Birtwistle (2010) study suggested that clothing donation bins should be situated in areas that are convenient for consumers to access. This could reduce the perceived amount of time a consumer may think he/she needs to have to donate the clothing. If the bins are situated in areas inconvenient for the consumer, he/she may not have the time find other collection bins. When deciding to use doorstep collection for recyclables, the least time and effort required from the householder involves placing all recyclables materials into a carrier bag and leaving it open at the top so that the refuse collectors can see inside that the contents are recyclable (Robinson & Read, 2005). With regards to reselling, without adequate planning it is more difficult for consumers to generate online resell intentions (Chu & Liao, 2007). Millennials may not have this time to plan how they are going to resell their activewear and could therefore just throw away the clothing items. Even though millennials are concerned about the proliferation of landfills (GPI, 2014), they are still more willing to show their eco-

friendliness by purchasing sustainable products than recycling. This may be due to the inconvenience and limited access to eco-friendly disposal methods.

2.10.2.3 Convenience/ accessibility

Researchers have noted that discarding of clothing and participation in recycling programmes is related to convenience and accessibility (Folz, 1991; Domina & Koch, 2002; Joung, 2013). Empirical findings presented by Domina and Koch (2002), noted that textiles that are in good condition are mostly donated, but damaged and worn-out textiles are thrown in the trash as a convenient means of disposal. This may have implications for activewear since clothing items are worn regularly and to end life phase, however there is limited literature on the longevity of activewear. Koch and Domina (1999) found that convenience with the recycling process were the reasons consumers chose a textile disposal option. The study also found that consumers did not participate in recycling textile waste because current recycling programmes did not include textiles, and they liked to avoid the hassles (Koch & Domina, 1999). In Morgan and Birtwistle's (2009) study, it was found that the choice of charity was determined by convenience, confirming the findings of Domina & Koch's study (2002)

In addition, Joung and Park-Poaps (2013) found that convenience explained discarding behaviour. The convenience of and accessibility to recycling programs significantly increased participation in household recycling because consumers felt that it took less time and effort (Joung & Park-poaps, 2013). Similarly, Derksen & Gartrell (1993), found that communities with access to recycling programmes had a higher level of participation in recycling. In Shim's (1995) seminal study, it was found that college students simply discarded their clothing items because it was more convenient than taking them to a charity or recycling the item. Boldero (1995) also argues that recycling behaviour is likely influenced by situational factors such as inconvenience.

2.11 PROPOSED CONCEPTUAL FRAMEWORK

Based on the review of literature presented in the preceding discussions and the overarching aim of the study, TPB will be used as the underlying theoretical approach to explore millennial consumers' pro-environmental intent and disposal of activewear. The primary focus will be on one of the three main determinants of intent, namely PBC with specific attention devoted to two sub-dimensions of PBC namely self-efficacy and controllability in addition to situational factors (cost, time and convenience/ accessibility) that may impact on Millennials' perceived behavioural control. The conceptual framework (Figure 2.3) illustrates the potential interrelationship of these constructs, which has to date been the topic of extensive debate among scholars who have used Ajzen's (2002) TPB model to interpret various types of behaviour. According to a meta-analysis on the TPB, Armitage and Conner (2001) suggested that controllability was a better predictor of behaviour than self-efficacy and needed further investigation. In the framework, self-efficacy and controllability are illustrated as influencers of pro-environmental intent, but the potential influence of controllability in terms of actual eco-friendly disposal methods is also acknowledged.

For this study, eco-friendly disposal methods are interpreted as donating (to organisations/ family/ friends), reselling and recycling. These methods may be inspired by underlying environmental reasons, although recycling and reselling are also known to have economic reasons, while donating may include altruistic reasons. Even though discarding is not considered an environmentally friendly disposal option, it was nevertheless included in the framework to acknowledge the intent-behaviour gap whereby Millennials demonstrate a pro-environmental willingness/ intent, but eventually do not engage in environmentally friendly disposal behaviour because of underlying circumstances such as the inconvenience/ inaccessibility of pro-environmental options.

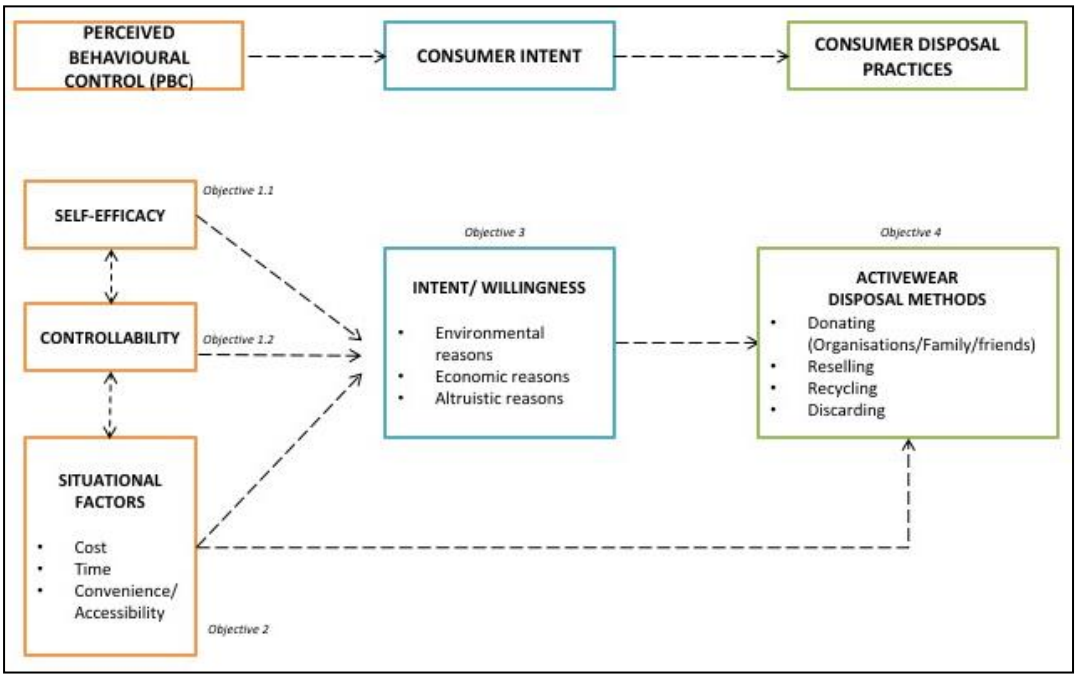

FIGURE 2.3 CONCEPTUAL FRAMEWORK (ADAPTED FROM AJZEN'S (2002) THEORY OF PLANNED BEHAVIOUR)

Following the specification of an appropriate conceptual framework, the objectives are seen to be clearly integrated with the underlying theoretical basis of the study, and for the purpose of clarity, re-iterated as follows:

Objective 1: To explore and describe Millennials' perceived behavioural control in terms of two sub-dimensions namely;

1.1. *self-efficacy* i.e. the level of confidence Millennial's have in their own capabilities to dispose of activewear in an eco-friendly manner (i.e. to donate, recycle and/ or resell); and

1.2. *controllability* i.e. Millennials' beliefs regarding the level of control they have over factors that might inhibit or promote the eco-friendly disposal of active wear.

Objective 2: To investigate *situational factors* (including *cost, time* and *convenience/ accessibility* of eco-friendly disposal methods) that may influence Millennials' perceived behavioural control.

Objective 3: To determine Millennials' *intent* regarding the disposal of unwanted activewear and whether such intent be motivated by environmental, economic and/ or altruistic reasons.

Objective 4: To determine Millennials' preferred method of *activewear disposal* including options such as *donating* (to organisations/ family /friends), *reselling, recycling* or simply *discarding* to landfill.

Objective 5: To explain the interrelationship of Millennials' perceived behavioural control, situational factors surrounding the behaviour in question, pro-environmental intent and their preferred method of activewear disposal.

2.12 CONCLUSION

In this chapter, an overview of the main topics and concepts that formed the basis of the research study were provided, which include, amongst other, climate change and global warming, the environmental impact of the clothing and textile industry, the significance of clothing and textile waste and the need for pro-environmental consumer behaviour. This chapter also includes an overview on the millennial consumer group and environmentally friendly clothing disposal methods. The last section of the chapter explains and discusses the theory applied in this research study, namely The Theory of Planned Behaviour (TPB), focusing on the third determinant specified in the TPB framework i.e. perceived behaviour control (PBC). This construct was implemented in terms of two sub-dimensions, namely self-efficacy and controllability, which seems particularly appropriate for the purpose of this study. By integrating the literature and the underlying theoretical approach, a proposed conceptual framework was developed for this study that resulted in specific objectives that were formulated for the research.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter describes the research methodology employed in this study. This includes the chosen research design and approach, the sample and sampling methods, questionnaire development, an operationalization table, data collection and analysis. The chapter concludes with a description of how the quality of the data was enhanced, along with the ethical aspects that were considered.

3.1 INTRODUCTION

The following section of this research study is intended to introduce and explain how the research was executed. The research design is discussed first, along with the approach used for this research study in addition to the methods used to obtain the information. After that the sample and sampling techniques used to obtain an adequate and valid sample are discussed, followed by the development of the instrument. A subsequent section relates to the data collection methods and the methods of data analysis. An operationalization table is presented to show the development of the questionnaire in accordance with the specified objectives and conceptual framework. The steps taken to ensure quality of the data including the validity and reliability of the results are explained and lastly, the ethical procedures that were followed throughout the research study are discussed.

3.2 RESEARCH DESIGN AND APPROACH

The overarching aim of this study was to explore and describe millennial consumers' pro-environmental intent and disposal of their activewear. To date limited empirical findings exist in this regard and the proposed study was thus exploratory and descriptive. Exploratory research places major emphasis on the discovery of new ideas and to explore the research

topic with varying levels of depth (Kothari, 2004; Zikmund & Babin, 2013; Dudovskiy, 2016). Descriptive research describes a population with respect to an important variable and is relevant when the purpose of the study is an accurate description of a situation (Kothari, 2004; Zikmund & Babin, 2013), in this case disposing of activewear in an eco-friendly manner. In other words, the main purpose of descriptive research is bringing attention to current issues through a process of data collection that enables the researcher to describe the situation (Dubovskiy, 2016). It may describe the characteristics of a certain group (i.e. Millennials) and determines the proportion of people who behave in a certain way (Zikmund & Babin, 2013; Dubovskiy, 2016). The main characteristic of this approach is that the researcher has no control over the variables and can only report what has happened or what is happening (Kothari, 2004).

Furthermore, a survey research design was employed. Survey research involves getting information about one or more groups of people by asking them questions and putting their answers into tables (Leedy & Ormrod, 2013) A quantitative approach was followed, which is based on the measurement of quantity or amount, which invariably involves measuring one or more variables in some way (Kothari, 2004; Leedy & Ormrod, 2013). It is applicable to phenomena that can be expressed in terms of quantity (Kothari, 2004). Figures, calculations and other statistical methods were used to explore and describe the study subjects so that there was a precise understanding of the research problem (Zikmund & Babin, 2013). Empirical assessments were made that involved a numerical measurement with an analytical approach (Zikmund & Babin, 2013). This research can further be classified as a cross-sectional study (Leedy & Ormrod, 2013), which drew a sample of elements from the population of interest at a specific point in time. The characteristics of elements or sample members are therefore measured only once (Leedy & Ormrod, 2013).

3.3 SAMPLE AND SAMPLING

The target population for this study was consumers who follow an active lifestyle (Leask, Fyall & Barrron, 2014). Participation in physical activity was an important prerequisite for participation in this study. Even though the use of activewear is changing to leisure everyday-wear, it is important that the participants took part in at least one physical activity to ensure that, at some point, activewear has been purchased and used. It is further said that participation in sport is higher among the younger people, students and those in a higher income bracket (Bennett & Lachowetz, 2004).

For the purpose of this study, age was the only demographic prerequisite stipulated for participating in this study. This study specifically focused on the Millennials who are born between 1981 and 2000 (Branscum & Sciaraffer, 2013) but excluded those younger than 18 because it would have added the complexity of obtaining permission from parents of minors to participate in the study. Furthermore, consumers who have just reached the age of 18 and beyond are an important target population for businesses, because they are on the verge of becoming a significant purchasing power in the consumer market (Forbes, 2014). The focus on this generational cohort was further inspired by the fact that they tend to be more supportive of social causes and corporations who are socially responsible such as Nike Inc (Valentine & Powers, 2013).

In terms of gender, both male and female respondents were included in this study to allow for a broader scope of potential participants. Findings pertaining to eco-friendly behaviours for example show that women are more involved in water conservation than men (Mainieri *et al.,* 1997; Dietz *et al.,* 1998; Tanner, 1999). Even though reports indicate that male respondents may not be involved in environmentally friendly behaviour to the same extent as females (Meyer, 2013), males tend to actively participate in sport activities and therefore needed to be included in this study (Bennett & Lachowetz, 2004). For these reasons and in accordance with the views expressed by authors such as Vicente-Molina *et al* (2013), who emphasise that gender variables are important in explaining pro-environmental behaviour, both genders were included in the study sample.

In terms of geographical location, it is important to note that respondents who were recruited for this study, were members of the Consulta Research (online) community panel, thus incorporating Millennials who were spread over a wide geographical scope within the South African borders. Consulta Research was founded in 1998 by Professor Ande Schreuder and is currently recognised as one of the top market research providers in the Southern African market research industry. The Consulta community panel was established to provide a quick, cost effective and easy way for researchers to gather valuable insight about consumers' preferences and behaviour (ConsultaPanel, 2017).

Based on the aforementioned specifications for the envisaged sample, a non-probability, convenience and purposive sampling methods was chosen for the study. Convenience sampling cannot guarantee that each element of the population will be represented in the sample, e.g. respondents mostly resided in Gauteng rather that the broader geographical scope of South Africa. Purposive sampling however ensured that participants included in the study could provide an experienced perspective on the issue (Leedy & Ormrod, 2013). For

example, participants who participate in physical activity were more likely to purchase and dispose of activewear. To increase the significance and validity of the study, effort was made to include a larger research sample (N = 299). Yet, it is acknowledged that due to the nature of non-probability sampling, results of the research cannot be generalized and is not representative of the entire population (Explorable.com, 2009).

3.4 INSTRUMENT DEVELOPMENT

A structured self-administered questionnaire was developed for the purposes of this study, which consisted of various sections (Addendum A). Most sections included existing scales that were adapted to address the objectives of this study. A draft questionnaire was created for the purpose of a pilot test where the question wording and format was tested before commencement of the main study (Radharkrishna, 2007). Sections included in the questionnaire were as follows:

Section A: Physical activity

This short section consisted of three questions regarding the respondents' involvement in physical activity and five questions pertaining to the respondents' familiarity with the purchasing of activewear.

Section B: Activewear disposal methods

This section dealt primarily with the fourth objective i.e. to determine the Millennials' preferred method of activewear disposal and the underlying reasons for their method of choice. It contained 20 statements regarding the disposal methods in question including donation, recycling, reselling and discarding. These scale items were based on Shim's (1995) and Meyer's (2013) studies. The rating scale in this section, namely a five point Likert scale, had response options ranging from one (indicating *"Never"*) to five (representing *"Always"*)

For the purpose of this study, the scale items were divided into four broad categories, namely, donating (six items), reselling (seven items), recycling (four items) and discarding (three items). Items that focused on charity- and environmentally-motivated donation were adapted from Meyer (2013) and Shim's (1995) original scale to explore donation as a method of activewear disposal. Similarly, economically- and environmentally-motivated resale items were adapted from the original scale proposed by Shim (1995) and Meyer (2013) to address Millennials' propensity to resell activewear. Items pertaining to discarding were also adapted

from Shim's (1995) original scale to explore convenience as the underlying reason for discarding activewear to landfill. Items used to measure recycling were also patterned after Meyer's (2013) scale, who originally adapted items from Shim's (1995) study to comply with prevailing conditions in the local context. All the items' wording was edited to enhance readability, comprehension and applicability in terms of the topic of investigation, namely the disposal of activewear.

Section C: Willingness

This section addressed the third objective of this study, which was focused on respondent's intent (i.e. willingness) to donate, resell or recycle unwanted activewear. Six items were used to measure willingness based on environmental reasons (recycle, resell), three to measure for economic reasons (resell) and three to measure for altruistic reasons (donate). Scale items were patterned after items used in prior empirical research by Ajzen (2002) Bamberg (2007) and Taljaard (2015), who applied the TPB to interpret various types of behaviour. Responses were measured on a five-point Likert scale, where one indicated strong disagreement and five, strong agreement.

Section D (i): Self-efficacy and controllability

This section focused on the first objective of the study and included 18 statements related to the level of control and self-efficacy of disposing unwanted activewear in an eco-friendly manner. The rating scale in this section also comprised of a five-point Likert scale that had response options ranging from one ("*Strongly disagree*") to five ("*Strongly agree*"). Existing scales developed by Ajzen (2002) and Tonglet, *et al*. (2004) in addition to recycling literature and previous applications of the TPB (Beck & Ajzen, 1991; Boldero, 1995; Davies, *et al.,* 2002) were all used as a basis and then further adapted to measure how much control respondents believed they had over the disposal of activewear, and how easy or difficult they deemed the performance of the behaviour to be (Tonglet *et al.,* 2004).

Section D (ii): Situational factors

This section, which included 27 statements, addressed the second objective of the study by measuring the prevalence of specific situational factors that may influence respondents perceived behavioural control. The questions were patterned after existing scales, in particular those used in Tonglet *et al*.'s (2004) study. The scale items were adapted to fit each type of disposal behaviour in question and focused on specific aspects such as cost, time and

convenience/accessibility. Once again, the rating scale in this section was a five-point Likert scale that had response options ranging from one ("*Strongly disagree*") to five ("*Strongly agree*").

Section E: Demographics

This section addressed the respondents' demographic profile. Demographic variables included in this study were gender, age, population group or ethnicity, education level, employment status, residential area and personal monthly income.

TABLE 3.1 OPERATIONALIZATION

To explore and describe Millennials' perceived behavioural control in terms of two sub-dimensions namely

1.1 *self-efficacy* i.e. the level of confidence they have in their own capabilities to dispose of activewear in an eco-friendly manner (i.e. to donate, recycle and/ or resell); and

1.2 ***controllability* i.e. their beliefs regarding the level of control they have over factors that might inhibit or promote the eco-friendly disposal of active wear.**

Construct	Dimensions	Indicator & scale items	Data Analysis
Self-efficacy ***Scale items based on Ajzen (2002)*	Confidence in recycling capability	1. Recycling unwanted activewear is easy 2. I believe I have the ability to recycle unwanted activewear 3. I am confident that I will be able to recycle unwanted activewear	Exploratory factor analysis: Extraction Method: Principal Axis Factoring. Rotation Method: Varimax with Kaiser Normalization.
	Confidence in reselling capability	1. It is easy to sell unwanted activewear 2. I believe I have the ability to sell unwanted activewear 3. I am confident that I will be able to sell unwanted activewear	
	Confidence in donating capability	1. Donating unwanted activewear is easy 2. I believe I have the ability to donate unwanted activewear 3. I am confident that I will be able to donate unwanted activewear	
Controllability ***Scale items based on Ajzen (2002), Tonglet et al. (2004)*	Control over recycling	1. It is mostly up to me whether or not I recycle unwanted activewear 2. I have plenty opportunities to recycle unwanted activewear 3. Recycling unwanted activewear is beyond my control (*Reverse code*)	
	Control over reselling	1. It is mostly up to me whether or not I resell unwanted activewear 2. I have plenty opportunities to resell unwanted activewear 3. Reselling unwanted activewear is beyond my control (*Reverse code*)	
	Control over donating	1. It is mostly up to me whether or not I donate unwanted activewear 2. I have plenty opportunities to donate unwanted activewear 3. Donating unwanted activewear is beyond my control (*Reverse code*)	

To investigate *situational factors* (including *cost, time* and *convenience/ accessibility* of eco-friendly disposal methods) that may influence Millennials' perceived behavioural control.

Construct	Dimensions	Indicator & scale items	Data Analysis
Situational factors: recycle/ reuse ***Scale items based on Tonglet et al. (2004)*	Cost	1. Recycling is not a cost-effective way of getting rid of unwanted activewear 2. Recycling unwanted activewear is a waste of money 3. I do not have the financial privilege to recycle my unwanted activewear	Exploratory factor analysis: Extraction Method: Principal Axis Factoring. Rotation Method: Varimax with Kaiser Normalization.
	Time	1. Recycling unwanted activewear takes up too much time 2. I do not have time to recycle unwanted activewear 3. Recycling unwanted activewear is a waste of time	
	Convenience/ accessibility	1. Recycling unwanted activewear is inconvenient 2. It is just too much effort to recycle unwanted activewear 3. I do not know where to take my unwanted activewear for recycling	
Situational factors: resell	Cost	1. Reselling is not a cost-effective way of getting rid of unwanted activewear	

***Scale items based on Tonglet et al. (2004)*		2. Reselling unwanted activewear is a waste of money 3. I do not have the financial privilege to resell my unwanted activewear	
	Time	1. Reselling unwanted activewear takes up too much time 2. I do not have time to resell unwanted activewear 3. Reselling unwanted activewear is a waste of time	
	Convenience/ accessibility	1. Reselling activewear is inconvenient 2. It is just too much effort to resell unwanted activewear 3. I do not know where I can resell my unwanted activewear	
Situational factors: donate ***Scale items based on Tonglet et al. (2004)*	Cost	1. Donating is not a cost-effective way of getting rid of unwanted activewear 2. Donating unwanted activewear is a waste of money 3. I do not have the financial privilege to donate my unwanted activewear	
	Time	1. Donating unwanted activewear takes up too much time 2. I do not have time to donate unwanted activewear 3. Donating unwanted activewear is a waste of time	
	Convenience/ accessibility	1. Donating unwanted activewear is inconvenient 2. It is just too much effort to donate unwanted activewear 3. I do not know where I can donate my unwanted activewear	
To determine Millennials' *intent* regarding the disposal of unwanted activewear and whether such intent be motivated by environmental, economic and/ or altruistic reasons			
Construct	**Dimensions**	**Indicator & scale items**	**Data Analysis**
Intent/ willingness to recycle ***Scale items based on* Ajzen (2002), Bamberg (2007), Taljaard (2015)	Environmental reasons	**I would be willing to ….** 1. recycle unwanted activewear for the sake of the environment 2. recycle unwanted activewear to reduce environmental consequences 3. recycle unwanted activewear to reduce textile waste	Exploratory factor analysis: Extraction Method: Principal Axis Factoring. Rotation Method: Varimax with Kaiser Normalization.
Intent/ willingness to resell ***Scale items based on* Ajzen (2002), Bamberg (2007), Taljaard (2015)	Economic reasons	**I would be willing to ….** 1. sell unwanted activewear to save money 2. sell unwanted activewear for financial reasons 3. sell unwanted activewear because it benefits me financially	
	Environmental reasons	**I would be willing to ….** 1. sell unwanted activewear for the sake of the environment 2. sell unwanted activewear to reduce environmental consequences 3. sell unwanted activewear to reduce textile waste	
Intent/ willingness to donate ***Scale items based on* Ajzen (2002), Bamberg (2007), Taljaard (2015)	Altruistic reasons	**I would be willing to ….** 1. donate unwanted activewear for the needy 2. donate unwanted activewear to help others 3. donate unwanted activewear to benefit charities	
	Environmental reasons	**I would be willing to ….** 1. donate unwanted activewear for the sake of the environment 2. donate unwanted activewear to reduce environmental consequences 3. donate unwanted activewear to reduce textile waste	

To determine Millennials' preferred method of *activewear disposal* including options such as *donating* (to organisations/ family /friends), *reselling, recycling* or simply *discarding* to landfill.			
Construct	**Dimensions**	**Indicator & scale items**	**Data Analysis**
Reselling ***Scale items based on Shim (1995), Meyer (2013)*	Economic reasons	1. I sell my unwanted activewear for money 2. I trade activewear clothing at second-hand stores to save money 3. I sell most of my unwanted activewear clothing for financial reasons 4. I trade my old activewear clothing for other necessities	Exploratory factor analysis: Extraction Method: Principal Axis Factoring. Rotation Method: Varimax with Kaiser Normalization.
	Environmental reasons	1. I sell my unwanted activewear clothing because it can significantly benefit the environment 2. I sell my unwanted activewear rather than throwing it away because I'm concerned about textile waste 3. I sell my unwanted activewear that is in good condition to reduce my impact on the environment	
Donation ***Scale items based on Shim (1995), Meyer (2013)*	Altruistic reasons	1. I donate my activewear to charity for the needy 2. I give away my old activewear clothing to help others 3. I donate my unwanted activewear that is in good condition to benefit others	
	Environmental reasons	1. I give away old activewear to reduce waste 2. I donate my activewear to do my part in solving the environmental problem 3. I donate to charity because it is a good way of recycling old activewear clothing in an eco-friendly manner	
Recycling ***Scale items based on Shim (1995), Meyer (2013)*	Environmental reasons	1. I support recycling efforts that re-use old activewear to develop new eco-friendly products 2. If clothing recycle bins are available, I make use of them to dispose of unwanted activewear in an eco-friendly manner 3. I am involved in recycling efforts to do my part for the environment 4. I recycle old activewear to contribute to the conservation of the environment	
Discarding ***Scale items based on Shim (1995), Meyer (2013)*	Convenience	4 I throw old activewear items in the dustbin, because it is easiest way of getting rid of it 5 I throw away unwanted activewear garments, because it is convenient 6 I throw old activewear in bags for waste collection because that is the only way I feel comfortable disposing of it	
To explain the interrelationship of Millennials' perceived behavioural control, situational factors surrounding the behaviour in question, pro-environmental intent and their preferred method of activewear disposal.			Multiple regression analysis

3.5. DATA COLLECTION

Data was collected by Consulta Research. Consulta Research is a fully-fledged research supplier that prides itself in producing tangible and applicable results to give companies insight they can rely on when making business decisions (Consulta Research, 2017). Consulta gathered responses from a sample of 299 Millennial respondents with the aid of the structured questionnaire. The survey questionnaire was added to the Consulta online platform for

community members to fill in. Links were also added on social media sites such as Facebook to increase and broaden the response rate. An advantage of using an online survey is that it provides access to individuals who would be difficult to reach, such as Millennials in different provinces (Wright, 2017). Online surveys are also time and cost efficient (Lefever, Dal & Matthiasdottir, 2007). A disadvantage with a structured questionnaire is that the questions need to be short and simple and there is no opportunity to clarify any misunderstandings (Phellas, Bloch & Seale, 2011). Specifically, with regards to an online survey it automatically excludes individuals who do not have access to the internet, such as those who reside remote locations. The opportunity to probe respondents to elaborate on an answer, which can be very important when an open-ended question is being asked, is not possible (Bryman & Bell, 2011). For the purposes of this study, a questionnaire was developed that consisted mainly of closed-ended questions, thus eliminating the need for further elaboration on responses. The questionnaire developed for this study. To conclude the collection procedure the data was checked, organised and formatted for further data analysis.

3.6 DATA ANALYSIS

The data was converted into numeric expressions, which was then statistically analysed by means of SPSS software. To illustrate the findings the data was presented in graphs, tables and/or figure formats (Salkind, 2012; Fouché & Bartley, 2011). Descriptive statistics was used to analyse the demographic characteristics of the sample (section E of the questionnaire) and formed the initial basis of analysis for data that was gathered through sections A, B, C and D of the questionnaire. This analysis estimated what the population characteristics were and established basic descriptive statistics (i.e. frequencies, means and standard deviations). Sections B, C and D were then subjected to exploratory factor analyses (EFA). The aim of the EFA is to uncover the underlying structure of a set of variables from the data set (Bryman & Bell, 2011). The resulting set of variables is then interpreted in terms of existing theory and concepts. Multiple regression is used to establish the interrelationship between the single, metric outcome variables and two or more predictor variables (Blaikie, 2003:146). In this particular study, it assessed the influence of each predictor variable (i.e. self-efficacy, intent and various inhibiting situational factors) in terms of Millennials' disposal of unwanted activewear.

3.7 ENHANCING THE QUALITY OF THE DATA

To ensure quality of the data, the research study must have both validity and reliability (Leedy & Ormrod, 2013). Validity is the extent to which the instrument measures what it is planned to measure (Leedy & Ormrod, 2013) and reliability is an indicator of a measure's internal consistency (Zikmund & Babin, 2013). Validity and reliability have been incorporated into the research study in all the necessary sections. Steps taken to ensure quality are shortly summarised as follows:

Validity of a research project requires the use of a straightforward, truthful and dependable research design instrument (Leedy & Ormrod, 2013). Validity measures if the research is accurate, meaningful and credible (Leedy & Ormrod, 2013). There are two types of validity that were taken into account, namely internal and external validity. Validity was checked by means of content validity and construct validity prior to the main data collection process. The validity of the research was increased through the use of valid and tested scales and methods throughout the research study, which include the following:

- *Content validity* was checked by making sure that the measuring instrument covers all the important aspects of the topic of investigation (Flick, 2011)
- *Construct validity* checked whether the construct in the study method was linked to the variables that were theoretically justified (Flick, 2011:204). This validity was achieved by the literature review of the constructs and where suitable indicators were researched to measure the constructs i.e. operationalization (Bryman & Bell, 2011). Previous scales from past studies were used and adequately adapted and linked to the study objectives.

Reliability refers to internal consistency and soundness of a measuring instrument (Zikmund & Babin, 2013). The reliability of the study was increased through a number of aspects. A pilot test was conducted to eliminate any errors concerning the questionnaires prior to the main inquiry. A variety of dimensions were identified and used in different questions to ensure each specified objective was met. Scales from previous studies were used and can be assumed to be reliable. Detailed instructions accompanied the questionnaires and the identities of the respondents were kept confidential with no respondents being forced or intimidated into taking part in the research study. Incomplete questionnaires or questionnaires with confusing or ambiguous responses were not included into the final results

3.8 ETHICAL CONSIDERATIONS

Before commencing the data collection, approval was obtained from the Research Ethics Committee of the Faculty of Natural and Agricultural Sciences at the University of Pretoria (Reference Number: EC160621 – 048; Addendum B). Ethical issues were taken into consideration throughout the completion of the study to ensure that the individuals who participated in the study as well as the information that was generated would be treated in an appropriate manner. The following considerations as follows:

Confidentiality and anonymity: To ensure anonymity, a unique code was given and labelled on all documents concerned that respondent instead of the respondent's name (Leedy & Ormrod, 2013). Under no circumstances did the research report the nature and quality of the respondent's performance, as that will remain strictly confidential (Leedy & Ormrod, 2013).

Voluntary involvement: During the data collection the respondents were treated in a courteous and respectful manner (Leedy & Ormrod, 2013). Respondents were informed of the nature of the study and were given the choice of either participating or not participating (Leedy & Ormrod, 2013). If they did participate they were informed that that they were allowed to withdraw from the study at any point in time.

Objectivity: The findings were reported in a complete and honest fashion without any misrepresentation of the data (Leedy & Ormrod, 2013).

Declaration: A declaration of originality is submitted with the final dissertation to indicate that the definition of plagiarism is understood and that the work of others was referenced accordingly (included in Addendum C).

Contributing parties: Regarding the contributing parties such as the National Research Foundation (NRF) who funded the study, the researcher cooperated and complied with all their requirements.

3.9 CONCLUSION

This chapter describes the methodological aspect of the study. The study was based on a cross-sectional research design that focused on South African Millennials consumers, aged 18-35. The study used a non-probability, purposive sampling to reach respondents that participate in at least one physical activity. An online structured questionnaire was developed based on scale items used in previous studies. The questionnaire included mostly close ended questions concerning demographics and the perceived behavioural control constructs that were specified in the theoretical framework. Descriptive and inferential statistics were used including EFA and Multiple regression. Ethical issues were safeguarded by making the study voluntary and anonymous. The following chapter presents the results obtained from the questionnaire that was used in the study.

CHAPTER 4

RESULTS AND INTERPRETATIONS

This chapter gives an overview of the results of the study including characteristics of the sample. Analysis includes both descriptive and inferential statistical procedures. Results are organised and presented according to the study objectives. Objectives of the study are answered and explained with reference to existing literature.

4.1 INTRODUCTION

This chapter deals with the results of the research in relation to the problem statement and the objectives that were specified for the study. The prerequisite for participation was that respondents had to participate in at least one physical activity and that they had to be between 18 and 35 years old at the time of data collection (i.e. Millennials). A total of 299 respondents made up the eventual sample (N = 299). The respondents were members of the Consulta Research online consumer community. Members of this community reside across major metropolitan areas in South Africa and form part of different age groups, backgrounds, ethnicity and income levels.

In the section to follow, demographic characteristics of the sample are explained by means of tables, graphs and numerical summaries, such as frequencies and percentages, to present the results in a descriptive manner. Following that, sections of the questionnaire were subjected to Exploratory Factor Analysis (EFA) and multiple regression to interpret the results and indicate which perceived behavioural control construct influences and determines millennial consumers' pro-environmental intent and eco-friendly disposal behaviour. The results are structured and presented according to the main objectives of the research study and are discussed in relation to the problem statement with reference to existing literature.

4.2 DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE

Early findings by Shim (1995), already suggested that demographics influence clothing disposal patterns and environmental attitudes. Age has become a focal variable in current research since prior findings have shown that individuals of different age groups engage in different types of environmental behaviour and to different degrees (Kooij *et al.,* 2011; Wiernik, Ones & Dilchert, 2012). For the purposes of this study, Millennials were used as a sample group to deliver results that may offer important clues about how organizations such as NIKE/Adidas can best promote new and existing pro-environmental initiatives among this generational cohort.

Millennials (18 – 35 years) were specifically chosen as the sample for this research study, based on the scope of this consumer segment and their growing market power in the local context (Moore, 2012). They are also known to have high levels of concern towards the environment (Nowak, Thach & Olsen, 2006, Leask, Fyall & Barron, 2014) and represent a group of consumers who are more willing to adopt pro-environmental behaviours such as eco-friendly disposal methods of clothing (Muposhi, Dhurupm & Surujlal, 2015). In addition, a lack of research that is focused on Millennials' consumer behaviour make them a cohort worth investigating, especially in the South African context (Synodinos & Bevan-dye, 2014). The millennial consumers symbolise the future of the environment, which makes this generation a critical component in the advancement of a green revolution (Lee, 2009).

The following section provides an overview of the other demographic characteristics of the millennial sample, which will serve as an appropriate background for the results presented in the remainder of the chapter.

4.2.1 Gender

The role of gender has been studied extensively in terms of environmentally responsible behaviours (Lee, Park & Han, 2013). Although previous research has generally indicated that women have a higher level of pro-environmental behaviour than men (Matthies, Kuhn & Klockner, 2002; Sherkat & Ellison, 2007; Torgler, Garcia-Valinas & Macintyre, 2008; Zelezny *et al.,* 2000), some research contrariwise found no gender differences in environmental behaviours (Blankenau, Snowden & Langan, 2008).

In terms of this study, almost two thirds of the respondents were female (65.8% / n = 196). According to the earlier findings of Shim (1995), female students had stronger environmental attitudes than their male counterparts. Later, similar findings are reported by Zelenzy *et al.* (2000) as well as Tikka Tikka, Kuitunen and Tynys (2000) in terms of females' concern for and sense of responsibility toward the environment. In a more recent South African study, Struwig (2010) found that males were of the opinion that there are more important things to do than protect the environment. Another important demographic characteristic to consider in the local context, is the respondents' ethnical background.

4.2.2 Population group/ ethnicity

Ethnic differences in environmental concern are potentially important in developing targeted interventions intended to increase a person's sustainability behaviour (Burn, Winter, Hori & Silver, 2012). Yet, it should be noted that in Shim's (1995) study, no ethnic differences were found in the clothing disposal patterns of the respondents.

TABLE 4.1: RESPONDENTS' POPULATION GROUP (N=299; missing=3)

Categories specified in questionnaire	n	%	Categories of analysis	n	%
African	109	36.8	Black	109	36.8
Asian	1	0.34			
Coloured	32	10.8			
Indian	16	5.41	White	128	43.2
White	128	43.25			
Other	3	1	Other	59	20
Prefer not to say	7	2.4			

As indicated in table 4.1, an almost equal number of respondents were recruited that formed part of the African (36.8% / n= 109) and White (43.2% / n = 128) population groups. Other population groups (including Asian, Coloured, Indian, other and those who preferred not to say) included a smaller number of respondents and were thus grouped together into a new category that was labelled 'Other' for the purposes of analysis. Africans account for over four-fifths of the population in all provinces (Community Survey, 2016) therefore the percentage that participated in this study is not representative of the larger South African population. African, Indian and Coloured populations are less concerned about environmental issues than the white population (Struwig, 2010). It is also noted in previous studies that white individuals

are prone to have stronger pro-environmental behaviours compared to other race groups (Johnson, Bowker & Cordell, 2004). Yet, respondents' educational level should also be considered.

4.2.3 Education level

In addition to age, gender and population group, education may also have a significant influence on an individual's pro-environmental behaviour. Previous research has identified that individuals who were more educated showed stronger pro-environmental behaviour (Casey & Scott, 2006; Shen & Saijo, 2008).

TABLE 4.2 RESPONDENTS' LEVEL OF EDUCATION (N=299; missing=8

Categories in questionnaire	n	%	Categories of analysis	n	%
Complete primary schooling (passed grade 7/standard 5)	1	0.3	≤Grade 12	42	14.4
Some secondary schooling	4	1.4			
Complete secondary schooling (passed grade 12/standard 10)	37	12.7			
Undergraduate (currently busy with after school graduate studies)	44	15.12	Undergraduate/ graduate (degree or diploma)	148	50.9
Graduate (Degree or Diploma)	104	35.73	Post graduate qualification	101	34.7
Honours graduate	74	25.43			
Masters graduate	22	7.6			
Doctorate graduate	5	1.72			

For the purpose of analysis, the eight response categories included in the questionnaire were re-grouped into three broader categories as indicated in Table 4.2. The majority of the respondents fall under the education level of 'Undergraduate/Graduate' (50.9% / n=148) in addition to 34,7% (n=101) having a post graduate qualification. The sample thus included a large proportion of respondents with a high level of education. In Struwig's (2010) study, better-educated people felt that it was important to protect the environment. It is argued that people that are more educated are also more likely to engage in pro-environmental behaviour because they are exposed to more information about environmental harm through schooling and further training (Scott & Willits, 1994). Exposure to information and access to educational institutions may of course also be influenced by the respondents' area of residence.

4.2.4 Area of residence

Respondents were recruited, who resided across South Africa through the Consulta Research online community platform. Their online community database allowed access to millennial respondents situated in different provinces as indicated in Table 4.3. Larger cities with political power and employment opportunities can often facilitate pro-environmental behaviour, while smaller cities are generally compelled to purse economic growth even when such growth encompasses high environmental costs (Chen *et al*., 2011).

TABLE 4.3 AREA OF RESIDENCE (N=299; missing=6)

Category in Questionnaire	n	%
Eastern Cape	9	3.1
Free State	4	1.4
Gauteng	178	60.8
Kwazulu-Natal	18	6.1
Limpopo	8	2.7
Mpumalanga	7	2.4
North West	4	1.4
Northern Cape	3	1.02
Western Cape	52	17.7
Unclassified/Not applicable	6	2.05

As can be gathered from Table 4.3 almost two thirds of the respondents reside in Gauteng (60.8% / n= 178). Although it is the smallest of South Africa's nine provinces in terms of geographical scope, Gauteng comprises the largest share of the South African population surpassing all the other provinces with regard to population size. (Statistics South Africa (STATS SA), 2011). Gauteng province alone generates about 45% of South Africa's municipal waste (Brand South Africa, 2013). Research conducted by a firm based in Gauteng (Consulta, 2017) has a greater reach to Gauteng consumers versus those in other provinces. The growth in Gauteng can be attributed to people leaving their provinces of usual residences in search for work in the more industrialised provinces like Gauteng (STATS SA, 2011). With the effects of inflation as well as the increasing access to jobs and a growing economy, the average household income is highest in Gauteng (R156 000 p.a.) (STATS SA, 2011).

4.2.5 Personal monthly income

Early research suggested a positive relationship between people's income and pro-environmental behaviour because acquiring products with environmental qualities (for example) was often considered a luxury that could only be afforded by people with spending ability (Van Liere & Dunlap, 1980; Scott & Willits, 1994). Although the availability and cost of pro-environmental options might have changed over the past few years, more recent studies also seem to indicate that consumers' level of income affects the frequency of their participation in pro-environmental activities (Domina & Koch, 2002). It was thus important, to also enquire about respondents' personal monthly income.

Personal monthly income was originally divided into thirteen categories in the questionnaire and was then later regrouped into five categories for statistical purposes as indicated in Figure 4. 1.

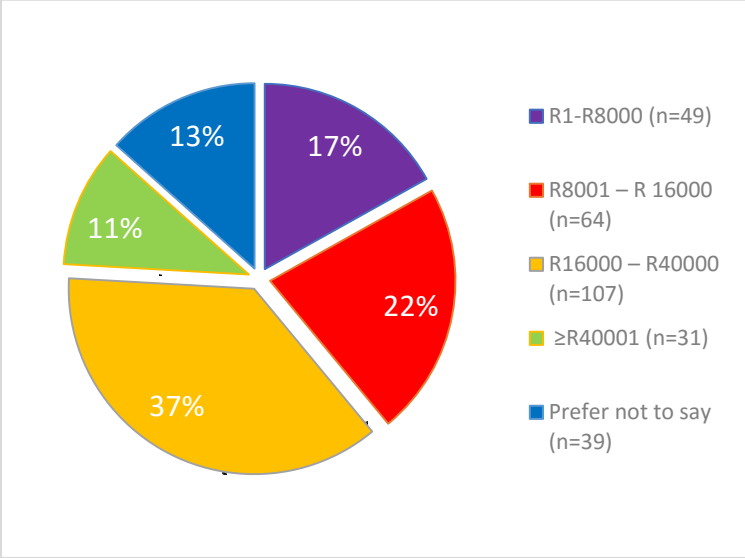

FIGURE 4.1 PERSONAL MONTHLY INCOME (N= 299; missing= 9)

As can be gathered from Figure 4.1, the almost a third of the respondents were earning a personal monthly income of between R16 000 and R40 000 (37% / = n=299) Prior empirical evidence suggests that lower income groups are less concerned about the environment than those from higher income groups (Struwig, 2010). Yet, consumers with higher incomes are also reported to have a higher rate of clothing disposal than those with lower incomes (Lang, Armstrong & Brannon, 2013) and may therefore also be likely to contribute more to textile waste, despite their concern and awareness of eco-friendly clothing disposal methods. Some

respondents preferred not to say what their personal income was (13.4% / n=39). In general, it has been established that people do not like to disclose how much money they earn and find income questions to be intrusive (Davern, Rodin, Beebe & Call, 2005). Apart from personal monthly income, the questionnaire however also included a section pertaining to respondents' active wear preferences and the frequency of their activewear acquisition.

4.2.6 Activewear preferences and purchasing frequency

As pointed out in the review of literature, Millennial consumers represent a significant target segment for stake holders in the fashion industry (Colucci & Scarpi, 2013). It is reported that Millennials can spend up to 70% of their money on fashion and apparel goods (Bakewell & Mitchell, 2003). Compared to the older generations who tend to spend on long terms investments such as cars and houses, Millennials spend far more generously on fashion related items such as activewear (Tuttle, 2015).

TABLE 4.4 MILLENNIALS PURCHASING FREQUENCY OF ACTIVEWEAR

Category in Questionnaire	n	%
Several times per month	11	3.6
Once a month	23	7.9
Once every 3-4 months	98	32.7
Twice a year	66	22.1
Once a year	58	19.3
Less than once a year	43	14.4

As indicated in Figure 4.2, almost a third of the respondents in this study sample, purchase activewear once every three to four months (n=98 / 32.8%), followed by those who purchase activewear twice a year (n=66 / 22.1%). Clothing trends shift rapidly such that the average time for specific fashion trend to be in style is only between six weeks and three months (North, De Vos, & Kotze, 2003). This leads to consumers disposing of higher volumes of clothing more frequently increasing the amount of clothing and textile waste (Morgan & Birtwistle, 2009).

4.2.7 Favourite activewear brand

In addition to the fore mentioned, an open-ended question regarding Millennials' favourite activewear brand was also included in the questionnaire. As mentioned before, international brands continue to characterise the South African activewear market with very few local brands competing for share (Euromonitor International, 2015). Major international activewear brands include Adidas, Nike and Puma, all of which are sold in Edgars retail stores (Edcon, 2017) as well as in some speciality stores located in popular malls. Many respondents gave more than one answer, therefore the frequencies reported in Figure 4.3 will not add up to the sample size (N=299).

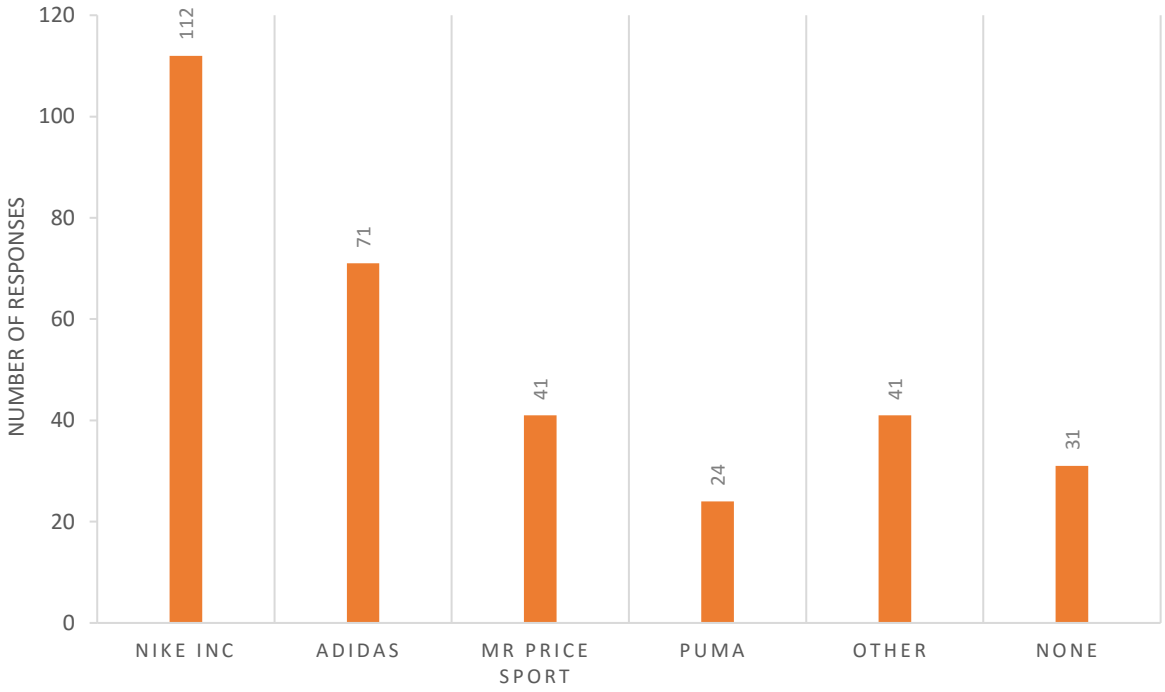

FIGURE 4.2 MILLENIALS FAVOURITE ACTIVEWEAR BRANDS

The most frequently mentioned brands are specified in Figure 4.3, with those less frequently mentioned grouped as "other" and no responses classified as "none". Based on the findings of this study, the majority of the respondents perceived NIKE Inc as their favourite activewear brand. NIKE Inc is known for its efforts toward promoting activewear among non-sports people, thereby increasing the number of consumers purchasing activewear (Dawes, 2008)

and receives the most brand recognition compared to its competitors (Strider, 2016). NIKE Inc promotes most of its products under the 'Nike' logo, but it also owns smaller niche brands, such as Jordan and Converse (Strider, 2016). Adidas was also frequently identified as respondents' favourite activewear brand. Adidas was initially known as a soccer brand but its ownership of other brands such as Reebok, established its reputation as an established competitor in the activewear market (Strider, 2016). Other brands that were also mentioned included Body by Cotton on, New Balance, Asics, OBR SPORTS by Truworths to name a few. It should be noted that some respondents may not have particular brand preferences, because they prioritize comfort and affordability rather than the activewear brand.

In summary, the respondents for this research were mostly females (65.8% / n=196), who as required, were aged between 18 and 35 years and thus formed part of the millennial cohort. Just less than half of the respondents were white (43.2% / n=128) and half had an undergraduate/ graduate education (50.9% / n=148). Almost two thirds of the respondents resided in Gauteng (60.8% / n=178) and more than a third of the respondents' personal income was between R16 000 and R40 000 (36.9% / n=107). Most respondents purchased activewear once every three to four months (32.8% / n=98) with NIKE being the favourite activewear brand. Due to the fact that non-probability, convenience sampling was used to collect the data for the research study, the results cannot be generalised. Yet, effort was made to elaborate on the sample's demographic characteristics and the following section will further explore respondents' preferred disposal methods in order to further address the objectives for this research study.

4.3 RESULTS, DISCUSSIONS AND INTERPRETATIONS

In the following section, the results of the research study are presented and discussed according to the objectives and conceptual framework that were presented in the initial chapters of the dissertation. As discussed in Chapter two, the conceptual framework for this study includes concepts related to the Theory of Planned Behaviour. Perceived behavioural control and sub-dimensions thereof (namely self-efficacy and controllability) (Ajzen, 2002) was the key focus of this particular study. Scale items for these concepts were derived from previous studies (Shim,1995; Tonglet *et al.,* 2004; Meyer, 2013) and adapted to investigate the influence of perceived behavioural control in determining millennial consumers' pro-

environmental intent and eco-friendly disposal of activewear. Five-point Likert-scales with response options ranging from one (i.e. "*Strongly Disagree*"; "*Never*") to five (i.e. "*Strongly Agree*"; "*Always*") were used (Zikmund & Babin, 2010).

Since scale items were adapted for the purposed of this study and have to date not been used to establish the relevance of constructs related to perceived behavioural control in the local context, an exploratory factor analysis was performed to isolate relevant constructs and concepts in the dataset. Thereafter multiple regression was performed to confirm the strongest influencing variable (i.e. intent, self-efficacy, inhibiting situational factors) on respondents' most preferred method of disposal (i.e. donating).

4.3.1 Millennials' perceived behavioural control

The first objective of this study was to explore and describe Millennials' perceived behavioural control in terms of two sub-dimensions, namely *self-efficacy* and *controllability*, which relate to their level of confidence and their beliefs surrounding the amount of control they have over factors that might inhibit or promote the eco-friendly disposal of activewear. To address this objective, 18 statements were included in section D of the questionnaire in the format of a five-point Likert scale with options ranging from "*Strongly Disagree*" to "*Strongly Agree*".

The resulting dataset was subjected to exploratory factor analysis (EFA), which is a statistical technique that is used to reduce data to a smaller set of summary variables (Statistics Solutions (SS), 2017). EFA endeavours to uncover complex patterns by exploring the dataset and testing predictions (Child, 2006), which helps to identify the key constructs needed to account for a particular area of study (Fabrigar & Wegener, 2012). EFA provides a clear method for testing the dimensionality of the set of items and determines which items appropriately belong together as part of the same uncovered factor (Fabrigar & Wegener, 2012). EFA was conducted by using SPSS software, employing Principal Axis factoring as the extraction method. After initial extraction, the factors were rotated to have each factor define a distinct cluster of interrelated variables (Cattell, 1973; Yong & Pearce, 2013). Varimax rotation with Kaiser Normalisation was used, which is an orthogonal rotation method that ensures factor extracts are clearly associated and that there is distinct separation among variables (SS, 2017).

Both the initial unregulated and subsequent rotated EFA produced a five-factor solution. Incorporating Kaiser's criteria (that all factors are above the eigenvalue of one) in addition to consideration of the point of inflexion on the screen plot, the five factors were accepted as an

appropriate solution for this data matrix. None of the measurement items were eliminated, because all of the items achieved reasonably high factor loadings and did not cross load onto more than one factor. Scale items included as measures of perceived self-efficacy grouped as expected, with the distinction drawn between particular types of disposal (i.e. self-efficacy relating to donation, self-efficacy relating to reselling and self-efficacy relating to recycling). Three scale items, which had originally been included in the questionnaire as measures of perceived controllability, grouped with the variables that measured perceived self-efficacy. All three items related to the notion of having "plenty opportunities" to dispose of activewear in an eco-friendly manner, which may enhance the perceived sense of ease (i.e. self-efficacy) of performing the behaviour in question. Items that were included as measures of controllability separated into two factors that seem to differentiate between an internal and external locus of control, regardless of the type of disposal in question whether it be donation, reselling and/ or recycling. The cumulative % variance explained is 61.67, which was deemed acceptable in terms of explaining variance in the data. The factors were subsequently labelled as follows:

Factor 1: Donation self-efficacy

Factor 2: Reselling self-efficacy

Factor 3: Recycling self-efficacy

Factor 4: Internal locus of control

Factor 5: External locus of control

TABLE 4.5 EXPLORATORY FACTOR ANALYSIS PERTAINING TO SELF-EFFICACY AND CONTROLLABILITY MEASURES

	FACTORS				
	1	2	3	4	5
	Donate self-efficacy	**Resell self-efficacy**	**Recycle self-efficacy**	**Internal locus of control**	**External locus of control**
C7: Donating unwanted activewear is easy	**.866**	.114	.099	.104	.033
C17: I have plenty opportunities to donate unwanted activewear	**.859**	.053	.158	.135	.044
C9: I am confident that I will be able to donate unwanted activewear	**.739**	.033	.124	.272	.075
C8: I believe I have the ability to donate unwanted activewear	**.642**	.064	.107	.360	.036
C4: It is easy to resell unwanted activewear	.165	**.780**	.285	-.004	-.019
C14: I have plenty opportunities to resell unwanted activewear	.098	**.745**	.356	-.017	-.036
C5: I believe I have the ability to resell unwanted activewear	-.008	**.722**	.170	.201	-.005
C6: I am confident that I will be able to resell unwanted activewear	.008	**.710**	.182	.135	.015
C1: Recycling unwanted activewear is easy	.196	.334	**.758**	.001	-.010
C11: I have plenty opportunities to recycle unwanted activewear	.199	.376	**.696**	-.027	-.008
C3: I am confident that I will be able to recycle unwanted activewear	.056	.243	**.695**	.249	.018
C2: I believe I have the ability to recycle unwanted activewear	.089	.261	**.641**	.315	.018
C13: It is mostly up to me whether or not I resell unwanted activewear	.225	.126	.087	**.674**	.026
C10: It is mostly up to me whether or not I recycle unwanted activewear	.233	.089	.307	**.648**	.104
C16: It is mostly up to me whether or not I donate unwanted activewear	**.433**	.066	-.010	**.588**	-.015
C15: Reselling unwanted activewear is beyond my control	.065	.109	-.033	-.013	**.740**
C12: Recycling unwanted activewear is beyond my control	-.093	-.079	.191	.016	**.668**
C18: Donating unwanted activewear is beyond my control	.276	-.097	-.248	.138	**.553**
N	**299**	**299**	**299**	**299**	**299**
% of Variance explained	**16.42**	**14.70**	**13.80**	**9.40**	**7.35**
Items mean	**3.98**	**2.61**	**3.08**	**3.95**	**3.48**
Cronbach's α	**0.89**	**0.86**	**0.86**	**0.77**	**0.67**

Factor 1: Donate self-efficacy

As can be gathered from Table 4.5, four items grouped under this factor, which all related to respondents' level of self-efficacy in terms of donating unwanted activewear. The Cronbach's α of 0.89 indicates high internal consistency in the responses to these items. Overall, this factor achieved the highest mean ($M_{\text{donation self-efficacy}} = 3.98$) out of all the factors, but also more specifically those relating to self-efficacy in terms of particular types of disposal methods. Respondents' were thus confident in their ability to donate their unwanted activewear. This may be attributed to the fact that charity hospices are prevalent in all the major cities of South

Africa (Stear, 2010), offering numerous opportunities for Millennials' to donate their unwanted activewear and that it is therefore easy to donate. Donating to friends and family may also be seen an easy option to follow when wanting to get rid of unwanted garments. In addition to the above, Millennials may be motivated to donate because they care for others and believe it will make the world a better place (du Toit, 2015). Millennials are known to be a generation that are willing and wanting to do good, which could enhance their confidence in their ability to donate (Dowdy, 2015).

Factor 2: Resell self-efficacy

Respondents' level of self-efficacy in terms of reselling unwanted activewear grouped under a single factor comprising of four items as seen in Table 4.5. All the items were retained and achieved an acceptable Cronbach's α of 0.89, indicating internal consistency in the responses to the items. This factor achieved the lowest overall mean ($M_{reselling\ self\text{-}efficacy}$= 2.61) indicating that respondents are less confident in the ability to resell unwanted activewear. As pointed out by Han (2013), second-hand clothing has been worn by the previous owner and has lost much of its original monetary value. It can be assumed that the same would be true for activewear. As resale behaviour is often driven by monetary or economic reasons (Shim, 1995), Millennials may not be confident that they are going to get their monies worth if they resell their used clothing. It is argued that used clothes are often in bad condition, which makes them difficult to resell (Brooks, 2015). Running shoes, for example, have a limited effective life span and may therefore be difficult to resell as consumers often prefer a new pair shoes as opposed to second hand pair of shoes (Melone, 2016). Cutting corners on footwear by buying second hand shoes may not be seen as a worthwhile option for those who do shop second hand clothing (Melone, 2016). Furthermore, many activewear pants and shorts have built-in underwear made from wicking, antibacterial fabric (Andersen, 2017), which adds health complexities to reselling opportunities. Due to close body contact (similar to underwear) some countries such as Zimbabwe, have raised issues of human dignity (Brooks, 2015) and may thus inhibit the reselling opportunities related to activewear. Because health concerns are also an issue when it comes to second hand activewear, Millennials may not be confident in their ability to resell their unwanted/ used activewear.

Factor 3: Recycle self-efficacy

Respondents' level of self-efficacy in terms of recycling unwanted activewear also grouped under a single factor consisting of four items. The Cronbach's α of 0.86 for these items indicated high internal consistency in responses to the items. This factor achieved a mean ($M_{recycling\ self\text{-}efficacy}$= 3.08) close to the scale midpoint of 3.00, which may indicate that there is still scope for respondents to be more convinced about the ease of recycling activewear. In South Africa, recycling of clothing is still seen to be a novel concept (Meyer, 2013). Consequently, Millennials' confidence in their ability to recycle unwanted activewear must be improved. Inspired by the continuous promotion of sustainable "going green" initiatives by activewear brands ranging from large companies such as Adidas, Columbia Timberland and Patagonia to start-ups such as Fibre Athletics (Burg, 2016) much can be done to boost recycle self-efficacy. NIKE INC is a good example of a sports brand that recycles shoes so that it can be re-used for other purposes (Nike, 2015). Such initiatives may support Millennials' perception of the ease of recycling their unwanted activewear, because it is supported by popular and reputable activewear brands.

Factor 4: Internal locus of control

People who attribute control over events to themselves have an internal locus of control (Beukman, 2005). Interestingly, respondents' internal locus of control manifested in terms of no eco-friendly disposal method in particular (as was the case for self-efficacy), but rather as combined measure of three items that each probed whether it was up to the respondent to recycle, resell or donate. As indicated in Table 4.5, the Cronbach's α of 0.77 for these items was above the 0.70 threshold and thus demonstrated internal consistency in participants' responses to the items. Overall, this factor achieved the second highest mean ($M_{internal\ locus\ of\ control}$ = 3.95), which indicated a high level of internal locus of control towards the eco-friendly disposal of activewear. Many factors may help or inhibit performance of a behaviour such as donating, recycling or reselling of unwanted activewear. Some of these factors, including skills and willpower, are internal to the individual (Ajzen, 1985; 2002). It was once argued that self-efficacy expectations do not necessarily correspond to beliefs about internal control factors (Ajzen, 2002), which seem to be evident in the outcome of this particular EFA as items measuring internal locus of control loaded separately from those measuring self-efficacy. Because of the respondents' strong association to internal locus of control, it can be argued that intervention strategies could strongly rely on Millennials' beliefs that they own the control

of their disposal behaviour and that it is mostly up to them whether the desired actions are accomplished.

Factor 5: External locus of control

People are described as holding 'external' locus of control beliefs if they believe what happens in their lives is determined by forces beyond themselves such as luck, chance, fate , the environment or powerful others (Busseri, Lefcourt & Kerton, 1997; Ajzen, 2002); Beukman, 2005). For example, those who believe in chance don't trust the power of science to solve environmental problems (Pavalache-Llie & Unianu, 2002). Similar to the internal locus of control, respondents' external locus of control did not relate to one eco-friendly disposal method in particular, but rather formed a combined measure of three items that each probed whether recycling, reselling or donating was beyond their control. As reported in Table 4.5, the Cronbach's α of 0.67 for these items where slightly below the 0.70 threshold, which leaves scope for further scale development in future studies. However, factor loadings for the items were all above 0.50 with no cross loadings, which provided impetus to retain the factor in the interest of suggesting further exploration of external locus of control in future research endeavours. This factor achieved a mean ($M_{\text{external locus of control}}$ = 3.48) which indicates that respondents' believe that eco-friendly disposal are to some extent beyond their control.

Although, this factor does not relate to one eco-friendly method of disposal in particular, prior studies have for example shown that the lack of appropriate facilities and/ or opportunities that are beyond the control of an individual may inhibit eco-friendly behaviour (e.g. recycling or reselling) (Morgan & Birtwistle, 2009; Bianchi & Birtwistle, 2010 ,2012; Joung & Park-Poaps, 2013). Aforementioned factors relating to self-efficacy in terms of recycling and reselling achieved lower means compared to self-efficacy surrounding donation. For the external locus of control factor, the items relating to recycling and reselling also achieved higher factor loadings compared to the item exploring donation. The strength of the factor may thus depend on the particular type of disposal method in question and would have to be further explored in future studies to provide more clarity on the matter. Respondents' views on situational factors that inhibit/ promote particular disposal methods could however also form an important influence with regard to their self-efficacy, control beliefs and their overall perceived behavioural control.

4.3.2 Situational factors that may influence Millennials' perceived behavioural control

This second objective was to investigate specific situational factors (including cost, time, convenience/accessibility) that may influence Millennials' perceived behavioural control and ultimately, their eco-friendly disposal of unwanted activewear. To address this objective, section D of the questionnaire included a further 27 items that were measured on a five-point Likert scale with the options ranging from one "*strongly disagree*" to five "*strongly agree*". An EFA was conducted to separate the items into different meaningful factors and to identify key constructs. The EFA again involved Principal Axis factoring as the extraction method and for the rotation method Varimax with Kasier Normalization (that all factors are above the eigenvalue of one) was used. As in the previous EFA, rotation was used to establish a more defined set of the factors (Yong & Pearce, 2013).

Both the initial and rotated EFA produced four factors. Based on Kaiser's criteria and the point of inflexion on the screen? plot, the four factors were accepted as an appropriate solution for this data set. No items were in a cross-loading situation and all factors loaded above 0.45 for a single factor. Variables seem to group according to specific methods of disposal, except for the fourth factor, which seem to relate to the general accessibility of all eco-friendly disposal methods. The cumulative % variance explained is 56.47 which was deemed acceptable in terms of explaining variance in the data. The factors subsequently labelled as follows:

Factor 1: Situational factors that inhibit donation

Factor 2: Situational factors that inhibit reselling

Factor 3: Situational factors that inhibit recycling

Factor 4 General accessibility of eco-friendly disposal methods

TABLE 4.6 EXPLORATORY FACTOR ANALYSIS PERTAINING TO SITUATIONAL FACTORS

	FACTORS			
	1	2	3	4
	Donating situation	**Reselling situation**	**Recycling situation**	**General accessibility**
D22: Donating unwanted activewear takes up too much time	**.785**	.071	.211	.086
D26: It is just too much effort to donate unwanted activewear	**.786**	.073	.123	.126
D23: I do not have time to donate unwanted activewear	**.774**	.034	.143	.119
D20: The expenses associated with donating unwanted activewear is a waste of money	**.754**	.105	.181	-.092
D24: Donating unwanted activewear is time consuming	**.700**	.118	.204	.130
D25: Donating unwanted activewear is inconvenient	**.663**	.005	.205	.062
D21: The money spent on donating unwanted activewear is not worth the gain	**.626**	.148	.241	-.027
D19: Donating unwanted activewear is not cost effective	**.556**	.182	.192	-.095
D17: It is just too much effort to resell unwanted activewear	.024	**.760**	.243	.203
D13: Reselling unwanted activewear takes up too much time	.097	**.717**	.210	.195
D14: I do not have time to resell unwanted activewear	.010	**.710**	.245	.204
D16: Reselling unwanted activewear is inconvenient	.060	**.706**	.240	.166
D15: Reselling unwanted activewear is time consuming	-.007	**.692**	.238	.291
D10: Reselling unwanted activewear is not cost effective	.214	**.684**	.104	-.020
D12: The money spent on reselling unwanted activewear is not worth the gain	.136	**.631**	.304	-.106
D11: The expenses associated with reselling unwanted activewear is a waste of money	.188	**.590**	.347	-.165
D4: Recycling unwanted activewear takes up too much time	.237	.288	**.791**	.096
D8: It is just too much effort to recycle unwanted activewear	.240	.250	**.679**	.246
D6: Recycling unwanted activewear is time consuming	.262	.313	**.666**	.157
D5: I do not have time to recycle unwanted activewear	.243	.277	**.605**	.252
D7: Recycling unwanted activewear is inconvenient	.186	.348	**.592**	.257
D2: The expenses associated with recycling unwanted activewear is a waste of money	.334	.236	**.577**	-.081
D3: The money spent on recycling unwanted activewear is not worth the gain	.299	.326	**.521**	.039
D1: Recycling unwanted activewear is not cost effective	.297	.337	**.514**	-.012
D9: I do not know where to take my unwanted activewear for recycling	.029	.203	.278	**.662**
D18: I do not know where I can resell my unwanted activewear	.018	.318	.129	**.557**
D27: I do not know where I can donate my unwanted activewear	**.463**	-.074	-.041	**.486**
N	**299**	**299**	**299**	**299**
% Variance explained	**18.25**	**17.58**	**14.84**	**5.80**
Items mean	**2.20**	**3.13**	**2.69**	**3.31**
Cronbach's α	**0.90**	**0.91**	**0.91**	**0.65**

Factor 1: Situational factors that inhibit donation

Eight items loaded onto factor one, which was labelled 'Situational factors that inhibit donation'. As reported in Table 4.6, the Cronbach's α of 0.90 for items that grouped under this factor, reflect a high level of internal consistency among responses. The mean for this factor ($M_{donation\text{-}situation}$ = 2.20) was the lowest of all the situational factor means and indicated a low association to the inhibiting situational factors concerning donating. The low mean indicates that respondents did not altogether agree that cost, time, effort and inconvenience would inhibit their donation efforts. This corresponds with respondents' high level of self-efficacy towards the notion of donating activewear as discussed in the previous section. Birtwistle and Moore (2007) study stated that donating to charity shops was one of the most well-known and convenient methods, which was further supported by Wang's (2010) findings. Since donating is a convenient option, one can argue that less time and effort goes into this disposal behaviour compared to the others that are viewed as an inconvenience. Morgan and Birtwistle (2009) found that even the choice of charity was determined by convenience, which also confirmed the findings of Domina and Koch (2002). In this regard, the conclusion was drawn that if more collection points or home collections were set up by charities, more people would be willing to donate their clothing and less would be thrown out (Bianchi & Birtwistle, 2012), which might also be true in terms of the results obtained from this study.

Factor 2: Situational factors that inhibit reselling

Nine items that probed situational issues surrounding the option of reselling activewear, grouped under a single factor that was labelled "Situational factors that inhibit reselling". These nine items achieved a high Cronbach's α of 0.91, confirming internal consistency in participants' responses towards situational factors that inhibit reselling of activewear. As indicated in Table 4.6, the mean for this factor ($M_{reselling\ situation}$ = 3.13) was the second highest mean overall. This high mean indicates Millennials' strong association with the inhibiting factors (cost, time, effort and inconvenience) of reselling activewear, which may ultimately influence their perceived self-efficacy and control beliefs. A form of reselling is garage sales, but this type of reselling takes time and planning (Shim, 1995) and may therefore not seem the ideal method of activewear disposal for Millennials. Another platform to resell activewear is online but online sales require packaging and delivery costs (Wang, 2010), costs which Millennials may not be willing to pay. Some authors do however argue that reselling will in future become a more convenient option as more platforms are created to engage in reselling

opportunities, which might encourage people to put this disposal method into use despite the costs involved (Wang, 2010).

Factor 3: Situational factors that inhibit recycling

Eight items that measure situational factors surrounding recycling, grouped under a single factor as indicated in Table 4.6. The items achieved an acceptable Cronbach's α (0.91) indicating internal consistency in participants responses. The factor mean ($M_{recycle\ situation}$ = 2.69) indicated the second highest agreement among respondents in terms of situational factors that inhibit recycling compared to reselling. Initiatives such as "drop off collection" requires the consumer to take recyclables to a drop off site and sort the materials into material specific containers which may require more time and effort, (Domina & Koch, 2002). In addition, drop off collections" may not be the most convenient option for Millennials. The degree of convenience has been considered a key factor to decide a consumer disposal behaviour (Wang, 2010). In a study of convenience of recycling, respondents indicated they did not participate in recycling because they did not have local recycling programmes and did not know other options (Joung & Park-Poaps, 2013). Because recycling is still a fairly new concept in South Africa (Meyer, 2013), local recycling programmes may be limited and if available millennials do not have many options therefore making recycling an inconvenience for the millennials. Increasing local recycling programmes could potential cost money whereby these costs could fall on the consumers. Millennials may not be willing to pay these costs and would therefore chose a more affordable means of clothing disposal, such as donating.

Factor 4: General accessibility of eco-friendly disposal methods

Three items relating to accessibility, exploring various types of disposal methods, converged into a single factor. The factor achieved the highest overall mean ($M_{Accessibility}$ = 3.31) indicating that respondents felt strongly about the fact that accessibility is a major constraint in their ability to dispose of activewear, regardless of the type of disposal method in question. The Cronbach α = 0.65 for this factor was below the 0.70 threshold and would thus require further scale development in future studies. It is nevertheless apparent that accessibility may be an important inhibiting factor and should receive more attention in future empirical research within the local context. Abroad, Derksen and Gartrell (1993) found that communities with access to recycling programmes had a higher level of participation in recycling. Accessibility to recycling programs significantly increased participation in household recycling because consumers felt that it took less time and effort (Joung & Park-Poaps, 2013).

4.3.3 Pro-environmental intent

The third objective was to determine Millennials' pro-environmental *intent* (or willingness as it is often referred to) regarding the disposal of unwanted activewear and whether such intent is in fact motivated by environmental, economic and/ or altruistic reasons. Section B of the questionnaire included 15 items that were used to measure respondents' intent/ willingness to dispose of unwanted activewear by means of reselling, donation and recycling. Responses were measured on a five point Likert scale with options ranging from "*strongly disagree*" to "*strongly agree*". The resulting data was subjected to EFA to determine which items appropriately belong together as part of the same factor. As in previous analyses, EFA was conducted using the Principal Axis factoring as the extraction method. Varimax with Kaiser Normalisation (that all factors are above the eigenvalue of one) was applied as the rotation method, which produced a three-factor solution that was verified based on Kaiser's criteria and the point of inflexion on the scree plot. All variables achieved high factor loadings (> 0.6) with no items in a cross-loading situation and therefore all variables were retained. The cumulative % variance explained is 79.7, which was acceptable in terms of explaining variance in the data. The resulting factors seem to relate to the respondents' willingness to engage in specific types of eco-friendly disposal and were thus labelled as follows:

Factor 1: Willingness to resell

Factor 2: Willingness to donate

Factor 3: Willingness to recycle

TABLE 4.7 EXPLORATORY FACTOR ANALYSIS PERTAINING TO PRO-ENVIRONMENTAL INTENT/ WILLINGNESS

	FACTORS		
	1	2	3
	Willingness to resell	**Willingness to donate**	**Willingness to recycle**
B10: I would be willing to resell unwanted activewear to save money	**.896**	.079	.081
B11: I would be willing to resell unwanted activewear for economic reasons	**.882**	.077	.086
B15: I would be willing to resell unwanted activewear to reduce textile waste	**.870**	.101	.228
B14: I would be willing to resell unwanted activewear to reduce environmental consequences	**.860**	.132	.206
B13: I would be willing to resell unwanted activewear, for the sake of the environment	**.859**	.126	.184
B12: I would be willing to resell unwanted activewear because it benefits me financially.	**.834**	.041	.071
B5: I would be willing to donate unwanted activewear to help others	.063	**.912**	.161
B4: I would be willing to donate unwanted activewear for the needy	.057	**.894**	.154
B6: I would be willing to donate unwanted activewear to benefit charities	.082	**.856**	.209
B7: I would be willing to donate unwanted activewear for the sake of the environment	.207	***.652***	**.496**
B9: I would be willing to donate unwanted activewear to reduce textile waste	.178	***.651***	**.535**
B8: I would be willing to donate unwanted activewear to reduce environmental consequences	.139	***.646***	**.563**
B3: I would be willing to recycle unwanted activewear to reduce textile waste	.164	.245	**.876**
B1: I would be willing to recycle unwanted activewear for the sake of the environment	.182	.277	**.874**
B2: I would be willing to recycle unwanted activewear to reduce environmental consequences	.205	.242	**.853**
N	**299**	**299**	**299**
% of Variance explained	**31.48**	**25.88**	**22.34**
Items mean	**3.01**	**4.26**	**4.04**
Cronbach's α	**0.95**	**0.94**	**0.96**

Factor 1: Willingness to resell

Six items were used to measure respondents' willingness to resell their unwanted activewear. These items probed both underlying economic and environmental reasons for such intent/ willingness. As indicated in Table 4.7, all six items, irrespective of underlying reasons, converged into a single factor that achieved a high Cronbach α of 0.95, indicating internal consistency of responses. The resell mean ($M_{\text{resell willingness}} = 3.01$) was the lowest amongst the factors which reiterates the low mean reported in Table 4.5 with regards to respondents' self-efficacy towards reselling as well as respondents' agreement with statements that reflect the inhibiting role of situational factors surrounding the reselling of activewear (Table 4.6). The combination of low self-efficacy and perceived inhibiting situational factors may be the cause as to why respondents are less willing to resell their activewear. Bianchi and Birtwistle's (2010)

study found that Australian consumers' unwillingness to resell may be explained by a negative perception regarding the way second hand shops are managed.

Factor 2: Willingness to donate

Willingness to donate was measured with six items, exploring both altruistic and environmental reasons for such willingness. All items were retained, converging under a single factor with a Cronbach α of 0.94, indicating good internal consistency of responses. Overall this factor achieved the highest mean ($M_{donation\ willingness}$ = 4.26). Findings from Bianchi and Birtwistle's (2012) as well as Meyer's (2013) studies indicated that consumers were more likely to donate their clothing, adding support to the findings of this study whereby respondents seem more willing to donate than to resell or recycle their unwanted activewear. Interestingly, items that addressed respondents' willingness to donate based on altruistic reasons achieved higher factor loadings than those addressing intent based on environmental concerns. Similarly, the concern and importance of community was seen to be a significant determinant of pro-environmental intent in other studies such as that of Tonglet *et al* (2004).

Factor 3: Willingness to recycle

Three items were used to measure respondents' willingness to recycle and focused solely on environmental reasons/ concerns for such willingness. Internal consistency of responses was evident as the items achieved a Cronbach α of 0.96. This factor produced the second highest mean ($M_{recycling\ willingness}$ = 4.04). This is positive in light of current initiatives to reduce textile waste, but prior studies have also shown that a willingness to recycle clothing/ textile products depend on the expansion of kerbside recycling programs (Hiller Connell & Kozar, 2014). With regard to the current sample, millennial consumers are known for their high levels of concern towards the world and the environment (Nowak,Thach & Olsen, 2006, Leask, Fyall & Barron, 2014). They represent a group of consumers, who are more prone to adopt pro-environmental behaviours compared to any other consumer group (Muposhi, Dhurupm & Surujlal, 2015) and therefore it makes sense that they would be willing to recycle their clothing because of the associated environmental benefits. It should however be noted that several studies have in the past reported on the disparity between consumers' pro-environmental intent and their actual behaviour. (Ajzen, 2002; Bamberg & Möser, 2007; Park & Ha, 2014). For these reasons, it was important to measure respondents' intent/ willingness in addition to their actual disposal behaviour, which is reported in the section to follow.

4.3.4 Millennials' preferred method of activewear disposal

The fourth objective of this study was to explore and describe Millennials' preferred method of activewear disposal. To address this objective, section A of the questionnaire included 20 statements that probed respondents' actual disposal behaviour. Response options ranged from "*never*" to "*always*". The resulting data was analysed by means of EFA to group the variables into distinct clusters, using Principal Axis factoring as the extraction method and Varimax with Kaiser Normalisation (that all factors are above the eigenvalue of one) as the rotation method. Four factors were extracted, which were verified based on Kaiser's criteria and the point of inflexion on the scree plot. All items achieved high factor loadings (> 0.6) with no cross loading onto more than one factor. Although the initial scale developed by Shim (1995) differentiated between various disposal methods based on specific underlying reasons (e.g., economic, altruistic and/or environmental motives), the EFA conducted on this particular dataset did not produce such a distinction. Rather, the factors converged into specific types of disposal methods (i.e., donating, reselling, recycling and discarding) irrespective of the underlying reasons for such behaviour. The cumulative % variance explained is 60.01, which was deemed acceptable in terms of explaining variance in the data. The resulting four factors were thus labelled as follows:

Factor 1: Donating

Factor 2: Reselling

Factor 3: Recycling

Factor 4: Discarding

TABLE 4.8 EXPLORATORY FACTOR ANALYSIS PERTAINING TO DISPOSAL METHODS

	FACTORS			
	1	2	3	4
	Donate	**Resell**	**Recycle**	**Discard**
A14: I donate my unwanted activewear that is in good condition to benefit others.	**.869**	-.030	.063	-.150
A12: I donate my activewear to charity for the needy.	**.791**	.029	.120	-.186
A17: I donate to charity because it is a good way of recycling old activewear clothing in an eco-friendly manner.	**.785**	.045	.220	-.089
A13: I give away my old activewear clothing to help others.	**.766**	.003	.036	-.254
A16: I donate my activewear to do my part in solving the environmental problem.	**.765**	.021	.283	-.008
A15: I give away old activewear to reduce waste.	**.752**	.014	.166	-.049
A3: I resell most of my unwanted activewear clothing for financial reasons.	.006	**.887**	.038	-.002
A1: I resell my unwanted activewear for money.	-.047	**.790**	.070	-.049
A5: I resell my unwanted activewear clothing because it can significantly benefit the environment.	.064	**.709**	.161	.050
A4: I trade my old activewear clothing for other necessities.	.001	**.552**	.111	.077
A6: I resell my unwanted activewear rather than throwing it away because I'm concerned about textile waste.	.054	**.673**	.342	.021
A2: I trade activewear clothing at second-hand stores to save money.	-.031	**.665**	.034	-.032
A7: I resell my unwanted activewear that is in good condition to reduce my impact on the environment.	.077	**.657**	.338	.021
A10: I am involved in recycling efforts to do my part for the environment.	.153	.129	**.750**	-.004
A11: I recycle old activewear to contribute to the conservation of the environment.	.247	.220	**.699**	-.012
A9: If clothing recycle bins are available, I make use of them to dispose of unwanted activewear in an eco-friendly manner.	.113	.178	**.665**	.027
A8: I support recycling efforts that re-use old activewear to develop new eco-friendly products.	.193	.190	**.607**	-.140
A19: I throw away unwanted activewear garments, because it is convenient.	-.227	.028	-.043	**.810**
A18: I throw old activewear items in the dustbin, because it is the easiest way of getting rid of it.	-.114	.032	-.081	**.794**
A20: I throw old activewear in bags for waste collection because that is the only way I feel comfortable disposing of it.	-.159	.013	.034	**.754**
N	**299**	**299**	**299**	**299**
% of Variance explained	**19.88**	**18.41**	**11.62**	**10.10**
Items mean	**3.09**	**1.16**	**2.24**	**1.68**
Cronbach's α	**0.92**	**0.87**	**0.82**	**0.85**

Factor 1: Donating

"Donating" was measured with six items that addressed the respondents donating behaviour, whether it be donating based on environmental concerns or altruistic motives encompassing the selfless concern for others. All the items were retained and as reported in Table 4.8, achieved a Cronbach's α of 0.92, confirming consistent responses to the items. The mean for donating ($M_{donating}$ = 3.09) indicated respondents' strong preference towards donating in comparison to the other disposal methods. This preference towards donation was also found in Koch and Domina's (1999) as well as Meyer's (2013) studies, although it should be noted

that these studies focused on apparel in general as opposed to activewear in particular. As pointed out in the introductory chapters, activewear has in recent years become a popular addition to most wardrobes e.g. leggings are not only popular for casual purposes but are also worn to work as part of a corporate ensemble (Timms, 2015; Malacoff, 2016). The distinction between activewear and general day-to-day apparel are thus fading and therefore, Millennials may be donating their activewear in the same way they would their usual apparel.

Prior empirical evidence found that consumers who donate clothing are motivated by a combination of environmental and charity concerns (Joung & Park-Poaps, 2013). Donating can help various issues such as assisting the needy and those less privileged (Shim, 1995; Koch & Domina, 1999; Baker, 2011). In general, people feel good about helping others in need (Bianchi & Grete, 2010). Given the growing income differences and the millions of people living in poverty (Ewig & Guliwe, 2005) the main motivation for donating is a belief that giving can make a difference (du Toit, 2015). Charities Aid Foundation (CAF), Southern Africa (2015) report that giving goods is ingrained in the South African culture and that those who do not do so deviate markedly from society's norm. Individual giving remains important in South Africa due to high levels of inequality and high rates of unemployment (Gordon Institute of Business Science (GIBS), 2012). In this regard, charity hospices are found in all the major cities of South Africa where citizens can donate unwanted clothes (Stear, 2010). The 'Refresh Your Gear campaign' by Adidas in 2012 was another example of an initiative whereby consumers donated their old sports shoes to be distributed among organisations that assist aspiring athletes in disadvantaged communities (Runner's World Magazine (RWM), 2012). From an environmental perspective, such donating initiatives helps to reduce waste and prolong the lifespan of textile products, which in turn benefits the environment (Meyer, 2013).

Factor 2: Reselling

Seven items explored respondents' engagement in reselling activities, based on a combination of economic/ financial and environmental reasons. All items converged into a single factor, with all items achieving high factor loadings (as indicated in Table 4.8) for this single factor. The combined items had an acceptable Cronbach's α of 0.87, indicating internal consistency in responses. In terms of the mean ($M_{reselling}$ = 1.16), respondents did not seem to engage in this type of disposal behaviour on a regular basis. This lack of engagement could be attributed to ignorance, as few people know to what extent used clothing can be profitably sold, and those that do know a little about the market are completely unaware of its value, scale and impact (Norris, 2012). Yet, other reasons may also contribute to respondents'

reluctance to resell their activewear: Activewear offers two things, namely performance and comfort (Malacoff, 2016). Moisture wicking tops are shirts that draw sweat away from your skin to help regulate body temperature (Migala, 2016). Over time the shirts gradually become less effective at keeping the wearer dry, decreasing its overall quality and performance (Migala, 2016). According to Bianchi and Grete (2012) clothing items that have decreased in quality or low in quality would stand less of a chance of being sold at second hand stores. Furthermore, a previous study indicated that some consumers avoid purchasing second-hand clothing because of a perception that the merchandise in second-hand clothing stores is poorly organized (Hiller Connell & Kozar, 2014). The poor organization of second-hand stores can result in frustrating experiences with the subsequent avoidance of such second-hand sources altogether (Hiller Connell & Kozar, 2014).

Factor 3: Recycling

All the items included in the questionnaire as a measure of recycling engagement were focused on underlying environmental concerns. All of the items were retained and converged as expected under a single 'recycling' factor. These items also had an acceptable Cronbach's α of 0.82, which indicated internal consistency of responses. The mean for this factor ($M_{recycling}$ = 2.24) indicates some engagement in the recycling of unwanted activewear, more so than reselling, yet less than donating. Recycling is said to be good for both the environment and the economy (Meyer, 2013). Recycling as a disposal method contributes to pro-environmental initiatives through the reduction of waste (Leigh & Realff, 2003). Situational factors surrounding the convenience and accessibility of recycling initiatives may be of particular importance as explained in previous discussions. Domina and Koch (2002) studied the relationship between availability of a kerbside recycling program and recycling behaviour and found that respondents did not participate in textile recycling because kerbside collection bins were unavailable to them. Individuals may hold positive attitudes towards recycling; however, this does not necessarily mean that they will engage in recycling behaviour (Tonglet, Phillips & Read, 2004). Economic arguments suggest that convenience, and more generally costs, may significantly impact recycling behavior (Jenkins, Martinez, Palmer, & Podolsky, 2003). The accessibility of recycling facilities should be trouble-free for a consumer to want to recycle instead of choosing to discard their clothing items (Domina & Koch, 2002).

In the sportswear domain, PUMA, a sports lifestyle brand that specializes in activewear, urges its consumers to recycle their unwanted clothing (Alho, 2012). As an example, Puma customers can return shoes, clothing and accessories of any brand, which are then distributed

for recycling purposes (Alho, 2012). When consumers bring in their unwanted clothing to H&M stores, they receive discounts on future purchases as part of the 'Don't let the fashion go to waste" campaign, which is a concerted H&M effort to reduce waste and keep products out of landfills (Alho, 2012). It should be noted that H&M's activewear line 'For Every Victory', which was launched in South Africa in 2016 (Waddington, 2016), increases local consumers' choice in activewear brands with the accompanying accessibility and convenience of recycling unwanted activewear at H&M stores. This may serve as an example for other stores, to encourage consumers in general, but also more specifically their millennial customers, to engage in recycling initiatives.

Factor 4: Discarding

Although "discarding" hardly qualifies as an eco-friendly disposal method, three items were nevertheless included in the questionnaire to establish whether respondents engage in this type of disposal behaviour as opposed to more environmentally responsible options. Prior studies have found that even though consumers may be aware of eco-friendly clothing disposal methods, they may still choose to throw away their textile products to landfill, because it is simply more convenient (Joung & Park-Poaps, 2013). All of the items included in the questionnaire were retained as they converged under a single factor and achieved a Cronbach's α of 0.85. The overall mean for this factor ($M_{discarding}$ = 1.68) reveals that respondents engaged in this type of behaviour to a very limited extent. Studies conducted abroad, have found that discarding may be the most known way in which consumers get discard of unwanted clothing (Joung, 2013). Because activewear has the purpose of aiding performance and absorbing sweat (Asian Textile Journal, 2005) - with accompanying health concerns if it should be resold, recycled or donated - consumers may in some instances simply discard damaged and worn-out items into the bin as a convenient method of disposal (Morgan & Birtwistle, 2009; Joung, 2013). Fortunately, as can be deduced from the findings reported in this section, donation seems to be the more preferred method of activewear disposal and thus formed the focus of the subsequent multiple regression analysis that will be reported in the section to follow.

4.3.5 The interrelationship of Millennials' perceived behavioural control (specifically self-efficacy), situational factors, intent and their preferred method of activewear disposal

The fifth and final objective of this study was focused on explaining the interrelationship of Millennials' perceived behavioural control, situational factors surrounding the behaviour in question, intent and their preferred method of activewear disposal. Multiple regression was chosen as an appropriate analysis technique to accomplish this objective Multiple regression analysis is a statistical technique that is used to analyse the relationship between a single dependent (criterion) variable and other independent (predictor) variables (Hair, Black, Babin, Anderson & Tatham, 2010). The objective is to predict the dependent variable by making use of the observed independent variables (Hair, Black, Babin, Anderson & Tatham, 2006). Multiple linear regression provides a means of objectively assessing the degree and the character of the relationship between dependent and independent variables (Hair *et al.,* 2010).

It should be emphasised, that for the purposes and scope of this project, the most *preferred* method of activewear disposal was used as the dependent variable. More specifically, the aim of the multiple linear regression analysis was to provide insight into the relationship among the independent variables in their prediction of *donation* as the most preferred method of active wear disposal. As indicated in Table 4.5 the mean for donating ($M_{donating}$ = 3.09) was much higher compared to the other disposal methods thus reflecting a strong preference among respondents towards donating. Due to the fact that the analysis was specifically focused on donation, only those independent variables that could be more directly linked to donation (i.e. donation self-efficacy, situational factors that inhibit donation and the willingness/ intent to donate) were entered into the equation simultaneously. Self-efficacy, situational factors and intent pertaining to the other disposal methods as well as internal and external locus of control, which related to all disposal methods, were eliminated from the analysis.

As indicated in Table 4.9 below, the analysis of variance (ANOVA) model indicate that the *F* value is 66.131 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* less than 0.05 indicates that there is a significant difference in means between the independent variables influence on donation. It can thus be concluded that the independent variables as a group, do in fact contribute significantly towards explaining donation behaviour.

TABLE 4.9 ANOVA REGRESSION MODEL

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	6749.582	3	2249.861	66.131	.000[b]
	Residual	9321.785	274	34.021		
	Total	16071.367	277			

a. Dependent Variable: Donate
b. Predictors: (Constant), donation self- efficacy, donation intent, inhibiting situational factors surrounding donation

The overall explanatory power of a regression model can be determined by interpreting R^2, which measures the variance of the dependent variable that is explained by the independent variables. Thus, the explanatory power of the regression model becomes larger, as the value of R^2 become higher. As reported in Table 4.10 the R^2 for this model indicates that 42% of the variability in the dependent variable (i.e. donation) is explained by the independent variables (i.e. donation self-efficacy, donation intent/ willingness and inhibiting situational factors surrounding donation). The adjusted explanatory value (adjusted R^2), indicate that 41,4% of the variations in the donation of activewear, can be explained by the combination of the independent variables. An acceptable model should explain at least 40% of the original variability (Mazzochi, 2008) and therefore it is evident that this model is acceptable.

TABLE 4.10 MODEL SUMMARY

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.648[a]	.420	.414	5.83276

a. Predictors: (Constant), donation self- efficacy, donation intent, donation situational factors

Scrutiny of the individual regression coefficients, explain the role of each independent variable in the prediction of donation as the dependent variable. For these purposes, researchers make use of the *t-test* (Anderson, 2002), as well as the B and Beta(ß) which can be explained as the regression coefficient that measures the impact of each independent variable on the dependent variable (Hair *et al.,* 2010). The regression coefficients provide information regarding the strength of the relationship between the independent variables and the dependent variable, and secondly, it indicates the type of relationships.

TABLE 4.11 REGRESSION COEFFICIENTS [a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta (ß)		
1	(Constant)	-.623	3.052		-.204	.838
	Donation intent	.394	.085	.234	4.617	.000
	Donation situational factors	-.221	.063	-.186	-3.538	.000
	Donation self-efficacy	.823	.111	.401	7.409	.000

a. Dependent Variable: Donate

Based on the results reported in Table 4.11, it can be concluded that all three independent variables (i.e. donation self-efficacy, intent/ willingness to donate and situational factors surrounding donation) are statistically significant predictors of donation ($p < 0.001$). In terms of the strength of the relationships, *donation self-efficacy* (ß = 0.401; t = 7.409; p= 0.000) seems to impact on respondents' donation behaviour more so than the *intent/ willingness to donate* (ß = 0.234; t = 4.617; p= 0.000). Inhibiting situational factors (ß = -0.186; t = -3.538; p= 0.000) also has an impact, albeit negative. In this regard, it is evident, that inhibiting factors (e.g. cost, time and convenience) should be addressed to facilitate donation behaviour. Furthermore, self-efficacy is an important underlying predictor of activewear donation and could thus represent a key element in the formulation of campaigns to reduce textile waste.

Although it did not form part of the objectives of this study, multiple linear regression analyses was also performed for recycling and reselling, purely as a matter of interest. In terms of the analysis of variance (ANOVA) model for reselling, the results in Table 4.12 indicate that the *F* value is 5.830 and the associated *p-value* of the *F* test is 0.001. A *p-value* less than 0.05 indicates that there is a significant difference in means between the independent variables and their influence on reselling. The independent variables (i.e. reselling self-efficacy, intent and situational factors) thus have a statistically significant contribution towards explaining reselling behaviour.

TABLE 4.12 ANOVA REGRESSION MODEL

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	133.764	3	44.588	5.830	.001[b]
	Residual	2095.650	274	7.648		
	Total	2229.414	277			

a. Dependent Variable: Reselling
b. Predictors: (Constant), Reselling intent, inhibiting situational factors surrounding reselling, reselling self-efficacy

However, as can be seen in Table 4.13, the R^2 indicates that only 6% of the variability in the dependent variable (i.e. reselling) is explained by the independent variables (i.e. recycling self-efficacy, intent and situational factors). As pointed out previously, an acceptable model should explain at least 40% of the original variability (Mazzochi, 2008) and therefore this model is not accepted.

TABLE 4.13 MODEL SUMMARY

Model	R	R^2	Adjusted R Square	Std. Error of the Estimate
1	.245[a]	.060	.050	2.76557

a. Predictors: (Constant), Intent, inhibiting situational factors, self-efficacy

Furthermore, Table 4.14 shows that overall the regression coefficients did not achieve a statically significant *p-value* (< 0.05). More research is thus needed to explore alternative motives for consumers' engagement in reselling activities.

TABLE 4.14 REGRESSION COEFFICIENTS[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta ß		
1	(Constant)	5.675	1.092		5.196	.000
	Self- Efficacy	.105	.052	.137	2.031	.043
	Inhibiting situational factors	.003	.027	.008	.118	.906
	Intent	.067	.026	.162	2.547	.011

a. Dependent Variable: Resell

In terms of recycling, the results in Table 4.15 indicate that the *F* value is 13.929 and the associated *p-value* of the *F* test is 0.000. The independent variables (i.e. recycling self-efficacy, intent/ willingness and situational factors) therefore have a statistically significant contribution towards explaining recycling behaviour.

TABLE 4.15 ANOVA REGRESSION MODEL

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	722.214	3	240.738	13.929	.000[b]
	Residual	4735.714	274	17.284		
	Total	5457.928	277			

a. Dependent Variable: Recycle
b. Predictors: (Constant), Recycling intent, recycling self-efficacy and inhibiting situational factors surrounding recycling

Yet, table 4.16 indicates that according to the R^2 value, only 13,2% of the variability in the dependent variable (i.e. recycling) is explained by the independent variables (i.e. recycling self-efficacy, recycling intent/ willingness and inhibiting situational factors). This model, similar to that of reselling, is therefore not accepted.

TABLE 4.16 MODEL SUMMARY

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate
1	.364[a]	.132	.123	4,.5736

a. Predictors: (Constant), Intent, self- efficacy, inhibiting situational factors

Furthermore, as indicated in Table 4.17, only one regression coefficient, namely recycling *self-efficacy* (ß = 0.201; t = 3.261; p = 0.001) is statically significant in terms of predicting respondents' recycling behaviour. Apart from recycling self-efficacy, more research is thus needed to identify determinants of recycling behaviour.

TABLE 4.17 REGRESSION COEFFICIENTS[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta (ß)		
1	(Constant)	5.508	2.051		2.685	.008
	Self- efficacy	.240	.074	.201	3.261	.001
	Inhibiting situational factors	-.116	.045	-.163	-2.610	.010
	Intent	.242	.097	.143	2.482	.014

a. Dependent Variable: Recycle

4.4 CONCLUSION

In conclusion, the chapter presented the discussion and interpretation of the results of this research study. Firstly, the demographics 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. Further results were then presented according to the objectives of the study whereby EFA was performed to identify relevant factors within the dataset. Thereafter, multiple linear regression was performed to determine the interrelationship between self-efficacy, intent/ willingness and inhibiting situational factors with regards to donation, which was identified as respondents' most preferred method of activewear disposal.

CHAPTER 5
CONCLUSION

This chapter provides a brief reflection on the research study, followed by the conclusions in terms of the problem statement and objectives. This chapter also includes a description of the implications of the findings for various stakeholders in the clothing and textiles industry as well as theoretical contributions of the study. Limitations and recommendations for future research are presented at the end of the chapter.

5.1 REFLECTION ON THE STUDY

One of the greatest threats that may be facing our planet is climate change and global warming (Darkoh, 2009; Shah, 2015). The African continent is already struggling to cope with the impacts of global warming (Conservation, 2016). The clothing and textile industry, in particular, is recognised as a culprit of poor waste disposal methods. The increased volumes of clothing being disposed of in landfill sites is negatively affecting the environment (Morgan & Birtwistle, 2009). Fast fashion has contributed to a scenario whereby consumers are disposing of their clothing at a much quicker pace than ever before. If consumers are unwilling to change their clothing practices and refuse to engage in eco-friendly disposal methods, waste will continue to rise therefore increasing the clothing industries' environmental footprint.

In addition to the aforementioned, this study was specifically focused on the increased levels of activewear consumption (and disposal) that was brought about by fitness trends and health conscious lifestyles. Activities such as Cross Fit, Yoga and Pilates have contributed to a larger need for speciality activewear that is also considered fashionable (Sherman, 2014). The demand for trendy and fashionable activewear is said to have increased extensively over the past few years (Armstrong, 2016). Yet, just as fashion items are discarded every season for the latest fashion, so is activewear. Here it should be noted that the combining of lifestyle and fashion trends is largely targeted towards consumer cohorts such as the Millennials.

Millennials enjoy recreation and active participation in sport as well as fashion (Valentine & Power, 2013, Leask *et al*., 2014). However, there are limited studies that address Millennials' disposal of activewear.

A conceptual framework (Figure 5.1), based on constructs included in the Theory of Planned Behaviour (TPB) (Ajzen, 1991), served as an appropriate basis for this study that was aimed at addressing the gap in current literature pertaining to Millennials' disposal of activewear. Ajzen (1985) extended the Theory of Reasoned Action (TRA) by incorporating the notion of perceived control over behavioural achievement as a determinant of behavioural intentions and eventual behaviour (Madden, Ellen & Ajzen, 1992). This study was primarily focused on the differentiating factor between the initial TRA and subsequent TPB, namely Perceived Behavioural Control (PBC). PBC is the extent to which a person believes the behaviour is under his/her voluntary control (Trafimow, Sheeran, Conner & Finlay, 2002) and is separated into two sub-components namely, self-efficacy and controllability (Ajzen, 2002). The two sub-components including situational factors may be influenced by underlying reasons such as environmental, economic and altruistic, as presented in the conceptual framework below.

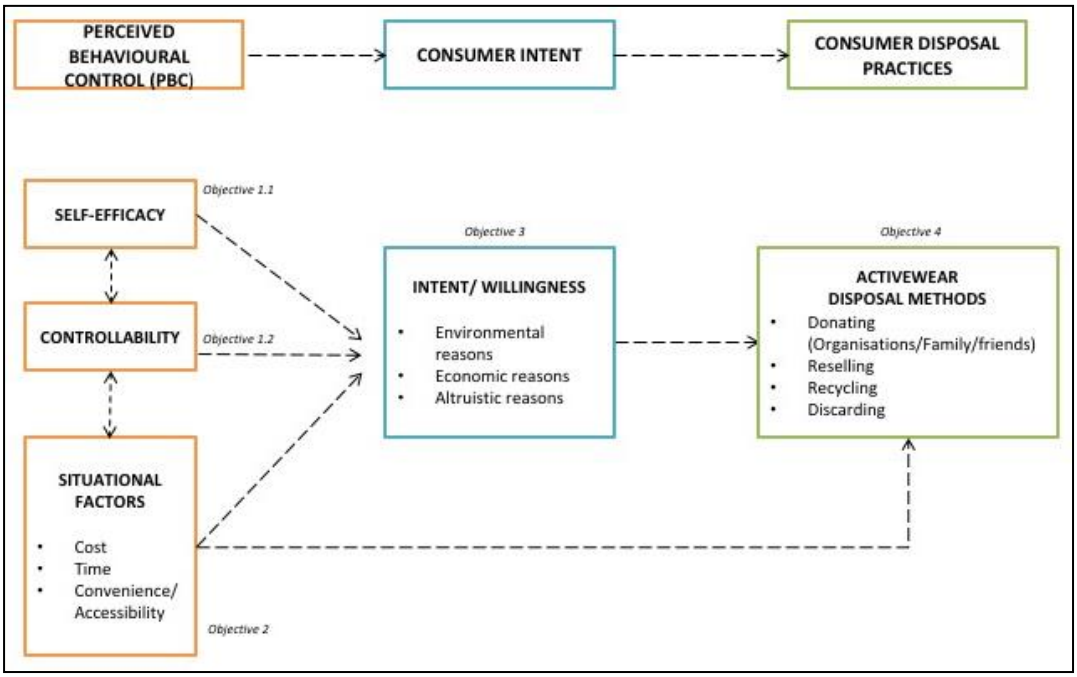

FIGURE 5.1 CONCEPTUAL FRAMEWORK (ADAPTED FROM AJZEN'S (2002) THEORY OF PLANNED BEHAVIOUR)

Taking all of the above into account, this study's purpose and main aim was to explore and describe the influence of perceived behavioural control in determining millennial consumers'

pro-environmental intent and eco-friendly disposal of activewear. The intention was to introduce empirical evidence that could be used to address the factors that influence pro-environmental intent and the eco-friendly disposal of activewear in the South African context. A quantitative research approach was used, with a cross-sectional survey design for descriptive and explanatory purposes. This research study was conducted within the geographical scope of South Africa with a sample of 299 Millennial respondents. Millennials were specifically chosen because of their high levels of concern for environmental and social issues (Nowak, Thach & Olsen, 2006, Leask, Fyall & Barron, 2014). They are characterised as being more likely to adopt pro-environmental behaviours compared to other consumer groups (Muposhi, Dhurupm & Surujlal, 2015). Millennials are also the most devoted age group in terms of following fast fashion trends (Birtwistle & Moore, 2006) and may therefore be prone to dispose of their clothing on a frequent basis. After gathering responses from a sample of Millennials, data was analysed according to the objectives of the study, using both descriptive and inferential statistical methods.

Based on the data obtained from this research study, findings were made and interpreted, which are summarised in the section to follow.

5.2 SUMMARY OF THE FINDINGS

As stated before, the focus of this research study was to investigate the influence of perceived behavioural control in determining South African Millennials' pro-environmental intent and eco-friendly disposal of activewear. A prerequisite for participation was that the respondents had to be between ages of 18 and 35 to be classified as Millennials. In terms of the demographic characteristics, results indicated that the respondents were mostly female. A slight majority were white. Most of the respondents resided in the Gauteng province and earned an approximate individual income of between R16000 to R40000 with an undergraduate/ graduate education level. The majority of the millennial respondents favoured NIKE as their favourite activewear brand and purchased new activewear once every three to four months.

As a first step in the data analysis, all the data was subjected to exploratory factor analysis (EFA). For each of the EFA's conducted, the variables predominately grouped according to the eco-friendly disposal methods being researched, namely donation, reselling and recycling. Most of the factors reached Cronbach's Alphas of above 0.82, which indicated internal consistency in the responses.

Objective 1 specifically explored and described Millennials' perceived self-efficacy (in terms of the level of confidence they have in their own capabilities) and their perceived controllability (in terms of level of control to dispose of activewear in an eco-friendly manner). The findings indicated that Millennials have a high level of self-efficacy towards donating and are therefore confident in their ability to donate their unwanted activewear ($M_{donation\ self\text{-}efficacy}$ = 3.98). It may be argued that because Millennials are a generation willing and wanting to do good, it increases their confidence to donate clothing (Dowd, 2015). Millennials were not so confident in their ability to resell ($M_{reselling\ self\text{-}efficacy}$= 2.61) their unwanted activewear. Reselling is described to have monetary motivations (Shim, 1995), and in this regard Millennials may not be confident that if they resell their unwanted activewear they are going to get their monies' worth. This may be due to the activewear being in a poor condition, which would make them difficult to resell (Brooks, 2015). Running shoes, for example, have a limited effective life span therefore they can be difficult to resell because potential buyers may rather prefer a new pair (Melone, 2016). This is in agreement with Joung and Park-Poaps' (2013) findings which revealed that consumers were less likely to participate in reselling of items of poor quality. Bianchi and Birtwistle (2010) found that consumers had a negative perception towards the manner in which second hand stores are managed, and in this regard, Millennials may have a low level of self-efficacy towards reselling due to negative perceptions of second hand stores with regard to the service provided and other relevant issues.

Recycling in South Africa is still seen to be a fairly new concept (Meyer, 2013), but Millennials seem to have a higher level of self-efficacy towards recycling ($M_{recycling\ self\text{-}efficacy}$= 3.08) than they did towards reselling. This is in agreement with findings from Bianchi and Birtwistle (2010) which found that consumers have more positive inclination towards recycling than they do toward reselling their clothing. Millennials' confidence towards recycling could have been influenced by recycling initiatives that are already supported by major activewear brands such as NIKE Inc. Since prominent brands support sustainability and the initiative to 'go green', Millennials may perceive recycling to be easy and are aware of opportunities to recycle.

In terms of the perceived level of control, findings revealed that a distinction should be drawn between an internal and external locus of control. Millennials indicated a high level of internal locus of control towards the eco-friendly disposal of activewear ($M_{internal\ locus\ of\ control}$ = 3.95) i.e. it can be assumed that they believe that they are in control of their disposal behaviour and that it is up to them whether they engage in this type of behaviour or nor. Yet, simultaneously, the findings also revealed that Millennials' have high levels of external locus of control ($M_{external}$

$_{\text{locus of control}}$ = 3.48), suggesting that they may hold the belief that there are some factors surrounding the ability to dispose of activewear in an eco-friendly manner that is beyond their control. This would potentially be an important issue to address as it may cause Millennials to feel that there is no point to get involved and participate in waste management behaviours such as the eco-friendly disposal of activewear.

Objective 2 aimed to investigate the specific situational factors that may influence/ inhibit Millennials' perceived self-efficacy and controllability with regard to the eco-friendly disposal of unwanted activewear. The findings indicate that Millennials felt strongly about accessibility ($M_{Accessibility}$ = 3.31) being an inhibiting situational factor and constraint in their ability to dispose of activewear in an eco-friendly manner, regardless of the type of disposal method in question. Despite the low Cronbach Alpha (α=0.65), the high mean of accessibility indicates the importance of this factor and will therefore require further research. Other situational factors include cost, time and convenience/ effort. The findings indicate that Millennials' did not agree as strongly (as was the case for recycling and reselling) that situational factors inhibit donation. Major cities in South Africa have charity hospices where clothes can be donated therefore making donating a convenient way for Millennials to dispose of unwanted clothing. Birtwistle and Moore (2007) study found that donating to charity shops was one of the most well-known and convenient methods, which was also reiterated in Wang's (2010) findings. Because situational factors seem to have less of an influence on donation, it may also explain why respondents have higher levels of self-efficacy in terms of donation. Recycling and reselling seem to be more prone to the inhibiting influence of situational factors such as time, convenience and cost. Respondents also had lower levels of self-efficacy in terms recycling and reselling. Previous research suggests that disposal behaviour is highly affected by concerns for saving money, convenience and charity consideration (Joung and Park-Poaps, 2013). In this regard, Joung and Park-Poaps (2013) concluded that retail stores would be a convenient and accessible areas for businesses that are involved in recycling to place drop-off sites or community collection bins.

Objective 3 was focused on determining Millennials' intent/ willingness to donate, recycle and/ or resell unwanted activewear. The findings revealed that Millennials were more willing to donate ($M_{donation\ willingness}$ = 4.26) their unwanted activewear over the other pro-environmental disposal methods. One could argue that because of the uncovered high self-efficacy and lack of perceived inhibiting factors, this willingness to donate (compared to other disposal methods) was to be expected. Millennials were also more willing to recycle their unwanted activewear compared to reselling ($M_{recycling\ willingness}$ = 4.04). Conversely, the strong association with

situational factors that inhibit reselling, may also have contributed to Millennials' unwillingness to resell ($M_{\text{resell willingness}} = 3.01$) their unwanted activewear. Millennials are more likely to adopt pro-environmental behaviour therefore their willingness to recycle is expected as recycling has a positive effect on the environment (Muposhi, Dhurupm & Surujlal, 2015). Bianchi and Birtwistle (2010) study indicated that consumers prefer to donate because it made the respondents "feel good" about helping others. Millennials may have great interest in charitable activities and are therefore more willing to donate their activewear, rather than reselling or recycling.

Objective 4 was to determine millennials' preferred method of activewear disposal including donating, reselling, recycling and/ or discarding. Overall, Millennials prefer to donate their unwanted activewear as opposed to other methods of disposal. This strong preference may be influenced by their high levels of self-efficacy, lack of inhibiting situational factors, as well as their willingness to donate. This preference towards donating was also found in Koch and Domina's (1999) Bianchi and Birtwistle's (2010) as well as Meyer's (2013) studies, although it should be noted that these researchers focused on apparel categories in general and not a specific category, such as activewear. Bianchi and Birtwistle's (2010) study, in particular, found that consumers prefer to donate their apparel to charities or family/friends, more so than disposing of clothing for economic benefit. As far as this study's findings are concerned, Millennials showed some preference to recycling more than reselling but less than donating. Tonglet, Phillips and Read (2004) study found that even though consumers had a positive attitude towards recycling, it does not mean they will engage in the behaviour. Millennials seem to not engage in reselling activities to large extent, which may be attributed to low levels of self-efficacy, perceived inhibiting factors and an overall unwillingness to resell. It is said that individuals tend to avoid situations that they believe exceed their level of self-efficacy (Ajzen, 2002), but perhaps it may also be a case of not seeking any economic profit from disposal.

Objective 5 was focused on explaining the interrelationships of Millennials' perceived self-efficacy, situational factors, intent and their preferred method of activewear disposal (i.e. donating). Theoretically, all the independent variables (self-efficacy, intent and situational factors) are assumed to predict clothing disposal behaviour. The results of the multiple linear regression analysis revealed that the strongest predictor of Millennials' donation behaviour was self-efficacy. The meta-analysis of TPB studies conducted by Armitage and Connor (2001) identified self-efficacy to be the most significant determinant of intention, which reiterates the findings of this study. Self-efficacy significantly influenced the actual behaviour (i.e. donation) more so than intention/ willingness and situational factors surrounding the behaviour in question. With this result, it can be assumed that there is a more direct link

between self-efficacy and donation. Self-efficacy has explored in the context of a diverse range of human behaviours, demonstrating that the perceived ease and ability to perform a behaviour can make an important difference to how people act (Schwarzer and Fuchs, 1995; Lee, 1982; Levinson, 1982; Rollnick and Heather, 1982; Barling and Beattie, 1983).

5.3 CONCLUSION AND IMPLICATIONS FOR INDUSTRY

The clothing industry is continually looking for ways to decrease its ecological footprint. Eco-friendly disposal methods enable the consumer to do their part for environmental preservation and help to reduce the impact of the clothing and textile industry on the country's natural capital. Prominent activewear brands such as NIKE Inc. are already known for their continuous efforts towards sustainability and waste reduction initiatives. In this regard, the findings derived from this research provides some insight as to where Millennials are successful and also fall short in their efforts to dispose of their activewear in an eco-friendly manner. Participation in pro-environmental behaviour such as recycling requires facilitating conditions whereby Millennials can dispose of their activewear in an affordable, convenient and beneficial way. In terms of recycling and reselling unwanted activewear, industry stakeholders can use the findings as a basis to assess some of the highlighted factors that inhibit Millennials from engaging in eco-friendly disposal e.g. accessibility in addition to convenience can be further addressed in developing appropriate recycling and reselling platforms. Retailers could for example, add more disposal bins for recycling in stores or opportunities could be created for consumers to resell their unwanted active wear (which is still in good condition) within popular and convenient shopping destinations.

Empirical findings derived from this study also provides activewear brands with insight about whether their sustainable business missions are reaching Millennials and if this generational cohort feel that they are able to take part in sustainable action. Although it is acknowledged that Millennials are prone to engage in environmentally and socially responsible action in general, the findings of this study shed light on specific underlying motivational factors that contribute to Millennial consumers' pro-environmental action with specific reference to their apparel disposal. Self-efficacy (in terms of donation in particular), is apparently an important aspect to emphasise in promotional campaigns and could encourage Millennials to more actively participate in pro-environmental disposal campaigns. To promote pro-environmental behaviour information programmes can be designed to highlight the ability of millennial consumer groups to easily partake in the desired textiles disposal options.

As pointed out in previous empirical research, effective communication strategies and programs in terms of textile disposal is fundamental to achieve sustainable forms of clothing disposal (Morgan& Birtwistle, 2009; Bianchi & Birtwistle, 2012). With the development of strategic alliances between fashion retailers and charities, consumers could receive incentives from their donated clothing from the named retailer (Bianchi & Birtwistle, 2012). Incentives could also include discounts e.g. when clothing items are brought in to be donate/ recycled, retailers award the consumers with a discount on their next purchase. It is argued that with effective communication strategies in place, fast fashion retailers will be looked at as retailers supporting the environment and will potentially receive more loyalty from consumers (Bianchi & Birtwistle, 2012). The findings of this study (in accordance with Bianchi and Birtwistle's (2012) study), thus highlight the value of developing strategic alliances between industry role players and organisations such as charities or second-hand stores that offer Millennials incentives to donate, recycle and resell their unwanted activewear, which may ultimately benefit all parties involved as well as the environment.

5.4 THEORETICAL CONTRIBUTION

To date limited empirical research has been generated about millennial consumers' disposal behaviour, especially in the field of clothing and more specifically in the South African emerging market context. This study provides exploratory evidence that can serve as a basis for future research on the topic in the Consumer Science discipline, especially among developing and diverse consumer populations such as those found within the South African context. To date, with the exception of research conducted by Taljaard (2015) and Meyer (2013), few studies have tested and applied behavioural theories such as TPB to gather information regarding the determinants of pro-environmental apparel behaviour in developing countries such as South Africa. This study also specifically explored and delivered insight surrounding the concept of perceived behavioural control and its sub-dimensions (i.e. self-efficacy and controllability), which posed several challenges in Taljaard's (2015) study that was conducted in the local context. Recommendations derived from Taljaard's (2015) study suggested that controllability be investigated in relation to actual behaviour and not just intent alone, which was accomplished in this study by including eco-friendly disposal methods in the TPB framework. Based on the findings of this study, controllability should be understood as a complex encompassing term that includes both internal and external dimensions of control.

A specific contribution of the study relates to insight pertaining to the situational factors that have to date not been extensively explored in emerging market contexts such as South Africa. The scale items that were adapted and developed for this study may prove to be of practical value for researchers in other developing countries to explore the relevance of these situational factors in terms of eco-friendly disposal behaviour. More research can be done on the costs to create more accessible ways to dispose of clothing in an eco-friendly manner. Despite the theoretical contribution of this study, it was limited in its scope, which allows for certain future research recommendations.

5.5 LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

The exclusive focus on Millennials and their disposal of activewear in particular, limits the generalisability of the findings of this study in terms of other consumers groups and different types of clothing categories. Future research can thus have a more encompassing scope to explore eco-friendly disposal of other types of clothing categories (such as general apparel and footwear) and can also make comparisons between these different types of product categories. Because Millennials were the only consumer group included in the study's sample, findings may not be relevant in terms of other generational cohorts. Future studies could therefore also include a broader focus on other cohorts in terms of disposal practices and comparisons can be made between these groups. Future studies could potentially add more emphasis on demographical factors such as population, gender and income to extend the findings of this study.

Taken as a whole, the results of this study cannot be generalised since it was based on a non-probability sampling. A convenience sampling strategy was used in this study, which was further limited by its narrow geographical scope in focussing on a specific consumer population in the South African context. The majority of the respondents were White with an undergraduate/graduate education, residing in Gauteng. In a country with diversities such as South Africa, a more representative sample would be needed to be able to make better conclusions about South African Millennials in general. Future research may benefit from a larger sample to represent a more accurate representation of South African millennial consumers or can be replicated in other emerging countries to enable comparison between different cultures.

In terms of data analysis, future research could benefit from advanced statistical techniques such as structural equation modelling (SEM). This could provide the researcher with a more

comprehensive understanding of the constructs that were used in the conceptual framework and establish a model that reflects the precise interrelationship of these constructs. Qualitative methods can also be used to attain a comprehensive description of factors surrounding the disposal behaviour that did not feature in this particular study. This would be especially important in terms of recycling and reselling, to establish other potential determinants of respondents' unwillingness to engage in this type of disposal methods. The study was limited by the scope of factors (i.e. cost, time, convenience and accessibility) that were taken into consideration as situational factors that may inhibit eco-friendly disposal. Several other situational factors may impact on Millennials' decisions to engage in eco-friendly disposal of activewear, for example media exposure and the availability of information. Accessibility of resources that facilitate pro-environmental disposal behaviour is an aspect that was specifically highlighted as a topic for further investigation.

In terms of this study, intentions and actual behaviour of the Millennials were measured, so therefore response bias might be inevitable. Response bias is a continual concern in terms of environmentally related studies (Bamberg & Moser, 2007). Accuracy of respondents' willingness to be pro-environmental can be skewed as respondents have a tendency to exaggerate their willingness in relation to their actual pro-environmental behaviour (Steg & Vlek, 2009). Within existing literature, efforts are ongoing to effectively address response bias in current research, but until more accurate methods are developed to eliminate such bias, it is important for researchers to acknowledge that their findings might be subject to this limitation.

5.6 FINAL CONCLUSION

This chapter contained a reflection of the study, the summary of findings, the conclusions regarding the overall research study in terms of objectives, the conclusions and implications for the industry, theoretical contributions, as well as limitations and future research recommendations. Big changes are taking place in our world and the clothing and textile industry is not exempt from these changes. As Millennials become our future leaders ,it is important to educate these consumers about the importance of eco-friendly disposal methods of clothing and the positive impact these methods will have on our environment. As consumers continue to become more active in their lifestyles, the author is hoping that this study may inspire them to become more proactive in persevering and protecting the environment, as *there is no planet b.*

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ADDENDUM A: QUESTIONNAIRE

PLEASE NOTE:

This questionnaire was drafted on software that is specifically used by Consulta for its online community based surveys. For the purposes of this application, the electronic questionnaire was downloaded onto a "word" document as per request. Although the questionnaire wording included in this document is exactly as it appears in the electronic version, the electronic version's formatting could unfortunately not be replicated in this word document.

WHAT DO YOU DO WITH YOUR OLD ACTIVEWEAR?

(End of Page 1)

Welcome to the "What do you do with your old activewear?" questionnaire.

Here are a few general tips and tricks before we start:

• Don't use your internet browser's, back, reload and forward buttons when participating in our questionnaires as this may cause unintended results.

• Maximise the survey window then you don't have to scroll as much.

• We recommend you finish the questionnaire in one go.

Enjoy the questionnaire!

(End of Page 2)

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PROOF OF CONSENT FOR THE UNIVERSITY OF PRETORIA

*Please click **"I agree"** to continue...*

NATURE AND PURPOSE OF THE RESEARCH PROJECT

The purpose of this research project is to investigate consumers' perceptions about how easy or difficult it is to dispose of active wear apparel in an eco-friendly manner such as donating, reselling, reusing and/or recycling it. We hope to gain insight regarding the factors that inhibit or promote consumers' willingness to engage in eco-friendly disposal practices with particular reference to apparel that is worn for casual-, sports- and/or physical activity.

RESEARCH PROCEDURE

1. You have been contacted to participate in this study and to complete a questionnaire.

2. No prior preparation is needed to complete the questionnaire.

3. Please be reminded that participation is completely voluntary with no penalty or loss of benefit if you decide not to take part.

4. Completion of the questionnaire takes approximately 15 minutes.

5. The procedure is completed by a word of appreciation for your time and effort.

PRIVACY AND CONFIDENTIALITY

Participants' responses are strictly confidential, and only members of the research team will have access to the information. Your response will be bulked with those obtained from other participants and appropriate statistical analysis will be performed on the bulked data. At no time will personal opinions be linked to specific individuals. Data will also be safely and securely stored and will not be accessible from the public domain. The privacy and anonymity of your participation is therefore ensured.

WITHDRAWAL CLAUSE AND RIGHTS OF ACCESS TO DATA

Participants may withdraw at any stage of the research without having to explain why. By no means will your withdrawal be held against you. As a participant you also have the right of access to your data.

POTENTIAL BENEFITS AND FORESEEABLE RISKS OF THE STUDY

Findings derived from this research project could provide potential benefits in the form of eco-friendly initiatives and campaigns that is better aligned to consumers' perceptions of factors that either inhibit or facilitate pro-environmental disposal methods. The risk associated with this research project is low.

ADDITIONAL INFORMATION

Dr Nadine Sonnenberg can be contacted at nadine.sonnenberg@up.ac.za or at (012) 420 3775 for further information about the research project.

CONSENT

I have read the above information relating to the research project and declare that I understand it. I have been afforded the opportunity to contact and discuss relevant aspects of the project with the project leader (Dr. Nadine Sonnenberg), and hereby declare that I agree voluntarily to participate in the project. I indemnify the university and any employee or student of the university against any liability that I may incur during the course of the project.

Consent.

• **I agree**

(End of Page 3)

Before we continue, we just want to ensure you are who we are looking for!

Do you participate in at least one physical activity?

Physical activity simply means movement of the body that uses energy. Walking, gardening, briskly pushing a baby stroller, climbing the stairs, or playing soccer are all good examples of being active.

• Yes

• No

(If No was selected) - **Sorry, maybe next time!**

(End of Page 4)

For the purposes of completing this questionnaire, please take note of the following definitions:

• **"Activewear"** refers to clothing (including footwear) that is worn for sport or physical exercise as well as practical, comfort and / or safety reasons.

• **"Recycling"** refers to the procedure whereby unwanted clothing items are transformed in such a manner that it becomes reusable. For example, worn-out athletic shoes that are transformed into athletic and playground surfaces as well as other products.

• **"Reselling"** refers to the practice of exchanging clothing for money through different channels such as the internet, garage sales and / or flea markets.

• **"Donating"** refers to the practice of giving clothing (including footwear) to an organisation / charity or to family / friends with no economic gain.

(End of Page 5)

How frequently do you engage in a physical activity?
Please indicate which category best describes your usage pattern.

- Less than once a month
- A few times a month
- Weekly
- 2 or 3 times a week
- More than 3 times a week
- Daily

What type of physical activity would you say you participate in on a regular basis?

Please select all that apply.

- Yoga
- Going to the gym
- Pilates
- Running
- Swimming
- Team sports like soccer, basketball, volleyball etc
- Cycling
- Tennis
- Spinning

- Other, please specify: _____

How often do you buy new activewear (either a top, a bottom or any other item of sports clothing)?
Please indicate which category best describes your usage pattern.

- Several times per month
- Once a month
- Once every 3-4 months
- Twice a year
- Once a year
- Less than once a year

Where do you buy activewear?

Please select all that apply.

- Department stores, like Edgars, Woolworths etc
- Specialist single brand retailers like Nike, Adidas etc
- Multi-brand sports retailers like Sportscene, Totalsports, etc
- Discount stores like PEP, Ackermans, etc
- Stores in gyms
- I shop online
- Other, please specify: _____

How many pairs of activewear bottoms do you roughly own?

- None
- 1
- 2-3
- 4-6

- More than 6

How many activewear tops do you roughly own?

- None
- 1
- 2-3
- 4-6
- More than 6

What is your favourite brand of activewear?

_____

(End of Page 6)

The following 20 statements relate to your preferred method of activewear disposal.

By making use of a 1 to 5 point scale, where 1 means "Never" and 5 means "Always", please rate the following statements:

Once you have rated all the statements, please click "Next" to continue.

	Never	Occasionally	Undecided/ Neutral	Frequently	Always
I sell my unwanted active wear for money	1	2	3	4	5
I trade active wear clothing at second-hand stores to save money	1	2	3	4	5
I sell most of my unwanted active wear clothing for financial reasons	1	2	3	4	5
I trade my old active wear clothing for other necessities	1	2	3	4	5
I sell my unwanted active wear clothing because it can significantly benefit the environment	1	2	3	4	5
I sell my unwanted active wear rather than throwing it away because I'm concerned about textile waste	1	2	3	4	5
I sell my unwanted active wear that is in good condition to reduce my impact on the environment	1	2	3	4	5
I support recycling efforts that re-use old active wear to develop new eco-friendly products	1	2	3	4	5
If clothing recycle bins are available, I make use of them to dispose of unwanted active wear in an eco-friendly manner	1	2	3	4	5
I am involved in recycling efforts to do my part for the environment	1	2	3	4	5
I recycle old active wear to contribute to the conservation of the environment	1	2	3	4	5
I donate my active wear to charity for the needy	1	2	3	4	5
I give away my old active wear clothing to help others	1	2	3	4	5
I donate my unwanted active wear that is in good condition to benefit others	1	2	3	4	5
I give away old active wear to reduce waste	1	2	3	4	5
I donate my active wear to do my part in solving the environmental problem	1	2	3	4	5
I donate to charity because it is a good way of recycling old active wear clothing in an eco-friendly manner	1	2	3	4	5
I throw old active wear items in the dustbin, because it is the easiest way of getting rid of it	1	2	3	4	5
I throw away unwanted active wear garments, because it is convenient	1	2	3	4	5

I throw old active wear in bags for waste collection because that is the only way I feel comfortable disposing of it	1	2	3	4	5

(End of Page 7)

These statements relate to your willingness to dispose of unwanted activewear in an environmentally friendly manner.

By making use of a 1 to 5 point scale, where 1 means "Strongly Disagree" and 5 means "Strongly Agree", please rate the following statements:

	Strongly disagree	Disagree	Undecided / Neutral	Agree	Strongly agree
I would be willing to <u>recycle</u> unwanted activewear...					
For the sake of the environment	1	2	3	4	5
To reduce environmental consequences	1	2	3	4	5
To reduce textile waste	1	2	3	4	5
I would be willing to <u>donate</u> unwanted activewear...					
For the needy	1	2	3	4	5
To help others	1	2	3	4	5
To benefit charities	1	2	3	4	5
For the sake of the environment	1	2	3	4	5
To reduce environmental consequences	1	2	3	4	5
To reduce textile waste	1	2	3	4	5
I would be willing to <u>resell</u> unwanted activewear...					
To save money	1	2	3	4	5
For economic reasons	1	2	3	4	5
Because it benefits me financially	1	2	3	4	5
For the sake of the environment	1	2	3	4	5
To reduce environmental consequences	1	2	3	4	5

To reduce textile waste	1	2	3	4	5

(End of Page 8)

These 18 statements relate to the level of control and the ease / difficulty of disposing of unwanted activewear in an eco-friendly manner.

By making use of a 1 to 5 point scale, where 1 means "Strongly Disagree" and 5 means "Strongly Agree", please rate the following statements:

	Strongly disagree	Disagree	Undecided / Neutral	Agree	Strongly agree
Recycling unwanted active wear is easy	1	2	3	4	5
I believe I have the ability to **recycle** unwanted active wear	1	2	3	4	5
I am confident that I will be able to **recycle** unwanted active wear	1	2	3	4	5
It is easy to **sell** unwanted active wear	1	2	3	4	5
I believe I have the ability to **sell** unwanted active wear	1	2	3	4	5
I am confident that I will be able to **sell** unwanted active wear	1	2	3	4	5
Donating unwanted active wear is easy	1	2	3	4	5
I believe I have the ability to **donate** unwanted active wear	1	2	3	4	5
I am confident that I will be able to **donate** unwanted active wear	1	2	3	4	5
It is mostly up to me whether or not I **recycle** unwanted active wear	1	2	3	4	5
I have plenty opportunities to **recycle** unwanted active wear	1	2	3	4	5
Recycling unwanted active wear is beyond my control	1	2	3	4	5
It is mostly up to me whether or not I **resell** unwanted active wear	1	2	3	4	5
I have plenty opportunities to **resell** unwanted active wear	1	2	3	4	5
Reselling unwanted active wear is beyond my control	1	2	3	4	5
It is mostly up to me whether or not I **donate** unwanted active wear	1	2	3	4	5

I have plenty opportunities to **donate** unwanted active wear	1	2	3	4	5
Donating unwanted active wear is beyond my control	1	2	3	4	5

(End of Page 9)

These 27 statements relate to situational factors surrounding the eco-friendly disposal of unwanted activewear.

By making use of a 1 to 5 point scale, where 1 means "Strongly Disagree" and 5 means "Strongly Agree", please rate the following statements:

	Strongly disagree	Disagree	Undecided / Neutral	Agree	Strongly agree
Recycling is a cost effective way of getting rid of unwanted active wear	1	2	3	4	5
Recycling unwanted active wear is a waste of money	1	2	3	4	5
Recycling unwanted active wear takes up too much time	1	2	3	4	5
I do not have time to **recycle** unwanted active wear	1	2	3	4	5
Recycling unwanted active wear is inconvenient	1	2	3	4	5
It is just too much effort to **recycle** unwanted active wear	1	2	3	4	5
I know where to take my unwanted active wear for **recycling**	1	2	3	4	5
Reselling is a cost effective way of getting rid of unwanted active wear	1	2	3	4	5
Reselling unwanted active wear is a waste of money	1	2	3	4	5
Reselling unwanted active wear takes up too much time	1	2	3	4	5
I do not have time to **resell** unwanted active wear	1	2	3	4	5
Reselling active wear is inconvenient	1	2	3	4	5
It is just too much effort to **resell** unwanted active wear	1	2	3	4	5
I know where I can **resell** my unwanted active wear	1	2	3	4	5
Donating is a cost effective way of getting rid of unwanted active wear	1	2	3	4	5

Donating unwanted active wear is a waste of money	1	2	3	4	5
Donating unwanted active wear takes up too much time	1	2	3	4	5
I do not have time to **donate** unwanted active wear	1	2	3	4	5
Donating unwanted active wear is inconvenient	1	2	3	4	5
It is just too much effort to **donate** unwanted active wear	1	2	3	4	5
I know where I can **donate** my unwanted active wear	1	2	3	4	5
Recycling is a cost effective way of getting rid of unwanted active wear	1	2	3	4	5
Recycling unwanted active wear is a waste of money	1	2	3	4	5
Recycling unwanted active wear takes up too much time	1	2	3	4	5
I do not have time to **recycle** unwanted active wear	1	2	3	4	5
Recycling unwanted active wear is inconvenient	1	2	3	4	5
It is just too much effort to **recycle** unwanted active wear	1	2	3	4	5

(End of Page 10)

DEMOGRAPHICS

*You're almost at the end. This information is **very important for the analysis of this study.***

Demographics are used for statistical purposes only, under no circumstances will your personal details be shared with any third party.

Please complete / confirm your demographics below.

Please specify your gender:

- Female
- Male

Which age category applies to you?
Please select the option that contains your current age.

- < 18 Years Old
- Between 18 Years and 25 Years Old
- Between 26 Years and 35 Years Old
- Between 36 Years and 45 Years Old
- Between 46 Years and 55 Years Old
- Between 56 Years and 65 Years Old
- > 65 Years Old

Please specify your ethnicity:

- African
- Asian
- Coloured
- Indian
- White
- Other
- Prefer not to say

Please specify your highest level of education:

- No education
- Some primary schooling
- Complete primary schooling (passed grade 7/standard 5)
- Some secondary schooling
- Complete secondary schooling (passed grade 12/standard 10)
- Undergraduate (currently busy with after school graduate studies)
- Graduate (Degree or Diploma)
- Honours Graduate
- Masters graduate
- Doctors graduate
- Unclassified

What is your employment status:

- Employed (paid full time)
- Employed (paid part time)
- Pensioner/ Retired
- Self- employed (full time)
- Self – employed (part time)
- Unemployed
- Not applicable

Please select the province in which your permanent residence is located:

- Eastern Cape
- Free State
- Gauteng
- Kwazulu Natal
- Limpopo
- Mpumalanga
- North West
- Northern Cape
- Western Cape
- Unclassified / Not Applicable

Please specify your personal monthly income before deductions:

- R1 - R1000
- R1001 - R2500
- R2501 - R4000
- R4001 - R6000
- R6001 - R8000
- R8001 - R11000
- R11001 - R16000

- R16001 - R25000
- R25001 - R40000
- R40001 - R60000
- R60001 - R100000
- R100001 and more
- Prefer not to answer

(End of Page 11)

ADDENDUM B: ETHICAL APPROVAL

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Natural and Agricultural Sciences
Ethics Committee

E-mail: ethics.nas@up.ac.za

Date: 7/3/2017

ETHICS SUBMISSION: LETTER OF APPROVAL

Dr N Sonnenberg
Department of Consumer Science
Faculty of Natural and Agricultural Sciences
University of Pretoria

Reference number: EC160621-048
Project title: The influence of perceived behavioural control in determining male and female consumers pro-environmental intent and disposal of active wear.

Dear Dr Sonnenberg,

We are pleased to inform you that your submission conforms to the requirements of the Faculty of Natural and Agricultural Sciences Ethics committee.

Please note that you are required to submit annual progress reports (no later than two months after the anniversary of this approval) until the project is completed. Completion will be when the data has been analysed and documented in a postgraduate student's thesis or dissertation, or in a paper or a report for publication. The progress report document is accessible of the NAS faculty's website: Research/Ethics Committee.

If you wish to submit an amendment to the application, you can also obtain the amendment form on the NAS faculty's website: Research/Ethics Committee.

The digital archiving of data is a requirement of the University of Pretoria. The data should be accessible in the event of an enquiry or further analysis of the data.

Yours sincerely,

Chairperson: NAS Ethics Committee

ADDENDUM C: PLAGIARISM POLICY AGREEMENT

UNIVERSITY OF PRETORIA: PLAGIARISM POLICY AGREEMENT

The University of Pretoria places specific emphasis on integrity and ethical behaviour with regard to the preparation of all written work to be submitted for academic evaluation.

Although academic personnel will provide you with information regarding reference techniques as well as ways to avoid plagiarism, you also have a responsibility to fulfil in this regard. Should you at any time feel unsure about the requirements, you must consult the lecturer concerned before you submit any written work.

You are guilty of plagiarism when you extract information from a book, article or web page without acknowledging the source and pretend that it is your own work. In truth, you are stealing someone else's property. This doesn't only apply to cases where you quote verbatim, but also when you present someone else's work in a somewhat amended format (paraphrase), or even when you use someone else's deliberation without the necessary acknowledgement. You are not allowed to use another student's previous work. You are furthermore not allowed to let anyone copy or use your work with the intention of presenting it as his/her own.

Students who are guilty of plagiarism will forfeit all credit for the work concerned. In addition, the matter can also be referred to the Committee for Discipline (Students) for a ruling to be made. Plagiarism is considered a serious violation of the University's regulations and may lead to suspension from the University.

For the period that you are a student at the Department CONSUMER SCIENCE the under- mentioned declaration must accompany all written work to be submitted. No written work will be accepted unless the declaration has been completed and attached.

Full names of candidate: MARGARET ALOBO OLWOCH

Student number: 10018362

Declaration

1. I understand what plagiarism entails and am aware of the University's policy in this regard.

Signature of candidate: 

Signature of supervisor: