The influence of situational factors and self-efficacy on consumers' activewear donation

GD Muller
(22149547)

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M Consumer Science (Clothing Retail Management)

Supervisor: Dr. NC Sonnenberg
Co-supervisor: Dr. BM Jacobs

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The influence of situational factors and self-efficacy on consumers' activewear donation

by

Gert Daniel Muller

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Supervisor: Dr. NC Sonnenberg
Co-supervisor: Dr. BM Jacobs

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Die invloed van situasionele faktore en selfdoeltreffendheid op verbruikers se aktiewe dragskenking

deur

Gert Daniel Muller

Verhandeling voorgelê ter vevulling van die vereistes van die graad
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UNIVERSITEIT VAN PRETORIA

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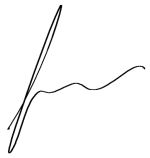
Studieleier: Dr. NC Sonnenberg
Mede-studieleier: Dr. BM Jacobs

2019

DECLARATION

I, **Gert Daniel Muller**, declare that this dissertation, which I hereby submit for the degree of **M in Consumer Science: Clothing Retail Management** at the University of Pretoria, is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution. I also confirm that all reference material in the dissertation has been duly acknowledged.



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SUMMARY

The influence of situational factors and self-efficacy on consumers' activewear donation

By

GERT DANIEL MULLER

Supervisor: Dr. N Sonnenberg
Co-supervisor: Dr. BM Jacobs
Department: Consumer and Food Sciences
Degree: Masters in Consumer Science (Clothing Retail Management)

Keywords: climate change, fast fashion, pro-environmental consumer disposal behaviour, activewear, theory of planned behaviour, perceived behavioural control, controllability, self-efficacy, donation, situational factors.

The planetary boundary for climate change has likely been exceeded as humankind is consuming more natural resources than nature can replenish. Research especially focuses on the effects that climate change and the exhaustion of various natural resources have on human health and the vulnerability of the environment. The textile and apparel industry contributes to climate change and environmental damage through production, distribution and consumption, as it is known as one of the most polluting industries across the globe. Currently, retailers are moving their focus away from mere economic goals towards addressing larger social and environmental concerns, since there are many fears regarding the harmful impact that the textile and apparel industry has on the environment. It is also critical to recognise the environmental impact of the textile and apparel industry in South Africa, as it has experienced an accelerated growth in the last decade, which is partly attributed to the growth of fast fashion and activewear. One of the ways that consumers can start progressing towards sustainable living is to start adopting more sustainable and pro-environmental disposal behaviour. Various apparel disposal options are available to the consumer, namely discarding, donating, reselling, reusing and recycling, although donation was found to be the preferred method of disposal of apparel. Yet, various external and internal factors may inhibit pro-environmental behaviour, thus linking intention and action.

The intention of this study was to supply empirical evidence that could address various factors that may have an influence on pro-environmental intent and the act of donation of activewear of a broad range of consumers in the South African context. This study was focused on activewear because it is a growing sector within the apparel industry, where consumers tend to show growing support for sustainable and pro-environmental concerns. The Theory of Planned Behaviour (TPB) draws attention towards behavioural intent and actual behaviour in bringing together the intention and the actual act or performance of the intention. A factor of TPB, namely Perceived Behavioural Control (PBC), which is the focus of this study, may shed light on whether certain constraints are inhibiting consumers in behaving in a pro-environmental manner. PBC is manifest through two dimensions, namely self-efficacy and controllability. Self-efficacy refers to believing in one's own capabilities to perform a specific task, such as the eco-friendly disposal of apparel, whereas controllability refers to how much external control one has over the actual execution of the task. For the purpose of this study, controllability was conceptualised as situational factors, such as time, cost and convenience, which do not fall under the individual's direct, perceived influence.

For this study, a quantitative cross-sectional research approach was employed for explanatory purposes. A non-probability, purposive sampling method was used in recruiting consumers that pursue an active lifestyle in order to address the hypotheses of this study. The sample consisted of 600 males and females between the ages of 18 and 65 from across South Africa. Resulting data were captured and analysed by use of descriptive statistics and inferential statistics, of which the latter included Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM).

EFA was performed in order to differentiate the relevant underlying factors, whereby results suggested a four-factor solution. The four factors were labelled as follows: *inhibiting situational factors, intention to donate, donation* and *self-efficacy*. The results indicated that respondents had strong intentions to donate activewear, indicating high levels of self-efficacy in terms of donation. Yet, respondents did not show a high level of agreement with statements that implied the inhibiting role of situational factors on donation, showing their strong intent to donate as well as their confidence in their ability to engage in donation. For CFA, the decision was made to futher retain a distinction between respondents' underlying altruistic and pro-environmental reasons for their intent and behaviour in order to establish an acceptable model. In CFA a measurement model was established as basis for SEM. The last step of data analysis for this study included SEM, which is described as statistical methods used in the testing of a theoretical or conceptual model. Self-efficacy was found to have a strong influence on the respondents' intention to donate activewear, both from an altruistic and pro-environmental point of view. Inhibiting situational factors, on the other hand, did not influence consumers' intent, but seemed

to have a stronger effect on actual behaviour. This supports the notion that self-efficacy is a strong predictor of intention and that it forms part of an internal locus of control, whereas controllability or situational factors are seen to be strong predictors of behaviour and to form part of an external locus of control. This may shed some light on the gap between intention and action that is extensively reported, especially when it comes to pro-environmental behaviour. A strong negative association between inhibiting situational factors and actual behaviour suggests that both altruistic and pro-environmental behaviours are highly influenced by inhibiting situational factors such as time, finances or inconvenience. Once these external constraints are lifted, the gap between consumers' intent and their actual behaviour may be narrowed.

OPSOMMING

Die invloed van omstandigheidsfaktore en selfdoeltreffendheid op verbruikers se skenking van aktiewe drag

deur

GERT DANIEL MULLER

Studieleier: Dr. N Sonnenberg
Mede-studieleier: Dr. BM Jacobs
Departement: Verbruikers- en Voedselwetenskappe
Graad: Meester in Verbruikerswetenskap (Kleding: Kleinhandelbestuur)

Sleutelwoorde: klimaatsverandering, kitsmodes, omgewingsgesinde wegdoengedrag, aktiewe drag, teorie van beplande gedrag, teorie van planmatige gedrag, waargenome gedragsbeheer, beheerbaarheid, selfdoeltreffendheid, skenking, omstandigheidsfaktore.

Die aarde se limiet vir klimaatsverandering is waarskynlik reeds oorskry omdat die mensdom besig is om natuurlike hulpbronne vinniger op te gebruik as wat die aarde dit kan vervang. Navorsing fokus veral op die effek wat klimaatsverandering en die uitputting van verskeie natuurlike hulpbronne op menslike gesondheid en die kwesbaarheid van die omgewing het. Die tekstiel- en klerebedryf dra by tot klimaatsverandering en omgewingsskade deur produksie, verspreiding en verbruik, aangesien dit een van die mees besoedelende nywerhede ter wêreld is. Tans probeer kleinhandelaars hul fokus verskuif van bloot ekonomiese doelwitte na die aanspreek van groter sosiale en omgewingskwessies. Daar is baie vrese oor die skadelike impak wat die tekstiel- en klerebedryf op die omgewing het. Dit is van kritieke belang om die omgewingsimpak van die tekstiel- en klerebedryf in Suid-Afrika te erken aangesien dit die afgelope dekade 'n versnelde groei beleef het wat deels toegeskryf word aan die toename in die produksie van kitsmodes en aktiewe drag. Een van die maniere waarop verbruikers tot volhoubaarheid kan bydra is om meer volhoubare en omgewingsvriendelike wegdoengedrag aan te kweek. Daar is verskeie maniere waarop verbruikers van oortollige klere ontslae kan raak, naamlik deur dit weg te gooi, te skenk, te herverkoop, hergebruik en te herwin, alhoewel skenking as die voorkeur wegdoenopsie beskou word. Verskeie eksterne en interne faktore kan egter omgewingsgesinde gedrag inhibeer, wat op ’n verband tussen voorneme en aksie dui.

Die doel van hierdie studie was om empiriese bewyse te lewer van die verskillende faktore wat 'n invloed kan hê op 'n wye verskeidenheid Suid-Afrikaanse verbruikers se omgewingsgesinde doelwitte en skenking van aktiewe drag. Hierdie studie het gefokus op aktiewe drag, aangesien dit 'n groeiende sektor in die klerebedryf is, waar verbruikers toenemend hul ondersteuning vir volhoubaarheid en omgewingskwessies toon. Die teorie van beplande gedrag vestig die aandag op gedragsvoorneme en werklike gedrag, asook die skakel tussen die voorneme en die werklike daad of uitvoering van die voorneme. 'n Faktor van die teorie van beplande gedrag, naamlik waargenome gedragsbeheer, wat die fokus van hierdie studie is, kan bepaal of sekere beperkinge verbruikers verhoed om op 'n omgewingsvriendelike wyse op te tree. Waargenome gedragsbeheer manifesteer in selfdoeltreffendheid en beheerbaarheid. Selfdoeltreffendheid verwys na die geloof in eie vermoë om 'n spesifieke taak uit te voer, soos die ekovriendelike verkoop van klere, terwyl beheerbaarheid verwys na hoeveel eksterne beheer daar oor die werklike uitvoering van die taak is. Vir die doel van die studie verwys beheerbaarheid na omstandigheidsfaktore, soos tyd, koste en gerief, wat nie onder die individu se direk waargenome invloed val nie.

Hierdie studie het 'n kwantitatiewe dwarsdeursnit-navorsingsbenadering aangewend vir verklarende doeleindes. 'n Nie-waarskynlike, doelgerigte steekproefmetode is gebruik om verbruikers wat 'n aktiewe lewenstyl geniet te werf, om sodoende die hipoteses van hierdie studie aan te spreek. Die steekproef het bestaan uit 600 mans en vroue tussen 18 en 65 jaar van regoor Suid-Afrika. Data is vasgelê en ontleed aan die hand van beskrywende en inferensiële statistiek –laasgenoemde deur middel van verkennende faktoranalise, bevestigende faktoranalise en strukturele vergelykingsmodellering (SVM).

Verkennende faktoranalise is uitgevoer om die relevante onderliggende faktore te onderskei, waardeur resultate ‘n vier-faktor oplossing voorgestel het. Die vier faktore is soos volg benoem: *verhinderende omstandigheidsfaktore, voorneme om te skenk, skenking* en *selfdoeltreffendheid*. Resultate van die verkennende faktoranalise het aangedui dat verbruikers vol vertroue is in hul vermoë om aktiewe drag te skenk, en dat hul voorneme en aksies hul affiniteit teenoor die skenking van aktiewe drag toon. Verbruikers het nie saamgestem dat verhinderende omstandigheidsfaktore hul skenking van aktiewe drag belemmer nie. Die resultate van die bevestigende faktoranalise het aangedui dat voorneme en optrede in twee motiewe verdeel kan word, naamlik altruïstiese en omgewingsgesinde motiewe. Altruïstiese motiewe beklemtoon die welsyn van ander, terwyl omgewingsgesinde motiewe beïnvloed word deur besorgdheid oor die omgewing. Die laaste stap van data-analise in hierdie studie sluit SVM in, wat beskryf word as statistiese metodes vir die toets van 'n teoretiese of konseptuele model. Selfdoeltreffendheid is uitgewys as 'n sterk invloed op die respondente se voorneme om aktiewe drag te skenk, beide vanuit 'n altruïstiese en omgewingsgesinde oogpunt. Belemmerende omstandigheidsfaktore, aan

die ander kant, het nie die verbruikers se voorneme beïnvloed nie, maar het 'n sterker effek op werklike gedrag gehad. Dit ondersteun die idee dat selfdoeltreffendheid 'n goeie voorspeller van voorneme is en deel vorm van 'n interne lokus van beheer, terwyl beheerbaarheid of omstandigheidsfaktore beskou word as 'n sterk voorspeller van gedrag en deel vorm van 'n eksterne lokus van beheer. Dit kan lig werp op die gaping tussen voorneme en aksie, wat breedvoerig gerapporteer word, veral rakende omgewingsgesinde gedrag. 'n Sterk negatiewe verband tussen omstandigheidsfaktore en werklike gedrag verhoed dat beide altruïstiese- en omgewingsgesinde gedrag sterk beïnvloed word deur omstandigheidsfaktore soos tyd, finansies of ongerief. Sodra hierdie eksterne beperkings opgehef is, kan die gaping tussen verbruikers se voorneme en hul werklike gedrag verminder word.

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CHAPTER 1: THE STUDY IN PERSPECTIVE

This chapter provides a general overview of this study as well as an outline of the theoretical background and the research problem. Additionally, the justification, hypotheses of the study, methodology, definitions of concepts that relate to this study and an outline of the rest of the dissertation are included.

1.1 INTRODUCTION

Since the early 1970's, humanity has been demanding more of the earth than what it can replenish (World Wide Fund For Nature, 2017). The atmospheric concentration of greenhouse gases such as methane, nitrous oxide and chlorofluorocarbons have increased significantly over the last two decades (Solomon, Plattner, Knutti & Friedlingstein, 2008) and the dependence and consumption of fossil fuels and natural resources continue to rise due to global human activity (Chen & Tung, 2014). Current topics such as the effects of climate change, the depletion of natural resources, the impact thereof on human health and the overall vulnerability of the environment are key focus areas in various scientific domains (Madzwamuse, 2010; McMichael 2013; Parry, Canziani, Palutikof, van der Linden & Hanson, 2007; Rust & Rust, 2013). Madzwamuse (2010) further reports that the repercussions of climate change, including increased temperatures, reduced rainfall, as well as floods and droughts, will be most severely felt on the Africa continent over the next fifty years because many African economies largely depend on natural resources. These repercussions will directly impact on agriculture, which is the largest domestic source of employment, household foods, and income across the continent of Africa (Rust & Rust, 2013). In addition to agriculture, there are several other industries that will be impacted including the textile and apparel industry.

The environmental damage that is caused by the production, distribution, and consumption of textiles and apparel has been a major on-going concern (Kozar & Hiller Connell, 2013), as it is not only one of the largest industries on the planet, but also one of the most polluting (Choudhary & Islam, 2017). It is often reported that this industry requires renewed ways of reducing the environmental footprint from the initial production stage to the eventual disposal phase of any given textile product (Armstrong, Niinimäki, Kujala, Karell & Lang, 2015; Business for Social Responsibility, 2009). Yet, the reduction of this industry's environmental footprint is problematic due to the scope of energy and water consumption, and also waste and greenhouse gas emissions that needs to be lessened in order to make a meaningful impact (Subic, Shabani, Hedayati & Crossin, 2012). The textile and apparel industry not only contributes to releasing

emissions and acid gases in the form of hydrogen chloride (which can cause respiratory diseases), but it also generates solid waste and liquid discharges throughout the manufacturing process (Choudhary & Islam, 2017; Claudio, 2007). For these reasons it is important that textile and apparel companies must scrutinize shortcomings in their current pro-environmental efforts and also implement more stringent sustainable supply chain management (Köksal, Strähle, Müller & Freise, 2017). Such efforts should not only be limited to developed countries, but must also extend into the local emerging market milieu because it is not exempt from environmental problems.

It is critical to recognize the environmental impact of the textile and apparel industry within the South African context, as it has experienced an accelerated growth in the last decade (Larney & van Aardt, 2010), that may be partly attributed to the introduction of fast fashion and the influx of textile and apparel imports (Cotton South Africa, 2018; Meer, 2016). Fast fashion entails low priced up-to-date fashion trends that are in stores within weeks of being exhibited on international runways (Morgan & Birtwistle, 2009; Siegle, 2008). Fast fashion can be explained as high-volume, quick turnover design trends, that are manufactured to wear less than 10 times (McAfee, Dessain & Sjöman, 2007). Fast fashion is therefore also associated with large amounts of textile waste, because garments are more frequently disposed of (Morgan & Birtwistle, 2009). In this regard, textile waste and the disposal of unwanted garments becomes a critical issue with much focus directed toward more effective waste management.

In general, effective waste management is seen as a way of limiting environmental decay and climate change, but several problems surround the issue of waste including illegal dumping, insufficient waste collection services and a lack of recycling programs (Fiehn, Ball & Novella, 2005; Nahman & Godfrey, 2010). Also environmental problems such as emissions of pollutants may arise through insufficient waste management (Reinhardt, Richers & Suchomel, 2008). Poor waste management and waste disposal are claimed to be contributors to global warming (Mondini, Sánchez-Monedero, Cayuela & Stentiford, 2008). For these reasons the issue of unwanted apparel that end up in landfills is of critical concern and warrants further investigation in the local context. For some years, unwanted clothing from international markets (mostly from the USA) have been exported to countries in Africa where it has either been donated to local charities or sold as second hand items, but alarmingly, some also just simply ended up in third world landfills (Chitrakorn, 2017). Such reports are cause for much concern, but on the positive flipside, a small number of waste reduction initiatives such as recycling programs, charities, drop-off bins, buy-back centers and advertising campaigns have been established throughout South Africa (Nahman, 2010). Such initiatives also emerged in the athletic wear sector (mostly in USA, but also across South Africa), which is a segment of the textile and apparel industry that deserves closer scrutiny in many respects, but also more specifically in terms of its sheer size and growth over the past few years.

Comparison sales of 2015 and 2016 in the US show that the athletic wear sector displayed a growth of 8.5% respectively, and grew by more than double that of any other category within the fashion industry (Elmer, 2017). Dawes (2009) affirms that sportswear has developed from an athletes- or sports-only niche market to being part of the so-called mainstream fashion. In recent years the term activewear was specifically used within the confines of "active sportswear", but due to fashion trends, activewear has developed into a very broad category, including apparel purchases for everyday use that extend beyond the boundaries of participation in sports and/ or physical activity (Wray & Hodges, 2008). According to Pasquarelli (2017), "athleisure" is a trend that combines sport and sophistication whereby active-inspired pieces are mixed with more refined apparel. Nike Inc., the largest athletic apparel and gear maker in the world with sales of $30,6 billion in 2015, has also remained on-trend with "athleisure", and has projected its sales for 2020 to go up to $50 billion due to a global shift toward fitness (Fortune, 2017). This shift has sparked a movement of conventional retailers such as Zara and TopShop to join forces with activewear retailers such as Adidas (Kilcooley-O'Halloran, 2015). Another example can be seen as fast fashion retailer H&M that has also started their own activewear range (H&M, 2018). Adidas and Stella McCartney collaborated in designing a luxury activewear range labelled "Adidas Stella McCartney" and received much publicity in designing the outfits for the British team to compete in the Rio 2016 Olympics (Lim, Kim & Cheong, 2016; Vogue, 2016).

Notwithstanding the immense growth and popularity of the activewear segment, the issue of sustainability and waste reduction was fortunately not left behind in this sector with an example of both Puma and Nike Inc. focusing on the recycling of used active wear and incorporating it into new products (Nike INC, 2017; PUMA, 2017). Nike Inc. has a recycling program called "Nike Grind", where recycled materials are used in 71% of new footwear and other apparel products (Nike INC, 2017). Nike Grind also incorporates these materials into more than 1 billion ft^2 (92,9 million m^2) of sports surfaces such as running tracks and playground surfaces (Nike INC, 2017). The recycled footwear is collected through Nike's "Reuse-A-Shoe" program, that has collected and recycled more than 30 million pairs of used shoes since 1990 (Nike INC, 2017). Similarly, Adidas is also doing its part to curb pollution in creating 3-D printed shoes mainly from plastic found in the ocean, and have sold over 1 million of these shoes in 2017 (Lindeque, 2018). In addition, Adidas (as the parent company of Reebok) has started producing Reebok shoes known as "Cotton + Corn", made from a rubber known as Susterra propanediol, which is a petroleum-free, non-toxic, biodegradable product grown from industrial corn (i.e. not grown as food) with an organic cotton upper (Coxworth, 2017). All of these initiatives speak of a concerted effort to reduce waste and promoting more environmentally responsible behaviour among activewear consumers.

In line with international trends, the South African's sportswear scene, is currently led by home-grown brands such as The Foschini Group (TFG) with a turnover of R21.1 billion in 2016, and

MrPrice Group with a total revenue of R19.6 billion in 2016 (MrPriceGroup, 2016; The Foshini Group TFG, 2016). TFG has a range of 22 retail brands, of which the three sports brands namely, Sportscene, Totalsports and Duesouth contribute to 18.8% of the overall revenue (The Foshini Group TFG, 2016). Sportscene and Totalsports collectively house various sports brands namely; Adidas, Le Coq Sportif, Puma, New Balance, Nike, Reebok, Under Armour and Asics just to name a few. With the increased usage of activewear in the local context, the question remains whether efforts are as diligent as abroad in combatting the negative effect on the environment, particularly because most activewear is made of synthetic textiles that do not decompose (Textile Learner, 2017).

To address the aforementioned question, a few example can be named to compare apparel waste reduction initiatives abroad with those in the local context: Recently a UK based activewear company, namely "Sundried", have developed a sustainable technology by implementing used coffee grounds into fabric that is suitable for activewear by capitalising on coffee's natural ability to block odour. These coffee grounds are either acquired from coffee houses or landfills which reduces post-consumer waste (Slimmedcartree, 2017). In the local context, a Cape Town based company named "Spiritgirl", uses recycled post-consumer plastic bottles that is woven into spandex performance fabric to create a product that reduces landfill space and reduces the use of dyes and fixing agents thus resulting in less pollution and saves energy at the same time (Spiritgirl Activewear, 2017). Internationally, H&M have partnered with I:CO (short for I Collect) in a closed-loop textile recycling initiative for clothes and shoes to be made into new products, thus reducing waste, preserving natural resources and protecting the environment (Earth911, 2017). I:CO have in fact created in-store take-back initiatives totaling over 60 retailers across six continents, whereby H&M alone has collected more than 25 000 tonnes of garments globally since 2013 (Earth911, 2017). Hunkemöller, another retail brand with 180 stores in the Netherlands that partnered with I:CO, offers 10% discount on products to consumers that donate a bag full of textiles for recycling (Earth911, 2017). Closer to home, the South African based Jordan Wine Estate, has even set up a charity event in hopes to assist those in need during the winter, where unused clothes can be donated in exchange for a bottle of wine (Chetty, 2018). Assisting those that are less privileged through the donation of unwanted apparel is reported to be a particularly important means of textile disposal in the local context (Meyer, 2013, Olwoch, 2018) and thus warrants further attention in the context of this study.

According to Laitala (2014), disposal behaviour refers to the action of ridding oneself of something. Meyer (2013) explains that in terms of apparel, various disposal options are available to the consumer including discarding to landfill, donating, reselling, reusing and recycling. Of these various disposal options, a few studies have found that donation is the preferred method of disposal of clothing (Bianchi & Birtwistle, 2012; Meyer, 2013). Bianchi and Birtwistle (2012) refer to

donation of apparel as giving unwanted clothing to family, friends or the needy to help them. Olwoch (2018) for example found that donation was the preferred method of activewear disposal among South African Generation Y consumers, however the act of donation might stem from various underlying motivations such as altruistic- or pro-environmental reasons. Regardless of whether the underlying motivation to donate is as a result of altruistic or pro-environmental reasons, to progress towards sustainable living, consumers have to start adopting a more responsible disposal behaviour that prevent garments from ending up on landfills (Peattie & Peattie, 2009). For these reasons it is important to investigate the determinants of such behaviour. Several theories have been developed over the past few years to pinpoint the underlying factors that contribute to the desired pro-environmental action, which in this case constitutes the donation of unwanted activewear. For the purposes of this study, (Ajzen, 2002) Theory of Planned Behaviour (TPB) was chosen as the appropriate supporting theory based on reasons that will be briefly explained in the section to follow, but also more extensively reviewed in Chapter 2.

1.2 THE SUPPORTING THEORY OF PLANNED BEHAVIOUR

Pro-environmental behaviour can be described as a certain action that is many ways inspired by self-interest (i.e. environmental action is required in order to preserve self) or due to a concern for others (i.e. the livelihood of future generations are at stake) (Bamberg & Möser, 2007). Earlier research has indicated that issues relating to pro-environmental behaviour can be understood by using the assumptions of various theoretical frameworks (Park & Ha, 2014; Tang, Chen & Luo, 2011; Tonglet, Phillips & Read, 2004). Various studies have for example used Ajzen's Theory of Planned Behaviour (TPB) to explore human action and also more specifically disposal methods such as recycling (Ajzen, 2002; Cheung, Chan & Wong, 1999; Ling, Tong & Ahmed, 2013; Olwoch, 2018; Taljaard, 2015).

TPB is an extension of the initial Theory of Reasoned Action (TRA), which was developed based on assumptions that most human social behaviour is under voluntary control and can thus be predicted from intentions alone (Ajzen, 2002; Ling *et al.*, 2013). In extending TRA, TPB relies on three factors to determine behavioural intention namely attitudes, subjective norms, and then the added Perceived Behavioural Control (PBC) (Ajzen, 2002; De Groot & Steg, 2007). The third determinant, PBC, refers to a person's belief as to how easy or difficult it would be to perform the behaviour, which allows for the prediction of behaviours that were not under complete voluntary control and provides information about consumers' perceptions about potential constraints that may surround the behaviour in question (Armitage & Conner, 2001; De Groot & Steg, 2007). Ajzen (2002) indicates that these constraints can be sub-divided into two dimensions namely, self-efficacy and controllability. Self-efficacy refers to believing in one's own capabilities to execute a certain action to perform a specific task (e.g. to donate), and controllability relates to how much

external control one has over the actual execution of the behaviour (Ajzen, 2002; Bandura, 1998). In terms of donation, such control may extend over inhibiting situational factors such as the time, effort and cost to find suitable charities and /or other needy recipients of unwanted apparel.

Based on the recommendations of previous studies that have employed TPB to explain apparel behaviour in the local context (Olwoch, 2018; Stols, 2017; Taljaard, 2015), the concept of PBC and also more specifically, the dimensions of self-efficacy and controllability should be investigated in more detail to address the much-reported gap between intention and pro-environmental behaviour (Grimmer & Miles, 2017). The argument put forward is that people do not always act on their best intentions i.e. perhaps they would want to donate unwanted apparel based on altruistic and pro-environmental reasons, but due to various factors such as the time it takes as well as the inconvenience and cost thereof, they simply opt to discard to landfill. These were issues deemed worthy of further investigation and thus led to this study's research problem.

1.3 RESEARCH PROBLEM

Upon entering a new period in the Earth's history known as 'the Anthropocene', humans rather than natural forces are the primary drivers of environmental change (WWF, 2017). As current trends continue towards unsustainable consumption and production patterns, along with human population growth, a direct path toward sustainability is a key factor for determining our future (WWF, 2017). This requires transition in all industries, including the textile and apparel industry to significantly reduce consumption patterns and the overall pollution and depletion of natural resources. Fast fashion is adding to the overall problem as clothing items are only worn a few times and then discarded. In this regard many have argued that humanity throughout the world is slowly becoming a throw-away society creating environmental consequences (Bianchi & Birtwistle, 2012).

A segment that warrants particular attention in the textile and apparel industry is the activewear sector, as for the past couple of years even traditional apparel retailers have added activewear to their assortment of products, with the example of H&M launching H&M Sport and Forever New creating an active range (Forevernew, 2017; HM, 2017). Factor in the rapid growth of specialty exercise classes with the likes of Crossfit, Pilates and Yoga, it is not surprising that activewear has become a key point of interest for retailers (Sherman, 2014). Additionally sportswear retailers such as Under Armour, Lululemon and Sports Authority have begun selling work-friendly products, and so breaking into the market share from their more fashionable rivals such as J.Crew (Pasquarelli, 2017). Together with the growth of the activewear market, there also seems to be a growing support for sustainable and eco-friendly initiatives, thus increasing the pressure on apparel companies to concentrate on sustainable products and recycling programs (Nam, Dong & Lee,

2017). Park and Ha (2014) report that consumers are leaning towards environmental issues and are adopting positive attitudes towards eco-friendly waste disposal methods such as recycling. This in turn may lead to the intention of acting in a pro-environmental manner, but there is doubt as to whether this intent translates into actual decision-making and behaviour with positive environmental consequences. In South Africa, donation is reported to be the most favoured apparel disposal option, because in addition to positive environmental consequences it also entails altruistic benefits that is focused on those in need (Meyer, 2013; Olwoch, 2018). It is however argued that there could be potential constraints or situational factors preventing consumers from acting on their pro-environmental and altruistic intent that may be beyond their control such as convenience / accessibility, financial resources and time (Ajzen, 2002; Meyer, 2013).

Ajzen's Theory of Planned Behaviour (TPB) draws attention to both behavioural intent and the actual act or performance of the intention (Ajzen, 1985; Ajzen, 1991). TPB relies on three factors to determine behavioural intention namely attitudes, subjective norms and the key concept of Perceived Behavioural Control (PBC) (Ajzen, 1991; De Groot & Steg, 2007). The third factor, PBC, which is the focus of this study may show whether the aforementioned constraints may prevent consumers in behaving in a pro-environmental manner (Ling *et al.*, 2013). As previously explained, PBC is formed through self-efficacy and controllability (Ajzen, 2002). Self-efficacy refers to believing in one's own capabilities to perform a specific task such as the eco-friendly disposal of apparel, whereas controllability refers to how much external control one has over the actual execution of the task (Ajzen, 2002; Bandura, 1998). Based on the aforementioned arguments, this research specifically aimed to *explain the influence of inhibiting situational factors such as convenience, accessibility, financial resources and time as well as self-efficacy on consumers' activewear donation.*

1.4 RESEARCH JUSTIFICATION

Globally, retailers have moved their focus away from mere economic goals towards addressing larger social and environmental concerns (Tsarenko, Ferraro, Sands & McLeod, 2013). This shift occurred in response to many fears regarding the harmful impact that the textile and apparel industry has on the environment and also to advance the reduction of this impact (Larney & van Aardt, 2010). One such a brand is Nike Inc. with efforts that revolve around reducing total energy, resources and waste from the initial production to the eventual distribution of their products (Nike INC, 2017). The company has also set a target to run on 100% renewable energy by 2025 (Huffingtonpost, 2017). Woolworths and H&M are other examples of companies with extensive attempts to incorporate sustainable business practices, ranging from the support of local designers and suppliers to decrease the amount of apparel imported into South Africa, to initiatives such as using cotton derived from sustainable sources (Luiz, Bowen & Beswick, 2011;

Sustainability.hm.com, 2018; Wendell, 2018). Additionally, Woolworths for example positions their warehouses to achieve optimal distribution of products and thereby lowers emissions that result from transportation (Dos Santos, 2011). In similar vein, H&M attempts to create a circular and renewable business model by maximising resources through the regeneration of textile waste into new products or materials (Sustainability.hm.com, 2018). It is reported that H&M collected over 17 000 tonnes of textile waste in 2017, with an increase of 12% from 2016 to 2017 (equivalent to 89 million t-shirts) through their garment collection initiatives (Sustainability.hm.com, 2018). All of these efforts are commendable, yet it is envisaged that this study's findings could contribute further insight into such initiatives from a consumer's perspective. The findings could provide information on where retailers can address/ limit factors that might inhibit consumers from participating in waste reduction initiatives (such as donation) and where promotional strategies might be most impactful. Additionally, the findings may have an implication for clothing retailers' Corporate Social Responsibility (CSR).

The findings might also benefit traditional fashion designers, who are also moving towards sustainable designs with a focus on athletic apparel (Huffingtonpost, 2017). Designers such as Derek Lam, Charlotte Olympia, Tory Burch and Tim Coppens either team up with an athletic company or create their own products. Even celebrities such as Beyoncé, Carrie Underwood and Kate Hudson see the value of sportswear with sustainable attributes as they too have created their own athletic wear ranges (Huffingtonpost, 2017). The growth of the activewear market has been substantial over the past few years with an increase from $135 billion in 2012 to $178 billion expected in 2019, which is attributed to consumers' increased fitness consciousness (Forbes, 2013). This market will most probably continue growing and this regard it is important that activewear consumers increasingly evolve and demonstrate a more pro-environmental mindset, especially among South African consumers who should be encouraged to adopt more sustainable and pro-environmental apparel consumption practices (Momberg, Jacobs & Sonnenberg, 2012). Retailers have a significant role to play in shaping consumers' behaviour towards sustainable actions by endorsing sustainable business practices (Tsarenko *et al.*, 2013). This ties in with the proposed research as it could provide more insight and expose ways of helping consumers to act more pro-environmental or uncover areas that consumers experience little or no control in acting in a pro-environmental manner when donatiing activewear for charitable and pro-environmental causes.

In addition to practical implications, the findings may also add to existing literature about consumers' willingness to participate in eco-friendly apparel disposal behaviour such as donation. As part of a larger project, this study contributes to a further understanding of the relevance of TPB as a theoretical framework for investigating pro-environmental intent and behaviour in the local context. Recommendations derived from prior empirical findings were adhered to in this project by

further investigating the dimensions of PBC in relation to actual pro-environmental behaviour (Stols, 2017; Taljaard, 2015). Furthermore, whereas objectives that formed part of a larger project focused attention on a particular generational cohort's (i.e. millennial consumers) eco-friendly disposal methods (Olwoch, 2018), this study attends to all age groups in the donation of unwanted apparel as their most preferred method of eco-friendly disposal.

1.5 AIM AND HYPOTHESES

Based on the theoretical framework and review of literature, the primary aim of this study is to explain the influence of situational factors and self-efficacy on consumers' activewear donation. Chapter 2 provides an extensive overview of the key concepts included in this study. Briefly as a summary, the conceptual framework that depicts the hypothesized construct associations is presented in Figure 1.1 below.

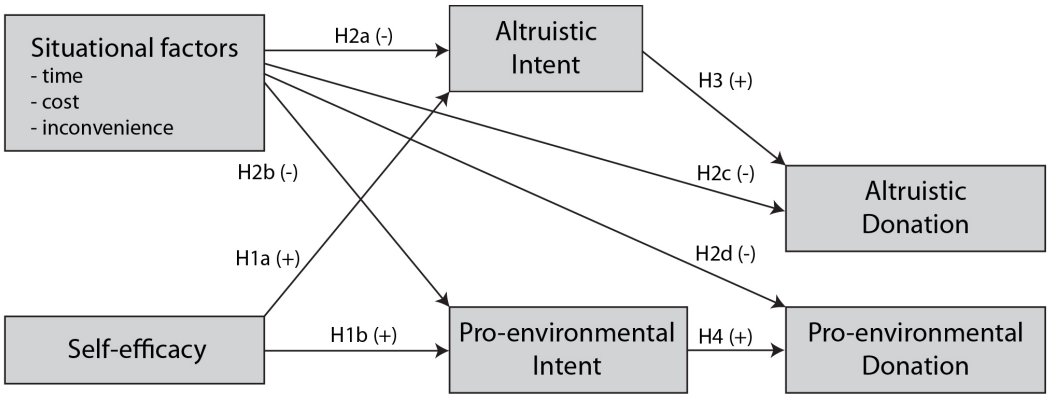

FIGURE 1.1: CONCEPTUAL FRAMEWORK BASED ON Ajzen (2002) THEORY OF PLANNED BEHAVIOUR

To predict that there would be relationships between the various constructs, the hypotheses were formulated as follows:

Hypothesis 1: *Consumers' self-efficacy is positively associated with their intent to donate activewear.*

Consumers may engage in the donation of unwanted activewear based on pro-environmental reasons or on the basis of altruistic intent. For these reasons a further distinction was drawn between altruistic and pro-environmental intent in the formulation of the first hypotheses as follows:

Hypothesis 1a: *Consumers' self-efficacy is positively associated with their altruistic intent to donate activewear.*

Hypothesis 1b: *Consumers' self-efficacy is positively associated with their pro-environmental intent to donate activewear.*

Hypothesis 2: *Inhibiting situational factors (e.g. time, cost and inconvenience) are negatively associated with consumers' intent and actual donation of unwanted activewear.*

Construct associations were further refined to differentiate between intent and actual behaviour based on pro-environmental and altruistic reasons:

Hypothesis 2a: *Inhibiting situational factors (e.g. time, cost and inconvenience) are negatively associated with consumers' altruistic intent to donate activewear.*

Hypothesis 2b: *Inhibiting situational factors are negatively associated with consumers' pro-environmental intent to donate activewear.*

Hypothesis 2c: *Inhibiting situational factors are negatively associated with consumers' donation of activewear based on altruistic reasons.*

Hypothesis 2d: *Inhibiting situational factors are negatively associated with consumers' donation of activewear based on environmental reasons.*

Hypothesis 3: *Consumers' altruistic intent is positively associated with their donation of activewear based on altruistic reasons.*

Hypothesis 4: *Consumers' pro-environmental intent is positively associated with their donation of activewear based on pro-environmental reasons.*

1.6 RESEARCH DESIGN AND METHODOLOGY

The research study was conducted throughout South Africa with a sample of 600 male and female consumers between the ages of 18 to 65. Findings remain inconclusive regarding the differences between genders, especially regarding pro-environmental concerns including the willingness to dispose of apparel in an eco-friendly manner (Getzner & Grabner-Kräuter, 2004). For these reasons it was important to include both male and female participants. A quantitative research approach with a cross-sectional survey design was used. A prerequisite for inclusion in the study was that respondents had to pursue an active lifestyle ensuring that they wear activewear , thus a non-probability, purposive sampling method was used (De Vos & Strydom, 2011).

Validity of this study was achieved through external and internal validity, and so too reliability increased through scrutinizing various factors such as internal consistency, test-retest reliability and questionnaire structure. Lastly a number of ethical considerations were addressed before data collection commenced. The questionnaire was developed according to the constructs and hypotheses of this study and willing respondents completed a structured, self-administered questionnaire through the Consulta Research online platform. The captured data was coded and further analyzed through descriptive and inferential statistics

1.7 DEFINITIONS OF TERMS AND CONCEPTS

Table 1.1 presents the relevant concepts with definitions that formed the theoretical basis of this study.

TABLE 1.1: CONCEPTS AND DEFINITIONS

CONCEPT	DEFINITION	REFERENCE
Activewear	Apparel produced for sports and recreation, usually purchased for the use in active sports or daily activities beyond physical activity. Footwear is part of this category.	Ko, E., Taylor, C.R., Sung, H., Lee, J., Wagner, U., Navarro, D.M.-C. & Wang, F. 2012. Global marketing segmentation usefulness in the sportswear industry. *Journal of Business Research,* 65(11):1565-1575.
Altruistic	The showing of selfless interest for the welfare of others.	De Groot, J.I. & Steg, L. 2008. Value orientations to explain beliefs related to environmental significant behavior: How to measure egoistic, altruistic, and biospheric value orientations. *Environment and Behavior,* 40(3):330-354.
Apparel consumption	Acquiring, storing, using, maintaining and disposing of apparel products. Referred to also as the cause of environmental change.	Joung, H.M. & Park-Poaps, H. 2013. Factors motivating and influencing clothing disposal behaviours. *International Journal of Consumer Studies,* 37(1):105-111.
Attitude	The degree to which a consumer has a favourable or unfavourable belief or evaluation of a specific problem.	Tang, Z., Chen, X. & Luo, J. 2011. Determining socio-psychological drivers for rural household recycling behavior in developing countries: A case study from Wugan, Hunan, China. *Environment and Behavior,* 43(6):848-877.
Behavioural intent	A persons' perceived or "subjective" probability to engage in a specific 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	Any long-term change in climate of a specific region or city. Also change in the overall climate of the earth	National Aeronautics and Space Administration. 2017. *What are climate and climate change?* [Online] Available from: https://www.nasa.gov/audience/forstudents/5-8/features/nasa-knows/what-is-climate-change-58.html [Accessed: 30 April 2018].

Consumer behaviour	The behaviour and processes of individuals or groups that related to how they adopt, select, use and ultimately dispose of products.	Du Plessis, P.J., Rousseau, D. & Boshoff, C. 2007. *Buyer behaviour: Understanding consumer psychology and marketing.* Oxford University Press.
Controllability	How much external control a person has over the actual execution of the task	Ajzen, I. 2002. Perceived behavioral control, Self‐Efficacy, locus of control, and the theory of planned Behavior1. *Journal of applied social psychology,* 32(4):665-683.
Discard	A disposal method that appeals to consumers that are not concerned with the environment or wellfare of other as it is merely related to convenience.	Meyer, J. 2013. *The role of values, beliefs and norms in female consumers' clothing disposal behaviour.* Masters dissertation. Pretoria: University of Pretoria.
Dispose	Incompasses discarding, donating, reselling, reusing and recycling.	Koch, K. & Domina, T. 1997. The effects of environmental attitude and fashion opinion leadership on textile recycling in the US. *Journal of Consumer Studies & Home Economics,* 21(1):1-17.
Donate	An item (such as food or clothes) given to help an organization or individual.	Oxford Dictionaries. 2018b. *Definition of donate in English*. [Online] Available from: https://en.oxforddictionaries.com/definition/donate [Accessed: 30 April 2018].
Eco-friendly apparel	Products produced in a manner to consider the environmental impact (such as to replace chemicals and products during production with more sustainable options).	Joergens, C. 2006. Ethical fashion: myth or future trend? *Journal of Fashion Marketing and Management: An International Journal,* 10(3):360-371.
Fast-fashion	Catwalk inspired items at a lower price so that consumers can adopt the latest fashion trends and retailers can increase their sales.	Chang, S.-W. & Fan, S.-H. 2017. Cultivating the brand-customer relationship in Facebook fan pages: A study of fast-fashion industry. *International Journal of Retail & Distribution Management,* 45(3):253-270.
Global warming	A long-term increase of the standard temperature of the globe.	National Aeronautics and Space Administration. 2017. *What are climate and climate change?* [Online] Available from: https://www.nasa.gov/audience/forstudents/5-8/features/nasa-knows/what-is-climate-change-58.html [Accessed: 30 April 2018].
Landfill	A location where waste products are buried under ground.	Oxford Dictionaries. 2018c. *Definition of landfill in English*. [Online] Available from: https://en.oxforddictionaries.com/definition/landfill [Accessed: 30 April 2018].
Perceived behavioural control (PBC)	Described as the level in which an individual believes a action is under their voluntary control.	Trafimow, D., Sheeran, P., Conner, M. & Finlay, K.A. 2002. Evidence that perceived behavioural control is a multidimensional construct: Perceived control and perceived difficulty. *British journal of social psychology,* 41(1):101-121.
Pro-environmental consumer	Is the consideration a consumer may have	Polonsky, M.J. 2011. Transformative green marketing: Impediments and opportunities. *Journal of Business*

behaviour	towards the environment lifecycle of a product.	*Research,* 64(12):1311-1319.
Pro-environmental disposal methods	The inclusive term for the various concepts of donating, re-selling, re-using and recycling.	Recycling-guide. 2018. *Reduce, Reuse, Recycle - Recycling guide*. [Online] Available from: http://www.recycling-guide.org.uk/rrr.html [Accessed: 30 April 2018].
Re-use	Using again in another way, or reclaiming / reprocessing.	Oxford Dictionaries. 2018e. *Definition of reuse in English*. [Online] Available from: https://en.oxforddictionaries.com/definition/reuse [Accessed: 30 April 2018].
Recycle	The course of action to collect and process an item that would most likely be discarded but turned into a new product.	United States Environmental Protection Agency. 2017. *Recycling Basics | Reduce, Reuse, Recycle | US EPA*. [Online] Available from: https://www.epa.gov/recycle/recycling-basics [Accessed: 28 February 2018].
Resell	To sell a used item to an individual or organization.	Oxford Dictionaries. 2018d. *Definition of resell in English*. [Online] Available from: https://en.oxforddictionaries.com/definition/resell [Accessed: 30 April 2018].
Self-efficacy	The belief in a persons' ability to complete the action that is needed to accomplish the task.	Terry, D.J. & O'Leary, J.E. 1995. The theory of planned behaviour: The effects of perceived behavioural control and self‐efficacy. *British journal of social psychology,* 34(2):199-220.
Situational factors	Factors that do not come from knowledge or personal stimulus that have an effect on behaviour.	Belk, R.W. 1975. Situational variables and consumer behavior. *Journal of Consumer research,* 2(3):157-164.
Sportswear	Garments used for sporting activities.	Horton, K., Ferrero-Regis, T. & Payne, A. 2016. The hard work of leisure: healthy life, activewear and Lorna Jane. *Annals of Leisure Research,* 19(2):180-193.

1.8 PRESENTATION AND OUTLINE OF THE STUDY

This chapter presented an overview of the study and provided relevant information related to the nature and circumstances of the research topic. The environmental impact of the textile and apparel industry was highlighted with particular focus directed toward the activewear segment. Elements in this chapter included an introduction, background of the theoretical aspects, research problem, objectives, methodology and clarification of the key terms and concepts of the study.

The subsequent chapters are outlined and summarised as follows:

CHAPTER 2 renders an overview of relevant literature relating to the research problem of this study. Insight into global climate change, textile waste and the environmental impact of the textile and apparel industry are included. In addition, consumers' waste disposal methods and pro-environmental behaviour is discussed with additional information as to why activewear is the

primary focus. The chapter presents the Theory of Planned Behaviour (TPB) as the underlying theoretical basis of this study with a key focus directed toward Perceived behavioural control (PBC) and its two dimensions namely self-efficacy and controllability. In addition, the role of situational factors that might inhibit donation is explained. Lastly, the conceptual framework depicts the construct associations that formed the basis of the research hypotheses that was formulated for this study.

CHAPTER 3 describes the research design and methodology used in this study. Also discussed is the sample, sampling technique, composition of the questionnaire, the process of data collection and analysis thereof. To conclude this chapter, the measures taken to ensure validity and reliability of the data, and ethical considerations are discussed.

CHAPTER 4 presents the results, interpretation and findings of the study. Firstly, the demographic characteristics of the sample is summarized in a descriptive manner by means of tables and graphs, and thereafter the hypotheses are addressed by means inferential statistics such as EFA, CFA and a SEM model which is then linked to theory.

CHAPTER 5 comprises of the conclusions drawn from the main findings found in Chapter 4, with additional discussion surrounding the practical implications of the findings, limitations of the study and recommendations for prospective research.

1.9 CONCLUSION

In summing up this chapter, it can be described as a general introduction to the research study. It highlights the vulnerability of the environment and the importance of the reduction of textile waste and how that relates to activewear and specifically the disposal thereof. This chapter provides the needed framework of information that includes the theoretical background and supporting theories. This framework creates insight related to the research problem, accompanied by a justification of the research, research hypotheses and conceptual framework, design and methodology and lastly important terms and definitions.

CHAPTER 2: A REVIEW OF LITERATURE

This chapter provides an overview of relevant literature relating to the research problem of this study. Insight into global climate change, textile waste and the environmental impact of the textile and apparel industry are included. In addition, consumers' waste disposal methods and also more specifically donation as an appropriate method of disposal is discussed. The chapter also presents the theoretical framework for this study i.e. the Theory of Planned Behaviour (TPB) with specific focus directed toward the concept of Perceived Behavioural Control (PBC) and its two dimensions namely self-efficacy and controllability. Situational factors that might inhibit donation of activewear are explained more in detail. The chapter concludes with the conceptual framework that map-out the research hypotheses.

2.1 CLIMATE CHANGE: A GLOBAL DILEMMA

Climate change is a global topic and human behaviour seems to be one of the foremost causes thereof. According to Darkoh (2009) climate change and global warming are proven scientific facts, and that it poses a development threat to all human beings. Causes of climate change are incited as the entrapment of heat by an increasing blanket of carbon dioxide (CO2) and other greenhouse gases in the atmosphere (World Wildlife Fund, 2017). Scientists estimate the potential repercussions of climate change over the next fifty years include increased temperatures (i.e. global warming), reduced rainfall, and an increase in floods and droughts to name but a few (Madzwamuse, 2010). Batley and Wenning (2007) state that certain areas will even be affected by natural disasters such as the rise in sea level and flooding of coastal and low-lying areas due to climate change.

Human activity is seen as the most significant cause and contributor to climate change, either through direct or indirect involvement (Swim, Stern, Doherty, Clayton, Reser, Weber, Gifford & Howard, 2011). For example, globalization has brought on many positive changes such as trade and capital mobility, wealth creation and distribution and also international aid, but at the cost of exhausting various resources and the disruption of the climate as well as degradation of land and water (McMichael 2013). It is expected that as the temperature changes due to climate change, fertile areas will decline, growing seasons will be altered and crop yields will inevitably also decline (Tubiello, Soussana & Howden, 2007). As the climate changes, problems will most likely develop more severely as it is proposed that rain-fed agriculture yields could decline by a shocking 50% as early as 2020 (Parry *et al.*, 2007), and this might also be the case for cotton production that supply a large portion of the textile and apparel industry (Rahman, Ahmad, Wang, Wajid, Nasim, Hussain,

Ahmad, Ahmad, Ali & Ishaque, 2018). Overall, it should also be noted that deterioration of the environment can be significantly attributed to the apparel and textile industry, as this industry is one of the largest industrial polluters to date (Choudhary & Islam, 2017).

2.2 ENVIRONMENTAL IMPACT OF THE TEXTILE AND APPAREL INDUSTRY

2.2.1 Textile and apparel manufacturing's contribution to waste

The textile and apparel industry is known to be one of the largest and most globalized industries in the world to date (Choudhary & Islam, 2017). It is also one of the oldest export industries, as many nations produce items not necessarily intended for local use, but rather for export in order to grow their own economy (Gereffi & Frederick, 2010). The large amounts of textiles and apparel that are produced globally on a daily basis raises may questions about the environmental impact thereof (Chen & Burns, 2006), especially as fast fashion and activewear trends have consumers prematurely replacing garments with newer, more current products, all of which generate extra textile waste (Fletcher, 2013; Novak & Vujasinović, 2017). The term "fast fashion" is used to describe the prevalent scenario in the current fashion industry that is characterised by mass production, high turnover products specifically designed with a short lifespan in mind (Hall, 2017). This shorter life span of these fashion items may fuel the rate of discarding of products even if the items are still wearable (Morgan & Birtwistle, 2009). This coincides with rapid population increases, the increase in resource usage and ultimately more textile waste (Zamani, Svanström, Peters & Rydberg, 2015). In spite of the fact that there are many other items that also create waste and potentially harm the environment, textiles are especially noteworthy and have become a very contentious topic (Muthu, 2014; You, Cheng & Yan, 2009). Textile and apparel production and consumption is a great cause of damage to the environment (Kang, Liu & Kim, 2013), as it accounts for at least 10% of global emissions (Conca, 2015). As the textile and apparel industry is a large contributor towards emissions and also a significant cause for the depletion of natural resources, it is essential to lessen its environmental footprint (Armstrong *et al.*, 2015).

To get an idea of the total amount of waste that is created throughout the textile and apparel supply chain, each product needs to be looked at from a cradle-to-the grave perspective, as every product starts off its life cycle at some type of raw stage, then passes through various stages of manufacturing, distribution and ultimately disposal (Muthu, 2014). There is a potential environmental impact that follows each step in the process of textile and apparel production and consumption (Claudio, 2007). During production and processing, various chemicals may be released that cause toxicity problems that pertain to the renewability of raw materials (Chen & Burns, 2006). Some items disposed of during or after production may include waste water, chemical pollutants, emissions and packaging waste (Reverse Resources, 2016). As seen in the

production of natural fibres such as cotton, various fertilizers and pesticides are used that end up as water pollution that relates to health problems for humans, and eventually harms the environment by reducing soil fertility (Fletcher, 2008). Cotton has also been found to be the world's most pesticide intensive crop (Conca, 2015), thus infusing a large amount of chemicals and pesticides into the natural ecosystems. The above is disconcerting as the clothing and textile industry is dependent on high volumes of cotton (Kang *et al.*, 2013). The manufacturing of cotton-based products also produces large volumes of chemical and water based waste. It is estimated that the manufacturing of one pair of jeans and one T-shirt, can take up to 18 900 litres (5000 US gallons) of water (Sweeny, 2015). The environmental impact of synthetic fibres is not any less. Producing certain synthetic fibres release nitrous oxide that negatively affects the ozone layer (You *et al.*, 2009). According to Conca (2015), to produce synthetic fibers such as rayon, viscose, modal and lyocell, an amount of 70 million trees are logged each year. In summary, the total amount of processes that textile fibers, yarns and fabrics go through such as dyeing, printing and finishing all affect the environment (Chen & Burns, 2006), as most often untreated dye wastewater is discharged into rivers and ultimately run out into the ocean creating a global problem (Sweeny, 2015). Additional environmental issues arise even at the end of the life of textile and apparel products, as these are most likely disposed of and end up in landfills as solid waste (Resta, Gaiardelli, Pinto & Dotti, 2016).

Solid textile waste is a problem, especially because synthetic textiles such as polyester (that is prominently used in activewear), is very resistant to natural degradation, which in turn leads to the release of harmful gasses in the form of methane over an extended period of time thus contributing to global warming (Kadolph, 2010; Novak & Vujasinović, 2017; Shishoo, 2015; Textile Learner, 2017). According to Conca (2015), polyester can take up to 200 years to decompose. Polyester not only takes long to decompose, but certain polyesters are made up of catalytic agents that contain heavy metals and other toxic elements that have the potential to pollute soil and water that result in long-term environmental implications (Kadolph, 2010). Carbon Dioxide (CO2) adds to climate change, but certain synthetic fibres emit nitrous dioxide (N2O) that can be up to 300 times more damaging than CO2 (Conca, 2015). Clearly, excessive textile waste leads to various problems and when landfills overflow, air and water may become contaminated and may lead to a number of health risks (Ganiaris & Okun, 2001).

2.2.2 Post-consumer textile waste

The environmental impact of textile and apparel waste throughout the whole supply chain cannot only be the sole responsibility of manufacturers. Consumers, through various initiatives driven by retailers and manufacturers, should also do their part. Various role players throughout the textile industry have maintained a good standing regarding recycling pre-consumer waste (Chen & Burns,

2006), but most of the textile waste stream is considered to be post-consumer waste (Woolridge, Ward, Phillips, Collins & Gandy, 2006). Textile waste is generally classified in two categories, pre-consumer or post-consumer waste (Chen & Burns, 2006). Pre-consumer textile waste is usually made up of by-products from fibre, yarn or fabric production, and post-consumer textile waste can be made up of any type of apparel or household textile items of which the consumer no longer has need for, and then discards (Chen & Burns, 2006). On-going efforts throughout the textile and apparel industry show that currently large amounts of the pre-consumer textile waste are relocated out of landfills to be recycled (Roznev, Puzakova, Akpedeye, Sillstén, Dele & Ilori, 2011). Conversely, a study has found that post-consumer textile waste has increased by as much as 40% in the US in the past 10 years (Council for Textile Recycling, 2017). It is estimated that a total of 85% of post-consumer textile waste in the US end up in the landfill (Chen & Burns, 2006), despite most household and apparel textiles being 100% recyclable (Council for Textile Recycling, 2017). According to Joung and Park-Poaps (2013), the biggest obstacle to textile recycling is the insufficient recovery of post-consumer textile waste. Another study regarding the amount of textile waste discarded at refuse points revealed a steady increase in volume throughout the past decade (Morgan & Birtwistle, 2009; Wang, 2010). Also, Claudio (2007) states that most post-consumer waste ends up in landfills due to consumers not putting in the effort to dispose of textiles and apparel in an environmentally friendly manner.

As the total waste rises, it becomes increasingly necessary to create environmental awareness among consumers through initiatives such as recycling services or enabling consumers to recycle products in-store (Chan & Wong, 2012). Chen and Burns (2006) explain that apart from major environmental problems that relate to the properties and nature of the chemicals used when laundering and dry cleaning apparel, globalization has made it possible for clothing to be produced at a much lower cost and for consumers to consequently dispose of it without much thought or deliberation (Claudio, 2007). Abroad, the annual amount of textile waste that is disposed of in the United Kingdom amounts to approximately 2 million tonnes, of which only 16% was either recycled or reused (PhotoGanic, 2015). According to Zamani *et al.* (2015), only 25% of textile waste is collected by organizations with the purpose of reusing or recycling, and the estimated amount of discarded textiles in the European Union amounts to 5.8 million tonnes per annum. In the United States of America, a staggering 11 billion tonnes of textile waste is said to be generated per annum and is projected to grow to 16 billion tonnes in 2019 (Council for Textile Recycling, 2017). Although a textile waste approximation is currently not available for the local context, it is estimated that South Africa generated about 108 million tonnes of waste in 2011 of which 59 million tonnes was classified as general waste and that from the total waste generated only 10% was recycled (Department of Environmental Affairs, 2012). This amount indicates that recycling programs are either non-existent or not being used. Textile waste is classified under general waste in South Africa, which is defined as waste that does not pose an immediate danger to the environment

(Department of Environmental Affairs, 2012). However, it is well known that textile waste has long-term repercussions.

The above discussion highlights the need for a concerted effort by consumers, government and retailers to curb further textile waste from ending in landfills.

2.3 PROMOTING PRO-ENVIRONMENTAL CONSUMER BEHAVIOUR

Polonsky (2011) states that the term "pro-environmental consumer behaviour" refers to the concern that consumers may have for the environmental lifecycle of a product and incorporating such concerns into their decision-making. As the demand for fashion and activewear apparel grows, pro-environmental behaviour must be promoted in order to reduce textile waste. This moves the focus towards why consumers would act in a pro-environmental manner, and whether specific motives exist (e.g., financial, environmental and/ or altruistic reasons) that may encourage their participation in specific types of pro-environmental action. Many campaigns encourage and promote financial gain to convince consumers to engage in pro-environmental behaviour (Evans, Maio, Corner, Hodgetts, Ahmed & Hahn, 2013). An example of this would be the collection and recycling promotion that was launched by H&M, where consumers can hand in old athletic wear or any other apparel item for recycling purposes and in return receive a voucher to the value of 15% off on their next purchase (H&M, 2017). Another example is where the website for the UK's "Act on carbon emissions" campaign shows that there is money to be saved by using the correct energy-saving appliances (Evans *et al.*, 2013).

Pro-environmental consumer engagement has thankfully increased through various initiatives such as the above. This is exemplified as far back as 1990 on Earth Day when 200 million people across the globe participated in support of ending plastic pollution. This number has since increased to what is believed to be over 1 billion participants in 2018 (Earthday, 2018; Shim, 1995). Whether consumers engage in such initiatives when it directly relates to their pocket is however another question. As an example, Woolworths South Africa, as a member of the Better Cotton Initiative (BCI), helps farmers to grow a more natural organic cotton to reduce stress on the environment (Woolworths, 2018). Woolworths' natural cotton clothing items have BCI labels that explain to the consumer that by purchasing these BCI products, they are making a contribution toward reducing environmental damage (Better Cotton, 2018). The opportunity therefore exists for local consumers to support such an initiative, but whether they do is debatable. For many the cost of these items might exceed what they are willing to pay. In this regard, added benefits and minimising the additional cost and effort of participation might lead to greater support of such initiatives. As an example, Jordan wine estate in the Western Cape created an event to appeal to consumers' altruistic intentions to donate clothing for those in need during the winter months In

return, participants received a bottle of wine (Chetty, 2018). In general, donation, is perceived as a popular and convenient means of clothing disposal in the local context (Meyer, 2013; Olwoch, 2018), which in addition to the environmental benefits of extending the lifespan of a garment, also taps into underlying altruistic values, which are seen to emphasize the welfare of another human being (Alibeli & White, 2011; Stern, Dietz & Kalof, 1993). Apart from donation, there are other means of disposing activewear with sustainable pro-environmental consequences, which is briefly highlighted in the section to follow.

2.4 DISPOSAL METHODS RELATED TO SUSTAINABLE TEXTILE AND APPAREL CONSUMPTION

Buying less, using products for longer, and in so doing causing less waste are all requirements for sustainable apparel consumption (Armstrong *et al.*, 2015). The consumers' environmental footprint can be further reduced through sustainable decisions during the textile and apparel disposal stage (Bianchi & Birtwistle, 2012). Many studies have explored sustainable purchase practices, yet the sustainable disposal of textiles or apparel products are often overlooked by consumers and marketers (Bianchi & Birtwistle, 2012; Koch & Domina, 1997; Koch & Domina, 1999). Laitala (2014) refers to disposal as the act of getting rid of something. From an environmental point of view, the consumers' decision regarding apparel disposal is important as this may have an effect on the lifespan of the clothing and for future potential reuse and recycling of the item (Laitala, 2014). There are various disposal methods available to the consumer that relate to economic and environmental incentives, but the four most prominent textile and apparel disposal methods acknowledged in literature are discarding, donating, reselling and recycling (Koch & Domina, 1997). *Discarding* is a disposal method that appeals to consumers that are not concerned with the environment or welfare of others as it is merely related to convenience (Meyer, 2013). However, throwing away unwanted clothing leads to waste problems that threaten the environment and human health. Discarding is therefore not seen as a pro-environmental disposal method. Contrariwise, reselling, recycling and donation may have more positive environmental consequences.

2.4.1 Reselling

The term *reselling* refers to an exchange of items for a monetary value through various channels (Laitala, 2014), and may therefore be motivated from an economic perspective. Limited research has been done on the resale behaviour relating to textiles and apparel (Joung & Park-Poaps, 2013). Latent behaviour might suggest that reselling of textiles and apparel is closely linked to financial benefits, yet the consequences stay positive due to the reduction of textile waste (Stols, 2017). Various channels exist such as consignment stores, garage sales and flea markets (Joung

& Park-Poaps, 2013; Laitala, 2014). Due to an increase in online shopping and online auctions such as e-bay, consumers are also able to sell goods directly to one another by means of the internet (Birtwistle & Moore, 2007; Joung & Park-Poaps, 2013). Reselling has increased so much as of late, that a trend in reselling of second-hand apparel has grown throughout South Africa (Meyer, 2013). Research by Meyer (2013) shows that education level influences South African consumers' resale behaviour, but to date limited evidence exist in a local context regarding factors that impact on resale behaviour. It could however be a topic worthy of further investigation because in the end, this process benefits the buyer and the seller of the textile or apparel items (Leigh & Realff, 2003) in addition to extending the lifespan of the item with positive environmental consequences.

2.4.2 Recycling and re-using

Recycling involves taking redundant materials that would otherwise be thrown away, and transforming them to become re-useable in new ways (United States Environmental Protection Agency, 2017), is a voluntary pro-environmental undertaking that consumers are often encouraged to partake in (Dahlén & Lagerkvist, 2010). Through *re-using*, which is closely related to recycling, consumers are seen as being "eco-active" through their desire to get the most out of an apparel item and in so doing purposefully benefiting the environment (Koch & Domina, 1997). Textile and apparel items can be re-used in creating arts and crafts items or repurposed into new products. Such initiatives could even create work opportunities and generate additional income (Friends of the Earth, 2008; Koch & Domina, 1997). Recycling of textiles and apparel can be grouped into two categories namely pre- and post- consumer waste (Chen & Burns, 2006). Post- consumer waste specifically relates to unwanted garments, or used items that the consumer no longer has need for or no longer requires (Council for Textile Recycling, 1997; Hawley, 2008). Such items are also ideal for donating, which is another important disposal method that extends the lifespan of the product.

2.4.3 Donating

Donating of clothing is a disposal method that has the strongest ties with charities (Bianchi & Birtwistle, 2012; Kadolph, 2010). According to Koch and Domina (1999), donating to a non-profit organization or giving items to friends and family are popular options for clothing disposal, even though this method of disposal yields no economic benefit to the donator (Laitala, 2014). According to Birtwistle and Moore (2007) donating to family, friends or charities is a form of environmental responsible behaviour. The selected charity might not be of real importance, but what is more important is the fact that the lifespan of clothing items are prolonged which leads to the reduction of waste, and the minimization of poverty (Birtwistle & Moore, 2007; Meyer, 2013). Studies have

shown that locally donation is the most used form of textile and apparel disposal among females, children and Generation Y consumers (Meyer, 2013; Olwoch, 2018). This shows that consumers that dispose of their items in this way are likely to be concerned with underprivileged communities and show selfless/ altruistic characteristics (De Groot & Steg, 2008a).

Even though donation may be recognised as a pro-environmental disposal method (Joung & Park-Poaps, 2013), it is important to note that it could be less influenced by concern for the environment and perhaps more so by the welfare of others (Bianchi & Birtwistle, 2012). Even so, donation of clothing may provide possibilities for retailers to join forces with charities in having consumers donate their unwanted textiles and apparel products in exchange for incentives (Bianchi & Birtwistle, 2012), such as H&M reciprocating donors with discount vouchers towards a next purchase (H&M, 2017).

As seen in the preceding paragraphs, eco-friendly disposal of unwanted apparel such as donation are crucial in sustainable living and forms part of a behavioural change that consumers have to undertake in order to act in a socially responsible manner. For the purposes of this study, specific attention will be focused on the determinants of donation, because previous empirical research has shown that it is the most preferred method of apparel disposal in the local context (Meyer, 2013; Olwoch, 2018). Yet, current literature also highlights potential demographic differences, particularly gender, that may be relevant in consumers' engagement of pro-environmental and altruistic initiatives such as donation (Pinto, Nique, Añaña & Herter, 2011).

2.5 DEMOGRAPHIC DIFFERENCES IN PRO-ENVIRONMENTAL DISPOSAL BEHAVIOUR

Demographic variables, specifically gender, has been shown to have a meaningful impact on ecological mindfulness and pro-environmental intent (Mobley & Kilbourne, 2013). Bakewell and Mitchell (2006) propose that male and female consumers have different decision-making behaviours. Similarly, Mobley and Kilbourne (2013) emphasise the importance of investigating potential gender differences in environmentalism. Woodford (2010) explains that environmentalism is a different way of thinking that relates to the care and concern for the earth and the survival of life on it. Gender may influence environmental awareness as well as pro-environmental motivations and intent, which are determined by the individual's knowledge, concern for others, the environment, socialisation, and life experiences (Mobley & Kilbourne, 2013).

Although much evidence has revealed that male and female attitudes and behaviour regarding the environment may differ, some findings remain inconclusive and therefore future investigation in terms of gender differences is thus warranted, particularly in terms of issues such as eco-friendly apparel disposal (Mostafa, 2007). For the purposes of this study, a sample consisting of both male

and female consumers from different generational cohorts and demographic backgrounds were deemed appropriate in order to reflect a diversity of consumers who use and dispose of activewear. However, the main focus of this particular project was directed toward the investigation of underlying determinants of donation (based on pro-environmental and altruistic reasons as per existing theory) rather than the exploration of demographic differences, which might well be the focus of future research.

2.6 SUPPORTING THEORIES AND DIMENSIONS EXPLAINING PRO-ENVIRONMENTAL AND ALTRUISTIC DONATION

Throughout the supply chain of the textile and apparel industry, solid waste of some sort eventually finds its way to landfills, despite the fact that nearly 100% of textiles are recyclable (Council for Textile Recycling, 2017). Even synthetic textiles such as the ones used in most activewear items are recyclable (Pistoni, 2018). In addition, a large percentage of the local population is in desperate need of clothing and could therefore benefit from the donation of unwanted apparel. Various apparel and textile manufacturers are trying to curb further environmental deterioration, by prioritising various ways the end product may be disposed of in a pro-environmental and altruistic manner. Unfortunately, there often seems to be a gap between intention and action when it comes to pro-environmental and altruistic behaviour, which coincides with literature that there may be some barriers obstructing the performance of the desired disposal behaviour (Grimmer & Miles, 2017). A theory that may provide some insight and comprehension into this phenomenon is the theory of planned behaviour (TPB). TPB and its predecessor, the Theory of Reasoned Action (TRA) are intention models that have proven successful in predicting and explaining behaviour across various fields of study, but especially pro-environmental behaviour (Ajzen, 1991; Fishbein & Ajzen, 1975; Yousafzai, Foxall & Pallister, 2010). According to Armitage and Conner (2001), these two models have been specifically designed to explain underlying motivational influences on behaviour.

2.6.1 Theory of Reasoned Action (TRA)

TRA was developed to establish the relationships between the beliefs, attitudes, norms, intentions, and behaviours of individuals (Fishbein & Ajzen, 1975; Otieno, Liyala, Odongo, Abeka & Ogara, 2018). TRA assumes that a person's intention to perform a task is a key determinant in a person's behaviour, and that the intention may be determined from the subject's attitudes and subjective norm towards the behaviour (Fishbein & Ajzen, 1975). It can be seen that attitude is determined through a person's beliefs that related to the results of performing a specific behaviour, and the subjective norm is determined if valued referents approve or disapprove of the performance of a behaviour and whether the person would want to act in accordance with the referents as seen in

Figure 2.1 (Glanz, Rimer & Lewis, 2002; Montano & Kasprzyk, 2015). The TRA model presupposes that individuals are typically sensible in their reasoning and will consider the implications of their actions prior to deciding whether to perform a given behaviour such as donation (Ajzen & Fishbein, 1980; Yousafzai *et al.*, 2010).

As mentioned previously, intention is the direct antecedent of behaviour (as seen in Figure 2.1), and suggests that most actions of social relevance are under voluntary control and are thus predictable from intention (Ajzen, 1985). The figure shows that the belief constructs are divided into two concepts: behavioural and normative (Fishbein & Ajzen, 1975).

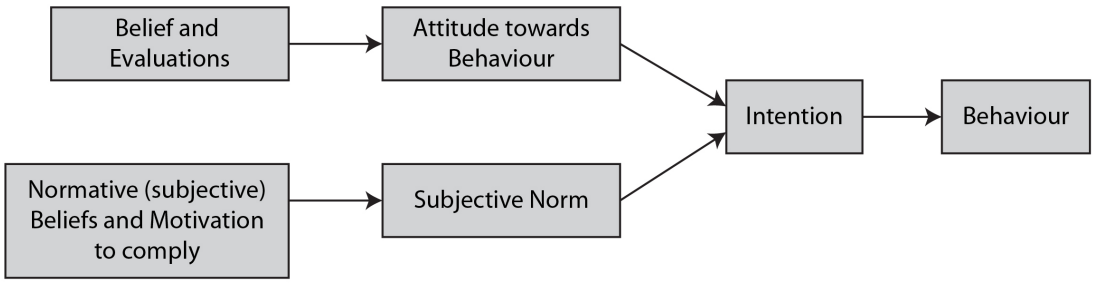

FIGURE 2.1: THE RELATIONSHIPS BETWEEN THE KEY CONSTRUCTS OF TRA (Fishbein & Ajzen, 2011).

In recognizing that situations may arise that individuals do not have complete control over a certain behaviour, TRA was extended and further developed to form the basis of TPB which is set apart by the inclusion of perceived control (Ajzen, 1985; Madden, Ellen & Ajzen, 1992), which is further explained in the following section.

2.6.2 Theory of Planned Behaviour (TPB)

As pointed out before, TPB is an extension of TRA that is based on the assumption that human social behaviour is under voluntary control, and can therefore be predicted from intentions (Ling *et al.*, 2013). These intentions are determined by attitudes and subjective norms surrounding the behaviour in question (De Groot & Steg, 2007). A third determinant, namely Perceived Behavioural Control (PBC), was added to the initial TRA as seen in Figure 2.2, to form the basis of TPB and refers to a person's beliefs regarding the ease or difficulty of performing the behaviour (Ajzen, 2002). This allows for the prediction of a behaviour that may not be under complete voluntary control and provides information about consumers' perceptions about potential constraints that may surround the behaviour in question (De Groot & Steg, 2007).

Other than TRA, TPB states that behaviour is guided by a supplementary determinant that factors

in the idea that certain components may advance or obstruct the performance of a behaviour (Ajzen, 2002). The perceived power of these components, otherwise known as control beliefs, give rise to PBC. PBC could more closely relate to the actual performance of a behaviour in terms of the amount of resources or opportunities an individual might think they possess to facilitate the desired action. Total control is seen as the scenario in which there are no constraints to adopting the behaviour, whereas the reverse implies a total lack of skills, resources and opportunities to perform the behaviour (Godin & Kok, 1996; Madden *et al.*, 1992).

A conceptual illustration of the TPB with an inclusion of PBC is depicted in Figure 2.2. It should be noted that PBC may have has an immediate effect on behaviour, but also an indirect influence on behaviour through intent (Madden *et al.*, 1992).

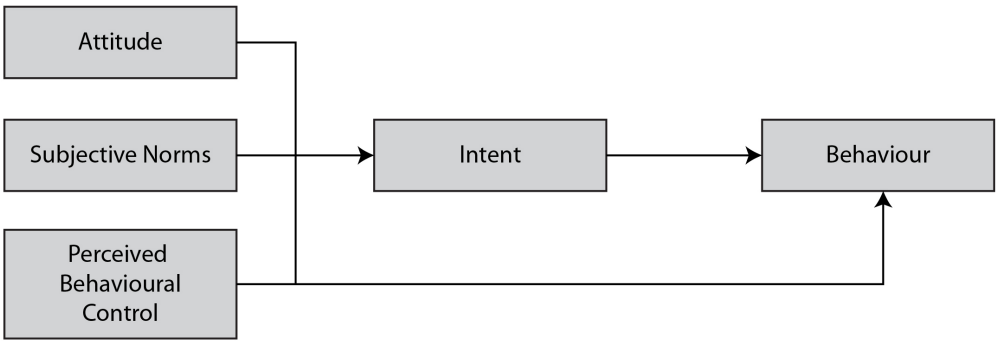

FIGURE 2.2. THEORY OF PLANNED BEHAVIOUR (TPB) (Ajzen, 1985).

2.6.3 Complexity pertaining to Perceived Behavioural Control (PBC)

PBC can be more specifically described as the level in which an individual believes an action is under their voluntary control (Trafimow *et al.*, 2002). As a result PBC is influenced by a set of control beliefs that deal with the existence or non-existence of vital resources or opportunities to determine intention and action (Ajzen, 2002). A high level of PBC should therefore reinforce a person's intention to perform the given action (Ajzen, 2002). PBC is known for having a substantial influence on consumer waste behaviour (Godfrey, Scott, Difford & Trois, 2012), and may also offer some explanation relating to the often reported gap between intention and the actual performance of a behaviour in relation to internal and external locus of control (Grimmer & Miles, 2017).

Perceived ease or difficulty in acting out behaviour echoes the belief about the presence of internal and external factors that may either stand in the way of, or help in acting out the behaviour. Internal factors may include willpower or certain skills needed by the individual to perform the behaviour (hence supporting their intent) whereas external factors may include actions performed by an organization or person not related to the individual, which may either facilitate or inhibit the

intended action. It can thus be deduced that PBC is separated into two specific components, firstly perceived self-efficacy that relates to the individual's capacity or own *internal* capabilities, and secondly controllability that relates to *external* locus of control (Ajzen, 2002; Armitage & Conner, 2001).

2.6.4 Self-efficacy as a component of PBC

The introduction of self-efficacy was in dealing with the management of behaviour in the context of behaviour modification (Ajzen, 2002). Terry and O'Leary (1995) refer to self-efficacy as internal constraints. According to Bandura (1998), perceived self-efficacy can be referred to as the belief in a persons' ability to complete the action that is needed to deliver given levels of fulfilments, and can thus be seen that efficacy is a key foundation of intention and action (Ajzen, 2002). Bandura (1977) further suggests that the proportion of perceived self-efficacy corresponds to the effort of activity, and may have a direct effect on the selected activity through prospects of concluding achievement. This then relates to the idea that people have a tendency to avoid circumstances that they believe will exceed their abilities, and rather embrace exercises they judge themselves equipped for.

Bandura (1977) concludes that self-efficacy not only affects the influence of the choice of behaviour, but also the prediction of resulting success. Although Ajzen (2002) states that self-efficacy only relates to the control over the behaviour and is not related to the eventual outcomes related to the behaviour: i.e. recycling or donating a clothing item as opposed to the eventual reduction of textile waste. Individuals try to keep away from situations that is believed to surpass their coping skills, and are more prevalent with activities when confidence in handling the situation is palpable (Bandura, 1977), and that the anticipation of, and degree of difficulty relating to the behaviour will influence the amount of effort and time the individual will endure (Zolait, 2014). To relate self-efficacy to this study, Barr (2007) concludes that it can be seen as an indicator of waste reduction behaviour and more specifically in the context of this study, donation. The aforementioned background provided the basis for the first hypothesis, which was formulated as follows:

Hypothesis 1: *Consumers' self-efficacy is positively associated with their intent to donate activewear.*

As emphasized in prior discussion, consumers' may engage in the donation of unwanted activewear based on pro-environmental reasons or on the basis of altruistic intent. For these reasons a further distinction was drawn between altruistic and pro-environmental intent in the formulation of the first hypotheses as follows:

Hypothesis 1a: *Consumers' self-efficacy is positively associated with their altruistic intent to donate activewear.*

Hypothesis 1b: *Consumers' self-efficacy is positively associated with their pro-environmental intent to donate activewear.*

2.6.5 Controllability as a component of PBC embodied through situational factors

Where self-efficacy reflects internal factors, controllability is focused on external factors (Godfrey *et al.*, 2012). Controllability can be referred to as an "external locus of control" comprising of external factors (or situational factors) that do not fall under the individual's perceived influence Ajzen (2002). Authors such as Godfrey *et al.* (2012) and Barr (2007) further explain that controllability in terms of an individuals' actual behaviour relates to the presence and degree of influences (i.e. external factors) that either encourage or obstruct performance. These external factors do not fall within consumers' direct control (Ajzen, 2002) and may include factors such as convenience, time and financial resources.

- Convenience / accessibility

Research has shown that discarding of apparel and taking part in recycling programs is very much related to convenience and accessibility (DiGiacomo, Wu, Lenkic, Fraser, Zhao & Kingstone, 2018; Domina & Koch, 2002; Folz, 1991; Olwoch, 2018). Kollmuss and Agyeman (2002) point out that various practices can only take place when the needed infrastructure is readily available. This is especially true regarding availability of collection points or home collections for donation, as these are usually set up by charities that collect clothing that people are willing to donate (Bianchi & Birtwistle, 2012). Furthermore, Shim (1995) found that individuals would rather discard clothing items, as this is more convenient than recycling or to donate to a charity. Joung and Park-Poaps (2013) also state that convenient access to recycling programs fundamentally boosted partaking in these programmes due to the fact that the consumers felt that it required less investment and energy. Similarly, communities with easy access to recycling and/ or donation programmes have a better chance of participation (Derksen & Gartrell, 1993). Morgan and Birtwistle (2009) confirm this statement in that the main determinant of donation to charities revolves around convenience. It should also be noted that prior empirical research has revealed that most textiles that are still in usable condition are generally donated, whereas worn-out textiles are more often disposed of with other garbage (Domina & Koch, 2002) . This might be due to the fact that consumers believe that worn-out textiles could be of no further use to anyone and hence, based on convenience, choose to rather discard to landfill rather than pursuing other alternatives such as reuse (Koch & Domina, 1999).

- Time

Recycling, reselling and donation may require investment in the form of time to search for appropriate channels to engage in the given behaviour. The time that it takes to find an appropriate solution may eventually facilitate or repress the consumer to act in a pro-environmental and altruistic manner (Hiller Connell, 2010). According to Latif, Omar, Bidin and Awang (2018), time can be a hindrance in pro-environmental behaviour. A typical example where time becomes a significant factor can be seen with "drop off" initiatives, where an individual is required to firstly sort the items into certain categories, take the items to a drop off site and lastly put them into specified containers (Domina & Koch, 2002). Often this may take up too much time and result in consumers abandoning the effort altogether.

- Financial resources

According to Kollmuss and Agyeman (2002), choices, actions and eventual pro-environmentalism of an individual is significantly influenced by economic factors. Environmental friendly behaviour can be impeded or advanced through the individuals' financial state of affairs (Hiller Connell, 2010), and for these reasons resell and reuse behaviour can often be predicted on the basis of economic affairs (Joung & Park-Poaps, 2013). Joung and Park-Poaps (2013) further state that economic rewards or incentives can raise pro-environmental behaviour. Finances are one of the most influencing factors for organizations to act in a pro-environmental manner, and strong financial support would make implementation of eco-friendly practices attainable (Deraman, Ismail, Arifin, Izzat & Mostafa, 2017). According to Hirschland, Oppenheim and Webb (2008), the adoption of eco-friendly practices comes with high financial stress for any organization. It should also be noted that any waste management system depends on financial resources and the cooperation of the local population (Al-Khateeb, Al-Sari, Al-Khatib & Anayah, 2017), and would therefore be important aspects to incorporate in a study focused on eco-friendly disposal of clothing items such as activewear. Donation to charities or family/ friends don't hold any financial gains for the donator, yet it may however incur various costs e.g. transport costs to and from charities. Thus it can be seen that these situational factors may have an influence on intent and actual behaviour.

Based on the aforementioned discussion the second hypothesis was formulated as follows:

Hypothesis 2: *Inhibiting situational factors (e.g. time, cost and inconvenience) are negatively associated with consumers' intent and actual donation of unwanted activewear.*

Construct associations were further refined to differentiate between intent and actual behaviour

based on pro-environmental and altruistic reasons:

Hypothesis 2a: *Inhibiting situational factors (e.g. time, cost and inconvenience) are negatively associated with consumers' altruistic intent to donate activewear.*

Hypothesis 2b: *Inhibiting situational factors are negatively associated with consumers' pro-environmental intent to donate activewear.*

Hypothesis 2c: *Inhibiting situational factors are negatively associated with consumers' donation of activewear based on altruistic reasons.*

Hypothesis 2d: *Inhibiting situational factors are negatively associated with consumers' donation of activewear based on environmental reasons.*

2.6.6 Intention and behaviour

Based on assumptions from the Theory of Reasoned Action (TRA) and the Theory of Planned Behaviour (TPB) intention fundamentally precedes behaviour (Ajzen, 1985; De Groot & Steg, 2007). This association between intention and behaviour is presented in Figure 2.1 and Figure 2.2 and indicates that intention is a direct predictor of behaviour. A distinction can also be made between the underlying reasons for and individuals' intent and behaviour such as altruistic- and pro-environmental reasons.

Hypothesis 3: *Consumers' altruistic intent is positively associated with their donation of activewear based on altruistic reasons.*

Hypothesis 4: *Consumers' pro-environmental intent is positively associated with their donation of activewear based on environmental reasons.*

2.7 CONCEPTUAL FRAMEWORK

This study is based on TPB as an underlying theoretical approach to explore pro-environmental as well as altruistic intent to engage in donation as an appropriate method of the disposal of unwanted activewear. PBC and its sub-dimensions, namely self-efficacy and controllability (which in the context of this study relates to the control that the individual may or may not have over inhibiting situational factors such as time, cost and convnience) as well as donation of unwanted activewear formed the primary focus of this study. The conceptual framework as illustrated in Figure 1.1, shows various potential interactions between the aforementioned constructs. It can be noted that both self-efficacy and situational factors are influencers of pro-environmental intent (i.e. consumers' willingness to engage in eco-friendly disposal), although control over inhibiting situational factors may also have a direct negative influence on the actual donation of unwanted activewear. It should also be noted that consumers' initial intent/ willingness and subsequent

engagement in actual donation behaviour may be governed by environmental and/ or altruistic reasons, which is encapsulated in the formulation of the various hypotheses.

2.8 CONCLUSION

In conclusion, this chapter provides a synopsis of the main topic and literature that links to this study such as climate change, textile waste and the impact on the environment, the various contributors to textile waste, and the need for pro-environmental consumer behaviour. A discussion of various disposal methods is also included in this chapter with specific emphasis directed toward donation. Lastly an explanation regarding the theory applied to this research study, namely the Theory of Planned Behaviour (TPB), was given with focus on its third determinant namely Perceived Behaviour Control (PBC). Two sub-dimensions of PBC, namely self-efficacy and controllability were discussed, with an explanation of various external situational factors that might inhibit the engagement in donation. Through the integration of the mentioned literature and theoretical framework, a resulting conceptual framework was formulated that depicts the hypothesized construct associations that were explored in this research.

CHAPTER 3: RESEARCH METHODOLOGY

In the following chapter an explanation is given of the methodology of this study. The research design section presents the overarching methods used to accumulate the data from the chosen sample for this study. Explanations of the sample and sampling techniques, as well as the development of the questionnaire are included. Furthermore, data collection and methods of analysis are summarized in a table of operationalization. Steps in ensuring the quality of the data through validity and reliability, and lastly ethical considerations that apply to this study are discussed.

3.1 RESEARCH DESIGN AND APPROACH

This study is classified as explanatory as it focused on explaining the relationships between variables (including self-efficacy, inhibiting situational factors, intent and behaviour) that were specified in hypotheses prior to data collection (Given, 2008). Explanatory research addresses key questions surrounding the forces and powers that drive certain phenomena (Ritchie, 2003) such as the donation of unwanted apparel. This research is further classified as a cross-sectional study, as a sample of elements from the population of relevance was selected at a definite point in time (De Vos & Strydom, 2011; Johnson & Christensen, 2008; Mouton & Babbie, 2001). Following a quantitative approach, various calculations and statistical analysis were used to explain the accumulated data in order to create a good understanding of the stated research problem (De Vos & Strydom, 2011; Zikmund & Babin, 2013). Zikmund and Babin (2013) explain that numerical measurements based on an analytical approach, such as the one followed in this study, culminates in empirical assessment that may be of practical and theoretical value in the explication of a given topic of interest. This encapsulates a positivist paradigm of exploring reality, as it is based on the experience of senses gained through observation and experiment with the presumption that knowledge is objective and quantifiable, and is primarily in the interest of finding truth that is presented by empirical means (Antwi & Hamza, 2015; Henning, Van Rensburg & Smit, 2004).

3.2 SAMPLE AND SAMPLING METHOD

A non-probability, purposive sampling method was used to recruit an appropriate sample for this study. Non-probability sampling indicates that the representatives and size of the study population are unknown to the researcher (De Vos & Strydom, 2011). Although non-probability sampling is not always effective in accurately representing the larger population, following a purposive approach does at least guarantee that respondents have some experience in the matter and that

they are capable of delivering a knowledgeable viewpoint on the problem at hand (Kothari, 2004). The precondition for participation in this particular study involved participation in physical activity such as lifestyle sports, being a member of a gym and/or other athletic club. This precondition was important in an attempt to recruit respondents that do in fact buy, wear, use and dispose of active wear on a regular basis and hence a purposive effort was made to include respondents that could deliver an experienced opinion on the matter. Consulta Research was approached to assist in recruiting a large enough sample that would comply with the prerequisite for participation. Consulta Research is a Pretoria based research company and is currently one of the leading market research companies in Southern Africa (ConsultaPanel, 2018). Consulta's online community member base is countrywide and thus includes respondents from a wide geographical scope. It should however be noted that the eventual sample for this study mostly resided in the larger metropolitan areas. This coincides with the fact that a larger number of health clubs are situated in metropolitan areas than in rural areas (CBN News, 2018). In terms of age, consumers across all ages purchase activewear, but it has also been found that generation Y consumers play a more vital role in the activewear sector due to their prioritization of fitness and their health consciousness (Palmieri, 2013; Patrick & Xu, 2018). For this particular study it was decided to broaden the focus somewhat beyond the generation Y age group, yet simultaneously cap the age span to 65 as this represents the average age of retirement in South Africa (Western Cape Government, 2017), and with that the potential decline in activewear consumption due to consumers after this age being less active. Apart from age, no other demographic variables such as ethnicity, gender, household income or marital status were restrictors to allow for a total sample (N = 600) that consisted of respondents with varied demographic profiles.

3.3 INSTRUMENT DEVELOPMENT

This study formed part of a larger project for which a structured questionnaire (Addendum A) was developed. The questionnaire consisted of various sections including both self-developed and existing scales that were adapted for the purposes of this study. A structured questionnaire does not allow respondents to elaborate on responses (Marsden & Wright, 2010), but this might not always be required as was the case for this study. A draft questionnaire was created for the purpose of a pilot test where the question formulation and wording were tested before commencement of the main study. Screening questions were included in the final online questionnaire to verify whether respondents complied with the precondition of participation (i.e. participation in physical activity) in addition to retrieving other basic information pertaining to their activewear consumption (i.e. frequency of purchase and disposal as well as specific products and preferred brands). The questionnaire consisted of six sections that is described as follows:

Prerequisite section: Participation and engagement in physical activity

The first section consisted of three items that questioned respondents' participation in physical activity (as a precondition for taking part in the study), and five questions that revolved around their purchasing behaviour of activewear.

Section A: Activewear disposal methods

This section included 20 statements related to the respondents' preferred method of active wear disposal (including donation) and possible underlying reasons for the chosen method. These items were derived from an existing scale, originally developed by Shim (1995) and later applied by Meyer (2013) in the local context. For the purposes of this study the original wording of the question items were amended to enhance readability and comprehension in terms of activewear. The 5-point Likert-type response options ranged from "Never" to "Always". The 20 items were separated into four disposal categories, namely reselling, recycling, donation and discarding. For the purposes of this study the main focus remained on the six items that explored altruistic and environmentally motivated donation as initially proposed by Shim (1995) and later applied by Meyer (2013).

Section B: Intention / willingness

This section contained 15 statements to determine consumers' pro-environmental intent and/or willingness to recycle, reuse, resell or donate unwanted activewear and were further adapted to include referral to underlying environmental, economic and altruistic reasons for such intent. Scale items were modeled after existing scales that were implemented by Ajzen (2002), Bamberg and Möser (2007) and Taljaard (2015) in prior empirical research. The 5-point Likert-type scale items ranged from "Strongly disagree" to "Strongly agree". The 15 items were separated into various categories, but for the purposes of this study the focus revolved around six items that tapped into respondents' intent / willingness to donate based on environmental and altruistic reasons.

Section C: Perceived self-efficacy and controllability

This section included 18 statements that measured the respondents' perceived self-efficacy and controllability regarding their eco-friendly disposal methods. In addition to previous scales developed by Ajzen (2002) as well as Tonglet *et al.* (2004), studies that specifically relied on a TPB interpretation of recycling were used as reference for appropriate scale items (Beck & Ajzen, 1991; Boldero, 1995; Davies, Foxall & Pallister, 2002). The eventual 5-point Likert-type scale included response options that ranged from "Strongly disagree" to "Strongly agree". For the purposes of this study, six items that tapped into respondents' self-efficacy and controllability surrounding the act of donation was of particular interest.

Section D: Situational factors

This section contained 27 statements that measured specific situational factors including convenience / accessibility, cost and time that may influence consumers' perceptions of the level of control over eco-friendly disposal of unwanted activewear. Statements were formulated in the negative e.g. "Donating unwanted activewear is a waste of money" This was done in an effort to combat potential measurement error and response bias whereby respondents have a tendency to answer positively (despite their own indifference) especially in terms of altruistic and pro-environmental issues as it is "the right thing to do". Questions in this section were patterned after existing scales such as those used in the study of Tonglet *et al.* (2004), but were mostly self-developed and revolved around specific types of disposal methods. The 5-point Likert-type response options ranged from "Strongly disagree" to "Strongly agree". This study specifically focused on nine items that reflected the inhibiting role of situational factors when donating unwanted activewear to charities and/ or other external parties.

Section E: Demographic information

The final section addressed the respondent's demographic profile with questions pertaining to gender, age, ethnicity, education level, employment status, province of residence within South Africa, and personal monthly income before deductions. The questions were developed to address each demographic variable and also ensuring that the sample's demographic profile could be sufficiently described.

An overview of the operationalsation is provided in Table 3.1, specifically in terms of sections A, B,C and D of the questionnaire.

TABLE 3.1: OPERATIONALISATION TABLE

Construct	Dimensions	Indicator and scale items	Data analysis
Perceived behavioural control (PBC) with situational factors			**Exploratory Factor Analysis (EFA)** **Extraction Method:** Principal Axis Factoring **Rotation Method:** Varimax with Kaiser Normalization **Confirmatory Factor Analysis (CFA)** **Structural Equation Modeling (SEM)**
Self-efficacy Scale items based on Ajzen (2002)	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 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)	
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 can donate my unwanted activewear	
Intent / willingness			
Intent / willingness to: Donate Scale items based on Ajzen (2002), Bamberg and Möser (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	
	Pro-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	
Disposal methods			
Donate: 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	
	Pro-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	

3.4 DATA COLLECTION

An online questionnaire was used to collect data from Consulta's (PTY) Ltd online community member base. Consulta Research provides a fast and simple way for a researcher to collect useful data at a relatively low cost (ConsultaPanel, 2018). A link to the online questionnaire was also posted to Facebook, to generate a larger response rate. The benefits of an online survey lies in the speed with which extensive numbers of individuals can be reached with moderate ease by utilizing

complex instruments with rich visual elements and dynamic components (Marsden & Wright, 2010). However, a significant limitation of internet surveys is the challenge of selecting probability samples of general populations (Marsden & Wright, 2010), although this study set out to recruit a non-probability, purposive sample from the onset. The online system ensured that only participants that complied with the precondition for participation (based on responses to initial screening questions) would be able to proceed with completion of the questionnaire. A total of N = 600 valid and complete responses were obtained during the data collection period spanning from October 2016 to January 2017. Another advantage of online surveys is that the data is already available in an electronic format directly after the survey is finished, which facilitates quick progress into data analysis.

3.5 DATA ANALYSIS

The data accumulated by means of the online questionnaire were converted into numeric expressions and was statistically analysed, initially in a descriptive manner with the likes of means, percentages and frequencies, and then later on in a more advanced inferential manner by means of exploratory and confirmatory factor analyses in addition to structural equation modelling. It should be noted that the demographic characteristics of the sample is presented in a descriptive manner. This analysis approximates what the population characteristics might be and establishes basic descriptive statistics (i.e. frequencies, means and standard deviations). Exploratory factor analysis (EFA) with the use of SPSS software was done on the items that measured self-efficacy, controllability and situational factors surrounding donation as well as respondents' intent/ willingness and their actual behaviour. EFA is an analysis technique that is generally used to explain the underlying structure of a data matrix (Wold, Esbensen & Geladi, 1987). The initial exploratory technique was further extended into Confirmatory Factor Analysis (CFA). CFA can be described as: "a multivariate statistical procedure that is used to test how well the measured variables represent the number of constructs" (Statistics Solutions, 2013). It is also an important step in establishing measurement models that enable the researcher to consider if the measurement of "hidden" variables (such as self-efficacy and controllability) with indicators specified in the study's initial operationalisation is acceptable (Taljaard, 2015). The final analysis procedure incorporated in this study involved the specification and testing of a structural equation model. Structural Equation Modeling (SEM) is a known statistical method that is used for the testing of theoretical models (Brown, 2006; Mazzocchi, 2008) such as a conceptual framework proposed in Chapter 2.

3.6 ENHANCING THE QUALITY OF THE DATA

To ensure the quality of quantitative research results, it must rely upon validity and the reliability of

the data (De Vos & Strydom, 2011; Leedy & Ormrod, 2013). According to Leedy and Ormrod (2013), validity can be explained as the degree to which the instrument measures what it was supposed to measure, and reliability as a gauge of internal consistency (Zikmund & Babin, 2013).

3.6.1 Validity

Marsden and Wright (2010) state that validity refers to whether a question measures what it intended to measure. There are two general measures of validity namely external and internal validity. Marsden and Wright (2010) explain that external validity is the ability to apply the findings of the study to external people and situations of interest. This ensures that the conditions under which the study is carried out are a representative of the circumstances and time to which the results are to be applied. This chapter provides a detailed account of the study's methodology, explaining the conditions and circumstances under which the data was collected, which may hence provide the basis for further scrutiny and external validation.

Internal validity, on the other hand, is the extent to which the researcher is able to draw correct conclusions from the research data (Leedy & Ormrod, 2013). With regards to this study, internal validity was substantiated by two further perspectives on validity namely construct- and face validity. Construct validity describes the degree to which a measurement instrument represents and "logically" relates to underlying theory, i.e. it ultimately addresses the link between the observed phenomenon and the theoretical construct (McDaniel & Gates, 2013). This is achieved through a thorough and meticulous literature review that allows for the conceptualisation of the constructs, and the identification of suitable indicators and scale items to measure the constructs (Bryman & Bell, 2014). In this regard, the preceding chapter provided a review of existing literature surrounding the extensively applied TPB and hence proposed an appropriate theoretical basis for this study. Furthermore, in developing the measuring instrument for this study, several scales that were applied in previous TPB research (albeit research conducted in more developed countries) were examined to select the most appropriate items to address this particular study's aim and objectives. These efforts further substantiated face- or content validity, which encapsulates validity on an abstract level and is concerned with the degree to which a measurement seems to measure what it is supposed to measure (McDaniel & Gates, 2013). By using scale items derived from prior empirical research in conjunction with a pilot study to test the question wording and format in the local context, potential errors were discovered and eliminated before commencing into the main data collection phase, hence contributing to content validity.

3.6.2 Reliability

Webb (2002) states that if you refer to the reliability of data, it proposes a consistency in reaching the same result when the measurement is made over and over again. Webb (2002) further states that there are various ways to increase the reliability of data such as pre-testing and revision of the questionnaire. Reliability can also be achieved by scrutinizing various factors such as internal consistency, test-retest reliability and questionnaire structure. The reliability of this particular study was increased through various efforts including a pilot test that was conducted prior to the main inquiry to ensure that the final question format and wording was correctly understood. Furthermore, by means of a review of prior empirical research, several dimensions related to each concept were identified and numerous scales were examined to explore each item's potential for use in this particular study. Internal consistency signifies a measure of similarity, or the extent to which indicators of a concept correlates in some common meaning (Zikmund & Babin, 2013). Internal consistency of items (such as the questions included in this study's questionnaire) can be determined by using a statistical measure such as Cronbach's α coefficient (Zikmund & Babin, 2013). Chronbach's α can only take values ranging from 0 (that signifies no consistency) to 1 (that signifies excellent consistency), i.e. the lower the value, the lower the internal consistency and vice versa. For this study, scale items reached Chronbach α of 0,7 and above (where 0,7 was the minimum threshold). It should also be noted that incomplete questionnaires were not included in the final analyses to further contribute to the reliability of the results.

3.7 ETHICAL CONSIDERATIONS

According to Isreal and Hay (2006), ethical questions have become increasingly important due to the vast amount of information that is collected via the internet in recent years. Issues that typically arise include self-disclosure, originality, trustworthiness of the research and personal privacy. In this regard, it is imperative that any research study's starting point has to consist of approval and trust with known expectancies between the researcher and the potential participators of the study (De Vos & Strydom, 2011). Regarding this study, a number of ethical issues were addressed before commencing with the data collection and ethical clearance was obtained by the principal investigator (Dr. Nadine Sonnenberg) from the Natural and Agricultural Sciences (NAS) Research Ethics Committee of the University of Pretoria with reference number: EC160621 – 048 (refer to Addendum B).

In compliance to prescribed guidelines and the ethical clearance that was obtained from the ethics committee, respondents were informed of the nature of the study prior to participation in the survey and were also given the opportunity to decline participation. They were further assured that should they decide to participate in the study, they could withdraw from the survey at any given point in

time without implications. Anonymity and confidentiality was ensured through the usage of a unique code for each respondent – no names were disclosed, nor was the quality or performance of any individual participant's responses made known in the writing up of the results. Furthermore the findings were reported in a truthful manner without any distortion of the data (Leedy & Ormrod, 2013).

A submitted affirmation of originality was included with the final dissertation to validate that the meaning of plagiarism was understood, and that the work of others were correctly referenced as required (refer to Addendum C). Lastly, as the National Research Foundation (NRF) was a financial contributing party, all the specified NRF requirements were complied with including an acknowledgement of the NRF's contribution on all of the study's published outputs.

3.8 CONCLUSION

This chapter focused on the methodological facet of this study. As explained in the introductory sections of the chapter, this study was based on an explanatory, cross-sectional research design that focused on consumers throughout South Africa, aged between 18 and 65 years who belonged to the Consulta online community. An important prerequisite for participation required that respondents had to partake in some form of physical activity to ensure that they do in fact use activewear and have experience in the disposal thereof. A structured questionnaire was developed to address the objectives of this study and included scale items that were derived from prior empirical research. Descriptive and inferential statistical analyses including EFA, CFA and SEM were envisaged to generate results of practical and theoretical significance. The chapter concluded with a discussion of measures that were implemented to enhance the quality of the data and ethical issues were also addressed. The succeeding chapter presents the results of the study.

CHAPTER 4: DISCUSSION AND INTERPRETATION OF RESULTS

The following chapter provides an overview of the results of this study. Basic descriptive statistics as well as inferential analysis are reported in this chapter. The presentations of the results are in accordance with the main hypotheses of this study with conclusions supported by existing literature.

4.1 INTRODUCTION

In order to address this study's hypotheses, a total of 600 valid responses were obtained. In accordance with the purpose of this study and to qualify for participation, respondents were required to take part in at least one physical activity, and also be between the age of 18 and 65 at the time of data collection. These prerequisites were included as it was necessary that respondents had to at least purchase and use activewear in some way or another. As mentioned in Chapter 3, all respondents were members of the Consulta Research online community with varying demographic profiles, but they all resided within the geographical scope of South Africa. The first section of this chapter focuses on the demographic profile of the sample. The data is presented in graphs, tables and / or in figure formats to illustrate the various findings in a descriptive manner. Descriptive statistics was followed by inferential analysis and also more specifically in the form of Exploratory Factor Analysis (EFA) through the use of SPSS software. EFA was conducted to find the underlying structure of the data matrix (Mazzocchi, 2008). The initial EFA was then extended into Confirmatory Factor Analysis (CFA). Lastly, Structural Equation Modeling (SEM) was done to test the conceptual framework and confirm the proposed theoretical model.

4.2 DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE

Demographic characteristics are significant as it may influence pro-environmental behaviour (Martinez, Castaneda, Marte & Roxas, 2015), and also as it is often used as a basis for market segmentation (Kollmuss & Agyeman, 2002; Mobley & Kilbourne, 2013; Zelezny, Chua & Aldrich, 2000). Questions pertaining to respondents' demographic background were included in Section E of the questionnaire, with gender, age, ethnicity, education level, employment status, province of residence and personal monthly income forming part of the section. Questions relating to activewear were included in the prerequisite section of the questionnaire. An overview of certain

demographic characteristics is presented in the following section by means of descriptive statistics including frequencies and percentages that are presented in tables, graphs and other numerical summaries.

4.2.1 Age

As a prerequisite for participation in the study, respondents had to be between the ages of 18 and 65. It is important to introduce an age category that is decisive, especially relating to disposal of apparel and pro-environmental behaviour (Tymula, Belmaker, Ruderman, Glimcher & Levy, 2013). The respondents indicated their age within five pre-determined categories that is summarized in Table 4.1.

TABLE 4.1: AGE CATEGORIES OF RESPONDENTS (N=600; missing = 52)

Categories specified in questionnaire	n	%
18 – 25 years	45	8,2
26 – 35 years	236	43,1
36 – 45 years	106	19,3
46 – 55 years	101	18,4
56 – 65 years	60	10,9

As of 2018, the median age of the South African population is 26,8 (World Population Review, 2018). In this sample almost half (43,1%) of the respondents were between the ages of 26 and 35. This so-called “Generation Y” tends to be more familiar with technology (Babin & Harris, 2013) and may therefore have found the online questionnaire more accessible and easy to complete. The age definition of Generation Y (also known as “Millennials”) differs somewhat between literature sources, but mostly include individuals born in the 1980’s, up until the mid-1990’s (Hill & Lee, 2012; Kinley, Josiam & Lockett, 2010; Taylor, 2018). This generation is also known for being pro-environmental (Cant, Brink & Brijball, 2006). The second largest age category consisted of the group between the ages of 36 and 45 (constituting 19,3% of the sample), closely followed by those between the ages of 46 and 55 years (constituting 18,4% of the sample).

4.2.2 Gender

Gender is arguably one of the most influential demographic variables in relation to pro-environmental intent (Mobley & Kilbourne, 2013). Bakewell and Mitchell (2006) claim that male and female consumers have different decision-making behaviours. Similarly, Mobley and Kilbourne (2013) propose the importance of investigating potential gender differences in environmentalism.

Although some evidence has shown that male and female attitudes and behaviour regarding the environment may differ, some findings remain ambiguous towards the differences between male and female's pro-environmental behaviour and their potential willingness to dispose of apparel in an eco-friendly manner (Mostafa, 2007).

In terms of this study, just over half of the respondents were female (56,5%). This ties in with South African estimates that approximately 51% of the population in 2016 was female (Statistics South Africa, 2016b).

4.2.3 Population group

South Africa is known as a "rainbow nation", implying that it has a diverse population. For these reasons it is important that effort is made to recruit respondents from various ethnic groups. It has been found that the White population has stronger pro-environmental behaviour and concern as opposed to the African, Indian and Coloured population (Johnson, Bowker & Cordell, 2004; Roberts, Mbithi wa & Davids, 2010; Struwig, 2010). Respondents were asked to specify the population group to which they belong according to South African population groups namely: African, Coloured, Indian, Asian, White and other (Statistics South Africa, 2018). Also included in the questionnaire was the response option "Prefer not to say". For statistical purposes, the categories "Indian", "Coloured", "Prefer not to say" and "Other" were grouped together under one label namely "Other" as indicated in Table 4.2.

TABLE 4.2: POPULATION GROUP OF RESPONDENTS (N = 600; missing = 1)

Categories specified in questionnaire	n	%	Categories of analysis	n	%
White	334	55,8	White	334	55,8
African	150	25,0	African	150	25,0
Asian	4	0,7	Other	115	19,2
Coloured	53	8,8			
Indian	38	6,3			
Other	4	0,7			
Prefer not to say	16	2,7			

It should be noted that the composition of the South African population in 2016 was estimated as follows: African 80,7%, White 8% and Other 11,3% (Statistics South Africa, 2016b). In this study, the majority of respondents (55,8%) belonged to the White population group, with African respondents representing only a quarter of the sample and "Other" representing 19,2%. This shows that the sample of this study cannot represent the larger South African population. The

reason for this may be due to the non-probability, convenience sampling approach that was used for this study which eventually led to the recruitment of more White respondents. In this regard future studies should employ more stringent effort to recruit representative samples.

4.2.4 Level of education

According to Zhen and Mansori (2012), education may influence consumers' pro-environmental behaviour. Various studies also suggest that pro-environmental awareness may be associated with a higher level of education (Fisher, Bashyal & Bachman, 2012; Noordin & Sulaiman, 2010). Eight categories were listed in the questionnaire namely: "Completed primary schooling" (passed grade 7 / standard 5), "Some secondary schooling", "Completed secondary schooling" (passed grade 12 / standard 10), "Undergraduate" (currently busy with after school graduate studies), "Graduate" (degree or diploma), "Honours graduate", "Masters graduate" and lastly "Doctors graduate". For the purpose of analysis, these eight categories were combined into three categories namely: Undergraduate or less, Graduate (degree or diploma) and lastly Postgraduate as seen in Table 4.3.

TABLE 4.3: RESPONDENTS' LEVEL OF EDUCATION (N = 600; missing = 14)

Categories specified in questionnaire	n	%	Categories of analysis	n	%
Completed primary schooling (passed grade 7 / standard 5)	2	0,3	Undergraduate or less	155	26,5
Some secondary schooling	5	0,9			
Completed secondary schooling (passed grade 12 / standard 10)	90	15,4			
Undergraduate (currently busy with after school graduate studies)	58	9,9			
Graduate (degree or diploma)	230	39,2	Graduate (degree or diploma)	230	39,2
Honours graduate	115	19,6	Postgraduate	201	34,3
Masters graduate	70	11,9			
Doctors graduate	16	2,7			

The majority (39,2%) of the participants indicated that they have already acquired a degree or diploma. Postgraduate respondents constituted a further 34,3% of the sample followed by those in the "Undergraduate or less" category (26,5%). According to results issued by Statistics South Africa (2016a), only 12% of the population had some sort of post-secondary qualification while the majority (68%) only had a secondary qualification. This sample is therefore not representative of the larger population, which may be attributed to the non-probability convenience sampling method

that was used for this study. However, it should also be noted that most respondents who participated in this study live in the metropolitan areas where the level of education is generally higher than for those residing in smaller towns or cities (Statistics South Africa, 2016a).

4.2.5 Area of residence

Collecting data by means of the Consulta Research online community platform enabled the recruitment of respondents who resided in various geographical regions within the borders of South Africa. The online community is made up of a large segment of urban dwellers and in this regard it can be noted that larger cities facilitate more political power, employment opportunities and ultimately more pro-environmental behaviour than smaller cities or towns (Chen, Peterson, Hull, Lu, Lee, Hong & Liu, 2011). Response options included nine categories with each category representing a specific province in South Africa. These nine categories were re-grouped into four categories for ease of interpretation as indicated in Table 4.4.

TABLE 4.4: AREA OF RESIDENCE (N = 600; missing = 18)

Categories specified in questionnaire	n	%	Combined categories	n	%
Eastern Cape	23	4	Cape	152	26,1
Northern Cape	4	0,7			
Western Cape	125	21,5			
Gauteng	319	54,8	Gauteng	319	54,8
Kwazulu Natal	53	9,1	Kwazulu Natal	53	9,1
Free State	15	2,6	Other	58	10
Limpopo	15	2,6			
North West	14	2,4			
Mpumalanga	14	2,4			

Around half (54,8%) of the respondents reside in Gauteng followed by a combined total of 26,1% of the sample residing in the Cape provinces as indicated in Table 4.4. Together, 80% of respondents in this study live in these provinces, but in this regard it should be acknowledged that these regions comprise some of the most prominent metropolitan and densely populated areas in South Africa. Gauteng, for example, may be the smallest in geographical scope, yet accounts for the highest percentage (24,1%) of residents in South Africa (Statistics South Africa, 2016b). However, it should also be taken into account that Consulta (the research company responsible for the data collection) is based in Gauteng and may therefore have more of their listed online community members residing in this area, hence contributing to a larger percentage of respondents from this province.

4.2.6 Personal monthly income

Various studies have indicated a correlation between income and consumers' pro-environmental activities (Bamberg, 2003; Domina & Koch, 2002; Hiller Connell, 2010). It is therefore important to establish income levels of respondents participating in a study of this nature. Respondents were asked to indicate their approximate personal monthly income based on twelve response options ranging from "R1 – R1000" up to "R100 001 and more". For ease of interpretation, these categories were grouped together into five new categories namely: "≤R16 000", "R16 001 to R25 000", "R25 001 to R40 000", "R40 001 to R60 000" and "≥R60 001" as indicated in Table 4.5.

TABLE 4.5: PERSONAL MONTHLY INCOME (N = 600; missing = 98)

Categories specified in questionnaire	n	%	Categories of analysis	n	%
R1 - R1000	14	2,8			
R1001 - R2500	5	1			
R2501 - R4000	8	1,6			
R4001 - R6000	17	3,4	≤R16 000	170	33,9
R6001 - R8000	19	3,8			
R8001 - R11 000	45	9			
R11 001 - R16 000	62	12,4			
R16 001 - R25 000	94	18,7	R16 001 - R25 000	94	18,7
R25 001 - R40 000	118	23,5	R25 001 - R40 000	118	23,5
R40 001 - R60 000	59	11,8	R40 001 - R60 000	59	11,8
R60 001 - R100 000	41	8,2			
R100 001 and above	20	4	≥R60 001	61	12,2

As indicated in Table 4.5, a third (33,9%) of respondents earn below R16 000 per month. This may be related to a predominantly younger age group (26 – 35 years, as indicated in Table 4.1) who tend to earn less than their older counterparts. Almost a quarter (23,5%) of the respondents fall in the "R25 001 to R40 000" bracket. Higher incomes may be attributed to those who also have higher levels of education (i.e. graduates and postgraduates as indicated in Table 4.3) with the propensity to engage in higher paid professions. Yet, according to statistical estimates, almost half of the South African population earns a personal income of less than R12 700 per annum, (i.e. just over R1050 per month) (Bureau of Market Research (BMR), 2016). According to Struwig (2010), individuals from lower income groups are not as attentive towards the environment than those in higher income groups. Yet, higher income groups have also been reported the have the highest rate of clothing disposal (Lang, Armstrong & Brannon, 2013).

4.2.7 Activewear purchasing frequencies

Rising consumption levels and excessive textile waste are often linked to the frequent introduction of new products that characterise the most recent "fast-fashion" and activewear trends (Zamani *et al.*, 2015). With the above in mind, the survey tapped into the frequency of respondents' activewear purchases. Six response categories were listed in the questionnaire, which ranged from "Several times a month" to "Less than once a year".

TABLE 4.6: ACTIVEWEAR PURCHASING FREQUENCIES (N = 600)

Categories specified in questionnaire	n	%
Less than once a year	112	18,7
Once a year	131	21,8
Twice a year	135	22,5
Once every 3 – 4 months	162	27
Once a month	35	5,8
Several times per month	25	4,2

As seen in Table 4.6, the majority of respondents (27%) indicated that they purchase activewear once every 3 to 4 months, closely followed by a frequency of twice a year (22,5%) and once a year (21,8%). As the majority of the respondents belonged to the Generation Y cohort (Table 4.1), it may be important to note that Generation Y consumers are generally obsessed with fashion trends (Williams & Page, 2011), including those that relate to activewear. It is estimated that on average, fashion trends change every six weeks to three months (North, De Vos & Kotze, 2003), which may substantiate the frequency of activewear purchases indicated in the results of this study.

4.2.8 Favourite brand of activewear

As a matter of interest, an open-ended question was included in the questionnaire that required respondents to state their favourite brand of activewear. For ease of interpretation, the most prominent brands are listed separately in Table 4.7, while those that were less frequently mentioned were grouped together as "Other".

TABLE 4.7: FAVOURITE BRAND OF ACTIVEWEAR (N = 600)

Categories specified in questionnaire	N	%
Adidas	102	17
Nike	182	30,3
Reebok	9	1,5
Puma	33	5,5
Mr Price Sport / Maxed	64	10,7
New Balance	10	1,7
Other	42	7
No preference	158	26,3

As the majority of respondents are part of Generation Y (Table 4.1), it should be noted that prior empirical research has found that brand and self-identity are factors that mostly shape Generation Y consumers' fashion and apparel consumption attitudes (Valaei & Nikhashemi, 2017). Nike Inc., which is one of the largest athletic apparel and gear makers in the world, was mentioned by most respondents (30,3%) as their favourite activewear brand (Fortune, 2017). Adidas emerged as the second most popular brand (17%). Yet, a large amount (26,3%) of respondents did in fact indicate that they had no brand preference, as seen in Figure 4.1.

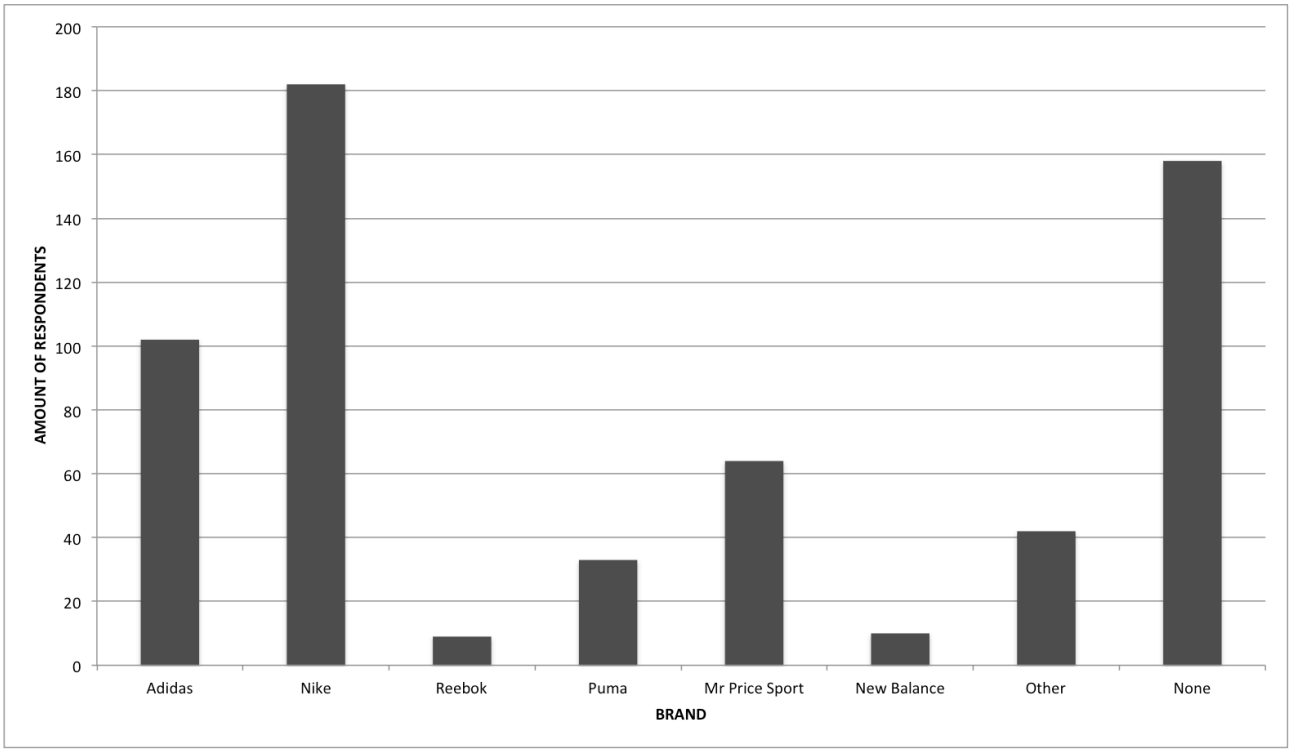

FIGURE 4.1: FAVOURITE BRAND OF ACTIVEWEAR (N = 600)

In summary, the respondents for this research study were mostly white females, between the ages of 26 and 35. Respondents were predominantly from the Gauteng province, and held either a degree or diploma while earning an approximate personal monthly income of R16 000 or below. Respondents' favourite activewear brand was Nike, and mostly purchased activewear every 3 to 4 months. As non-probability, purposive sampling was used to collect data for this study, results cannot be generalized (De Vos & Strydom, 2011; Strydom, 2011). The above discussion concludes the demographic profile of the sample, whereas the section to follow will expand upon further inferential analysis that was conducted to address the hypotheses that was formulated for this research study.

4.3 FACTORS THAT INFLUENCE RESPONDENTS' DONATION OF ACTIVEWEAR

Chapter 2 highlights concepts relating to the TPB and also more specifically perceived behavioural control, as an important determinant of an individuals' intent (Ajzen, 2002) to act in an altruistic and pro-environmental manner. Furthermore, Chapter 3 brings to light the manner in which these concepts were measured. As explained, some scale items were self-developed, although the majority were derived from previous research and adapted for the purpose of this study (Meyer, 2013; Shim, 1995; Tonglet *et al.*, 2004). Two variants of a five-point Likert-scale was used: the first included response options ranging from "Strongly Disagree" to "Strongly Agree" and the second variant that was specifically focused on measuring behaviour included response options ranging from "Never" to "Always" (Zikmund & Babin, 2013). The first step involved in analysing the data derived from these scales constituted an exploratory approach.

4.3.1 Exploratory Factor Analysis (EFA)

Exploratory Factor Analysis (EFA) was performed in order to differentiate the relevant underlying factors (i.e. constructs and concepts) in the dataset (Mazzocchi, 2008). The EFA was performed using SPSS software with Principal Axis Factoring as the chosen extraction method. After initial extraction, the factors were rotated in order to more clearly define groups of variables (Yong & Pearce, 2013). This was accomplished by using a Varimax rotation, which is an orthogonal rotation method that maintains that factors are uncorrelated. This rotation method simplifies the factor matrix so that extracts are more clearly defined (Statistics Solutions, 2018).

Criteria that was employed to determine the number of factors to be retained involved an inspection of the point of inflexion on the scree plot, as well as a consideration of Kaiser's criterion (i.e. eigenvalues ≤ 1 are retained) (Mazzocchi, 2008), all of which suggested a four factor solution. Scrutiny of individual items and factor loadings (reported in Table 4.8) brought to light values between 0.426 and 0.855 with no cross loadings. Hence, no individual items were removed and

the suggested four-factor solution was adopted with an acceptable cumulative % variance explained equal to 62.72. The four factors were labeled as follows:

Factor 1: Inhibiting situational factors (SF)

Factor 2: Intention to donate (ITD)

Factor 3: Donation (D)

Factor 4: Self-efficacy (SE)

TABLE 4.8: EXPLORATORY FACTOR ANALYSIS

ITEM	FACTOR			
	1	2	3	4
	SF	ITD	D	SE
It is just too much effort to donate unwanted activewear	0,771	-0,045	-0,224	-0,205
Donating unwanted activewear takes up too much time	0,740	-0,067	-0,210	-0,202
Donating unwanted activewear is time consuming	0,737	-0,052	-0,147	-0,227
The expenses associated with donating unwanted activewear is a waste of money	0,731	-0,142	-0,148	-0,193
The money spent on donating unwanted activewear is not worth the gain	0,693	-0,168	-0,113	-0,076
I do not have time to donate unwanted activewear	0,662	-0,081	-0,164	-0,245
Donating unwanted activewear is inconvenient	0,633	-0,097	-0,146	-0,269
Donating unwanted activewear is not cost effective	0,574	-0,154	-0,080	-0,039
I would be willing to donate unwanted activewear to reduce environmental consequences	-0,079	0,855	0,192	0,061
I would be willing to donate unwanted activewear for the sake of the environment	-0,063	0,836	0,190	0,029
I would be willing to donate unwanted activewear to reduce textile waste	-0,093	0,826	0,184	0,081
I would be willing to donate unwanted activewear to help others	-0,166	0,799	0,120	0,273
I would be willing to donate unwanted activewear for the needy	-0,181	0,769	0,146	0,266
I would be willing to donate unwanted activewear to benefit charities	-0,184	0,743	0,159	0,212
I donate my unwanted activewear that is in good condition to benefit others	-0,263	0,133	0,789	0,253
I give away old activewear to reduce waste	-0,100	0,185	0,782	0,111
I donate to charity because it is a good way of recycling old activewear clothing in an eco-friendly manner	-0,198	0,193	0,754	0,185
I donate my activewear to do my part in solving the environmental problem	-0,118	0,211	0,737	0,112
I give away my old activewear clothing to help others	-0,238	0,153	0,731	0,200
I donate my activewear to charity for the needy	-0,251	0,167	0,726	0,249
Donating unwanted activewear is easy	-0,262	0,029	0,312	0,722
I am confident that I will be able to donate unwanted activewear	-0,209	0,313	0,231	0,689
I have plenty opportunities to donate unwanted activewear	-0,299	0,107	0,265	0,661
I believe I have the ability to donate unwanted activewear	-0,246	0,252	0,134	0,628
It is mostly up to me whether or not I donate unwanted activewear	-0,185	0,148	0,107	0,426
n	584	600	600	597
Mean	2,20	4,26	3,27	4,04
Standard deviation	0,77	0,77	1,26	0,79
% Variance explained	18,12	17,49	16,12	10,99
Cronbach α	0,904	0,936	0,924	0,851

The means of the factors are graphically depicted in Figure 4.2. As can be gathered from this illustration, respondents had strong intentions to donate ($M_{Intention}$ = 4,26) and seem to have high

levels of self-efficacy in terms of donation ($M_{Self\text{-}efficacy}$ = 4,04) i.e. respondents were confident in their ability to donate. Responses regarding donation as disposal method ($M_{donation}$ = 3,27) were also relatively positive. Respondents did not show a high level of agreement with statements that implied the inhibiting role of situational factors (e.g. time, cost and inconvenience) on donation ($M_{situation}$ = 2,2), which underscores their strong intent to donate as well as the confidence in their ability to engage in donation.

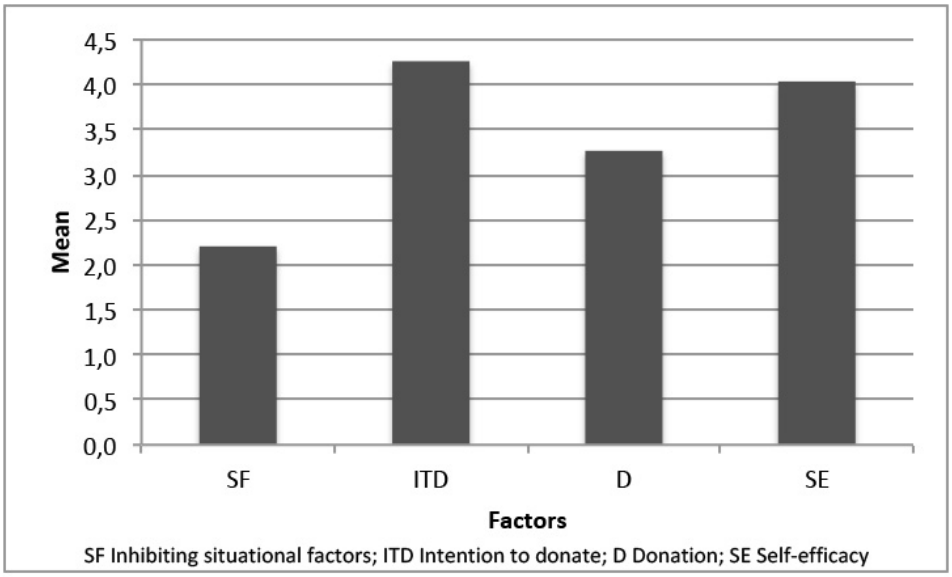

FIGURE 4.2: FACTOR MEANS

Factor 1: Inhibiting situational factors (SF)

Eight items pertaining to the added time, effort, cost and inconvenience of donating unwanted activewear grouped under this particular factor and it was accordingly labeled “Inhibiting situational factors”. The Cronbach α value of 0,904 for this factor indicates a high level of internal consistency in responses to the items. Acceptable Cronbach α values range between 0,7 and 0,95 (De Vos & Strydom, 2011; Delport & Roestenburg, 2011; Strydom, 2011; Tavakol & Dennick, 2011). A low mean ($M_{situation}$ = 2,20) indicated respondents’ strong disagreement to statements that suggest donation is too costly, time consuming and/ or too much effort to engage in. Items pertaining to the negative/ inhibiting role of situational factors on donation was not reverse coded prior to analysis and therefore the negative loading of these items onto all the other identified factors (i.e. intention to donate, donation and self-efficacy) as depicted in Table 4.8 is to be expected. The fact that respondents strongly disagreed with these statements, could in turn support the notion that they are intent and confident in their’ ability to donate their unwanted activewear, because time, cost and inconvenience do not counter their efforts. Various studies have shown that donation to charities is one of the most convenient methods of disposal (Birtwistle & Moore, 2007; Domina & Koch, 2002; Morgan & Birtwistle, 2009; Wang, 2010) and prior empirical research in the local

context has also emphasized the importance of convenience in contributing to donation as a preferred method of disposal (Meyer, 2013; Olwoch, 2018; Stols, 2017).

Factor 2: Intention to donate

A total of six items grouped under the "Intention to donate" factor. The six items tapped into underlying altruistic and pro-environmental reasons for respondents' intent/ willingness to donate unwanted activewear. The Cronbach α of 0,936 for this factor indicates a high level of internal consistency in responses to the items. This factor also achieved the highest mean ($M_{Intention}$ = 4,26), which indicates respondents' strong association with the intention to donate, regardless of whether it is for altruistic or pro-environmental reasons. Various studies have in fact found that consumers have a strong intention to donate, and are often more willing to donate apparel than any other method of disposal (Bianchi & Birtwistle, 2012; Meyer, 2013; Olwoch, 2018; Stols, 2017). Perhaps this may be attributed to the fact that donation has the double benefit of helping others and the environment. The EFA results show no distinction between these reasons, yet it could be noted that the factor loadings for items that relate to environmental reasons were slightly higher than those that tapped into altruistic reasons. This ties in with a statement from Dong, Nam and Lee (2015), that activewear has evolved into a sustainable lifestyle, and that consumers and companies have become more involved in eco-friendly practices. Hence, consumers' willingness to donate may be increasingly infused with pro-environmental inclinations in addition to their concern for others.

Factor 3: Donation

Six items loaded onto the factor that was labelled "Donation". These items addressed actual donation behaviour of respondents based on underlying environmental and altruistic reasons. The Cronbach α value of 0,924 for items that grouped under this factor indicates a high level of internal consistency in responses. A relatively high mean ($M_{donation}$ = 3,27), indicated a preference towards donation as a disposal method. Studies conducted abroad have found that donation was the most prominent method of disposing of apparel in an eco-friendly manner (Bianchi & Birtwistle, 2010; Ha-Brookshire & Hodges, 2009). This ties in with studies conducted in South Africa that show that donation is also the preferred method of eco-friendly disposal of apparel in the local context (Meyer, 2013; Olwoch, 2018). According to Ha-Brookshire and Hodges (2009), there is a sense of feeling good that goes together with donation of used apparel, and that consumers feel that underprivileged people are to benefit thereof (Bianchi & Birtwistle, 2010). With the rise of sustainable and eco-friendly lifestyles (Peattie & Peattie, 2009), certain retailers have devised new ways to attract these consumers by asking them to donate their unused clothing within the store

with a reciprocation of discount vouchers towards the consumers' next purchase (H&M, 2017), all of which may lead to an increase in donation behaviour.

Factor 4: Self-efficacy

This factor included five items that related to respondents' self-efficacy in terms of donating unwanted activewear. The Cronbach α value of 0,851 for items that grouped under this factor indicates a high level of internal consistency. A high mean ($M_{Self\text{-}efficacy}$ = 4,04) reveals respondents' high level of confidence in their ability to donate activewear. Results from Tabernero and Hernández (2011) show that individuals with greater self-efficacy towards eco-friendly disposal, would readily engage in the said behaviour, and afterwards feel very satisfied with the completion of the behaviour. The reason for this behaviour is that it is possible that an individual receives instant feedback from this behaviour (Tabernero & Hernández, 2012), as may be in the case of donating to charity or family and friends.

In summarizing the results of the EFA, a total of four factors were identified. Situational factors that inhibit donation was the first factor and had a relatively low mean, indicating a low level of agreement to statements regarding the inhibiting role of factors such as cost, time and effort to donate. This in turn substantiates respondents' strong intent or willingness to donate, which was the second factor identified in the data matrix. This "intention to donate" acquired the highest mean, emphasizing respondents' strong willingness to engage in this type of behaviour regardless of whether it was for altruistic or pro-environmental reasons. The third factor labelled "donation', had a relatively high mean that indicated respondents' preference towards donation as a disposal method. The fourth factor that was labeled "self-efficacy" also had a high mean, which underscores a high level of confidence in respondents' capability to donate activewear. This concluded the initial exploratory analysis, which than served as an appropriate basis for further confirmatory factor analysis.

4.3.2 Confirmatory Factor Analysis (CFA)

Unlike EFA, Confirmatory Factor Analysis (CFA) relies on existing theory and is mostly driven by hypotheses (Brown, 2006; Mazzocchi, 2008). In this regard, the decision was made to further retain a distinction between respondents' underlying altruistic and pro-environmental reasons for their intent and behaviour to see if an acceptable model could be established. In addition to self-efficacy and inhibiting situational factors, these variables (pro-environmental intent, altruistic intent, pro-environmental donation and altruistic donation) were configured as a measurement model following existing theory and the theoretical framework as presented in Chapter 2. The CFA measurement model was developed by means of maximum likelihood estimation (SPSS Amos,

version 22) with raw data as input and evaluated through the use of various model fit indices (Mazzocchi, 2008) as will be reported in the section to follow. In addition to model fit, factor loadings are also important to consider in establishing an appropriate measurement model.

Factor loadings are the associations between each initial variable and the latent variable, with the statistical relevance that depends on the size of the sample and the absolute value (Jackson, 2005). In order for a factor loading to be relevant, a sample size of 100 calls for a minimum threshold of 0,55, however a sample size of 200 or more requires at least 0,4 (Hair, 1998; Jackson, 2005). This research study acquired a sample size of 600, and therefore to be considered relevant, a minimum threshold of 0,4 was required. More stringent effort was however deemed necessary to establish a model with impeccable fit and hence more rigorous criteria was employed in the scrutiny of acceptable factor loadings. Furthermore, in accordance with the recommendations of Iacobucci (2010), each construct would ideally be measured by three indicator variables – four or more indicator variables per construct may become excessive. Based on the aforementioned guidelines, three indicator variables with the lowest loadings onto the situational latent variable and two indicator variables with the lowest loadings onto the self-efficacy latent variable were eliminated. All other items and their respective latent variables were retained with the resulting factor loadings ranging between 0,73 and 0,94 as indicated in Table 4.9 below.

TABLE 4.9: CONSTRUCTS AND FACTORS OF THE MEASUREMENT MODEL

Constructs and factors	Loadings
Self-efficacy (Cronbach's α = 0,839)	
• I have plenty of opportunities to donate unwanted activewear	,83
• Donating unwanted activewear is easy	,83
• I am confident that I will be able to donate unwanted activewear	,74
Inhibiting situational factors Cronbach's α = 0,891)	
• It is just too much effort to donate unwanted activewear	,83
• Donating unwanted activewear takes up too much time	,82
• Donating unwanted activewear is time consuming	,81
• The expenses associated with donating unwanted activewear is a waste of money	
• I do not have time to donate unwanted activewear	,77
	,73
Pro-environmental intent Cronbach's α = 0,934)	
I would be willing to donate unwanted activewear …	
• To reduce textile waste	,91
• For the sake of the environment	,91
• To reduce environmental consequences	,90
Altruistic intent Cronbach's α = 0,930)	
I would be willing to donate unwanted activewear …	
• For the needy	,94
• To help others	,93
• To benefit charities	,85
Pro-environmental donation Cronbach's α = 0,870)	
• I give away old activewear to reduce waste	,83
• I donate my activewar to do my part in solving the environmental problem	
• I donate to charity because it is a good way of recycling old activewear clothing in an eco-friendly manner	,83
	,83
Altruistic donation Cronbach's α = 0,905)	
• I donate my unwanted activewear that is in good condition to benefit others	
• I donate my activewear to charity for the needy	,92
• I give away my old activewear clothing to help others	,85
	,85

As can be gathered from Table 4.9, the Cronbach's α for the specified latent variables achieved values ranging from 0,839 to 0,934 and therefore all exceeds the minimum threshold of 0,7. The resulting measurement model achieved good model fit as reported in Table 4.10.

TABLE 4.10: MEASUREMENT MODEL FIT

	CMIN/DF	RMSEA	NFI	CFI
Goodness of fit criterion	2 ≤ x ≤ 5	< 0,07	≥ 0,9	≥ 0,9
Measurement model	3,14	0.06	0,95	0,97

There is no precise definition of an acceptable CMIN/DF ratio or minimum and maximum threshold thereof, although various sources indicate a recommended range between 2 and 5 (Hooper, Coughlan & Mullen, 2008; Tabachnick & Fidell, 2007). Thus a CMIN/DF ratio of 3,14 for this measurement model falls within the acceptable range. In terms of how well the model fits the population covariance matrix, the Root Mean Square Error of Approximation (RMSEA) is used. Values below the maximum threshold of 0,07 is deemed acceptable, thus the value of 0,06 for this study is acceptable (Hooper *et al.*, 2008; Steiger, 2007). Another recommendation for a good model fit makes use of the Normed Fit Index (NFI) and the Comparative Fit Index (CFI). For a good fit, both NFI and CFI values should preferably be higher than 0,9 and as close as possible to 1.0 (Hooper *et al.*, 2008; Mazzocchi, 2008). In this instance a value of 0,95 for NFI and 0,97 for CFI were obtained, falling within the acceptable range.

4.3.3 Establishing a Structural Equation Model (SEM)

The last step of data analysis for this study includes Structural Equation Modeling (SEM) that is employed to describe statistical methods that are used in testing a theoretical or conceptual model. To proceed with SEM, convergent and discriminant validity analyses must be performed. The correlation matrix depicted in Table 4.11 includes the correlations (below the diagonal) and squared correlations (above the diagonal) among all the specified model constructs including inhibiting situational factors, self-efficacy, altruistic intent, pro-environmental intent, altruistic donation and pro-environmental donation. The table also includes the Average Variance Extracted (AVE) for each of the constructs (depicted in bold on the diagonal). According to the Fornell and Larcker (1981) criterion, AVE values should be at least 0.50 to substantiate convergent validity. As can be gathered from Table 4.11, all the AVE values easily exceeded the 0,50 threshold.

TABLE 4.11: CORRELATION MATRIX

Variables	1	2	3	4	5	6
1 Altruistic intent	**0,82**	0,53	0,20	0,15	0,12	0,22
2 Pro-environmental intent	0,73	**0,82**	0,12	0,20	0,06	0,10
3 Altruistic donation	0,45	0,34	**0,76**	0,72	0,29	0,41
4 Pro-environmental donation	0,39	0,45	0,85	**0,69**	0,19	0,30
5 Inhibiting situational factors	-0,35	-0,24	-0,54	-0,44	**0,63**	0,41
6 Self-efficacy	0,47	0,32	0,64	0,55	-0,64	**0,64**

Note: AVE's are on the diagonal; squared correlations are above the diagonal; correlations are below the diagonal

To establish discriminant validity, the AVE value must be larger than the shared variance (Fornell & Larcker, 1981). As can be gathered from the AVE values and the squared correlation values (which represents the shared variance) above the diagonal (Table 4.11), all constructs achieved discriminant validity except for altruistic- and pro-environmental donation. As pointed out earlier, respondents' may not differentiate between underlying pro-environmental and altruistic reasons for engaging in specific donation behaviour. As seen in the final SEM model depicted in Figure 4.3, altruistic and pro-environmental donations are specified as correlated constructs as both ultimately relate to behaviour. Similarly, pro-environmental- and altruistic intent are also shown to correlate as both signify the underlying intent/ willingness to donate. Furthermore, self-efficacy and the influence of situational factors are also correlated as both constructs are strongly linked to the overarching concept of perceived behavioural control.

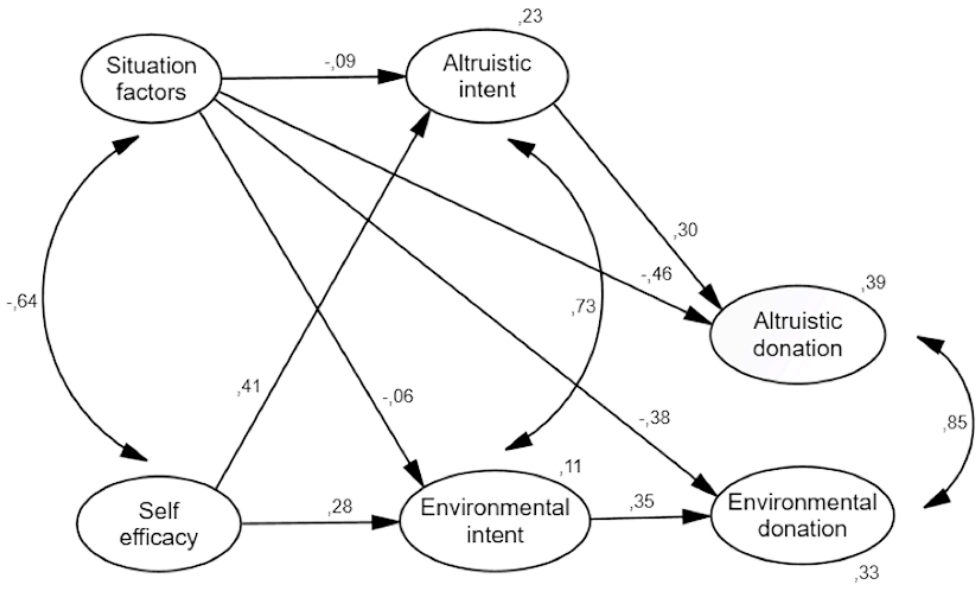

FIGURE 4.3: STRUCTURAL EQUATION MODEL

The overall model fit values and recommended thresholds are reported in Table 4.12, showing an overall good model fit.

TABLE 4.12: STRUCTURAL EQUATION MODEL FIT

	CMIN/DF	RMSEA	NFI	CFI
Goodness of fit criterion	2 ≤ x ≤ 5	< 0,07	≥ 0,9	≥ 0,9
SEM model	3,47	0,06	0,94	0,96

Based on a maximum-likelihood estimation with raw data as input, the model shown in Figure 4.3 clarifies the percentage of the explained variance for each of the latent variables as follows: inhibiting situational factors and altruistic intent jointly explain 39% of the variance in the altruistic donation construct, whereas inhibiting situational factors together with environmental intent explain 33% of the variance in the environmental donation construct. Furthermore, self-efficacy and inhibiting situational factors collectively explained 23% of the variance of altruistic intent and 11% of the variance of environmental intent.

In so far as the magnitude and level of significance of the coefficients are concerned, Figure 4.3 and the concluding summary in Table 4.13, reveal that the path coefficients were positive, except for path coefficients between inhibiting situational factors and other constructs (as anticipated). Except for two, all path coefficients were also statistically significant ($p < 0,001$). Self-efficacy proved to be a strong predictor of altruistic intent ($\beta = 0,413$, $p < 0,001$) and pro-environmental intent ($\beta = 0,282$, $p < 0,001$), thus supporting Hypotheses 1a and 1b. These results show that self-efficacy influenced altruistic intent more than pro-environmental intent. It also confirms that self-efficacy as a dimension of Perceived Behavioural Control (PBC) has an influence on respondents' intention as postulated in the theory of planned behaviour (Ajzen, 1985).

As pointed out in the review of literature, PBC is made up of two dimensions namely self-efficacy and controllability. Terry and O'Leary (1995) refer to self-efficacy as internal constraints, in addition Bandura (1998) affirms that it is the belief an individual has in their own ability to complete an action. On the other hand, controllability (as the second dimension of PBC), refers to external constraints and may have a direct influence on behaviour (Ajzen, 1985; Godfrey *et al.*, 2012). For the purposes of this study, controllability that encapsulates an external locus of control (Ajzen, 2002), was conceptualized as situational factors that do not fall under the individual's direct perceived influence such as time, cost and convenience. A strong negative association between these inhibiting situational factors and altruistic donation ($\beta = -0,458$, $p < 0,001$) as well as between inhibiting situational factors and environmental donation ($\beta = -0,382$, $p < 0,001$) were evidenced, thus supporting Hypotheses 2c and 2d. However, these inhibiting situational factors

were not significantly related to altruistic intent (β = -0,090, p = 0,311), nor was there a statistically significant relationship between inhibiting situational factors and pro-environmental intent (β = -0,062, p = 0,118). As such Hypotheses 2a and 2b could not be supported. This confirms prior empirical evidence that external constraints (such as cost, time and convenience) may have a direct influence on actual behaviour (Ajzen, 1985), but does not add to the prediction of intent (Ajzen, 2002; Terry & O'Leary, 1995).

In terms of Hypothesis 3, altruistic intention predicts altruistic donation (β = 0,295, p < 0,001) and therefore this hypothesis is supported. Similarly, environmental intent is a predictor of environmental donation (β = 0,346, p < 0,001), thus supporting Hypothesis 4. Both Hypotheses 3 and 4 results are in accordance with the theory of planned behaviour that states that intent predicts and influences behaviour (Ajzen, 1985).

TABLE 4.13: CONFIRMATION OF HYPOTHESES THROUGH SEM ANALYSIS

Hypotheses		Standardized Regression β	Significance *p*	Supported
H1a	Self-efficacy ⇒ Altruistic intent	0,413	< 0,001	**YES**
H1b	Self-efficacy ⇒ Pro-environmental intent	0,282	< 0,001	**YES**
H2a	Situational factors ⇒ Altruistic intent	-0,090	0,311	**NO**
H2b	Situational factors ⇒ Pro-environmental intent	-0,062	0,118	**NO**
H2c	Situational factors ⇒ Altruistic donation	-0,458	< 0,001	**YES**
H2d	Situational factors ⇒ Pro-environmental donation	-0,382	< 0,001	**YES**
H3	Altruistic intent ⇒ Altruistic donation	0,295	< 0,001	**YES**
H4	Environmental intent ⇒ Pro-Environmental donation	0,346	< 0,001	**YES**

In summing up the results, self-efficacy was found to have a strong influence on the respondents' intention to donate activewear, both from an altruistic- and pro-environmental point of view. Inhibiting situational factors, on the other hand, did not influence consumers' intent, but seemed to have a stronger effect on actual behaviour. This supports the notion that self-efficacy is a strong predictor of intention and forms part of an internal locus of control, whereas controllability of situational factors is seen to be a strong predictor of behaviour and forms part of an external locus of control (Ajzen, 1985; Ajzen, 2002). These results also coincide with Armitage and Conner (2001) meta analyses of TPB studies in which they found that controllability, rather than intentions play a larger part in influencing behaviour of consumers, and that controllability is a strong predictor of behaviour (Ajzen, 1985). This may shed some light on the gap between intention and

action that is extensively reported, especially when it comes to pro-environmental behaviour (Carrington, Neville & Whitwell, 2010; Cleveland, Kalamas & Laroche, 2005; Devinney, Auger & Eckhardt, 2010; Grimmer & Miles, 2017). A strong negative association between inhibiting situational factors and actual behaviour, suggests that both altruistic- and pro-environmental behaviour is highly influenced by inhibiting situational factors such as time, finances or inconvenience. Once these external constraints are lifted, the gap between consumers' intent and their actual behaviour may be narrowed.

4.4 CONCLUSION

This chapter firstly presented demographic results by means of descriptive statistics, followed by inferential statistics such as EFA, CFA and lastly SEM that was conducted on the main dataset. Demographic characteristics that were discussed included age, gender, population group, level of education, area of residence and personal monthly income. Purchasing frequencies and favourite brands of activewear was also included. The descriptive results showed that most respondents were white females between the ages of 26 and 35 with a tertiary qualification that live in the Gauteng province. The inferential statistics started off with EFA, resulting in four factors being identified namely: "Inhibiting situational factors", "Intention to donate", "Donation" and lastly "Self-efficacy". Secondly CFA was applied where the initial factors derived from EFA were divided up into six latent variables in order to differentiate between altruistic and pro-environmental intention and donation. This was done to estimate factor loadings and achieve an acceptable measurement model. This measurement model was then further used as the basis for SEM to test the conceptual model and the hypothesized relationships between the latent variables.

The following chapter is comprised of conclusions drawn from the results in this chapter, with a discussion of practical implications of the findings for industry and other relevant stakeholders, as well as an acknowledgement of limitations of the study and recommendations for further study.

CHAPTER 5: CONCLUSIONS

This chapter provides a brief reflection of the study and summary of the findings. Conclusions and interpretations in terms of the problem statement and hypotheses are presented. Based on the conclusions, implications of the findings related to various entities within the textile and apparel industry and the theoretical contributions of this study are highlighted. This chapter concludes with, limitations and recommendations for future research.

5.1 REFLECTION OF THE STUDY

Humanity is exhausting the earths' resources and surpassing the planetary limits (World Wide Fund For Nature, 2017), resulting in climate change that could have a potential negative impact on the environment (Madzwamuse, 2010). As African economies mostly depend on natural resources, these changes could have greater repercussions across various industries on the continent (Madzwamuse, 2010; Rust & Rust, 2013). Waste management is seen as a method to limit environmental decay and global warming, yet various problems such as illegal dumping are prevalent (Fiehn *et al.*, 2005; Nahman & Godfrey, 2010), and contribute to global warming (Mondini *et al.*, 2008). Environmental damage is also incited through the production, distribution and consumption of the textile and apparel industry supply chain (Kozar & Hiller Connell, 2013) and is labelled as one of the most polluting industries (Choudhary & Islam, 2017). The environmental impact of the textile and apparel industry in South Africa has also accelerated over the last decade (Larney & van Aardt, 2010). Fast fashion is viewed as one of the biggest culprits as it is associated with large amounts of textile waste (Morgan & Birtwistle, 2009). The activewear sector contributes to the escalation of textile waste, as it grew more than double in market share than any other apparel sector in the US in 2016 (Elmer, 2017). This growth is attributed to the shift from an athletes only market to a so-called mainstream fashion segment (Dawes, 2009). Although increased market share and sales may seem positive from an economic point of view, most activewear is made from synthetic textiles that do not decompose (Textile Learner, 2017) and therefore contribute to environmental damage. This substantiates the need for greater understanding of the impact that activewear consumption may have on the environment, and also more specifically, how consumers dispose of their activewear.

Concurrently with the growth of the activewear sector, there is a growing support from consumers towards sustainable and eco-friendly initiatives such as the purchasing of sustainable products and participation in sustainable practices (Nam *et al.*, 2017). Reports show that consumers are currently more concerned about the environment and environmental issues than before, which

contribute to their adopting of eco-friendly disposal methods (Park & Ha, 2014). Various studies have found that donation is the preferred method of eco-friendly disposal of apparel (Bianchi & Birtwistle, 2012; Meyer, 2013). Yet, it is contended that there may be possible constraints or external factors preventing consumers to act on their pro-environmental intent that may extend beyond their control (Ajzen, 2002; Meyer, 2013).

The Theory of Planned Behaviour (TPB) has been extensively applied as a theoretical basis for the investigation of pro-environmental intent and behaviour (Ajzen, 1985; Ajzen, 1991). It is important to acknowledge that the intention to donate activewear may not always follow with the actual act of donation. In this regard, one of the concepts included in TPB named Perceived Behavioural Control (PBC) deserves closer scrutiny. PBC has two sub-dimensions namely self-efficacy and controllability. Self-efficacy refers to the belief in an individual's own competence or internal locus of control in performing a task such as the act of donating activewear (Bandura, 1998; Terry & O'Leary, 1995). Whereas self-efficacy encapsulates internal factors, controllability refers to the amount of external factors that may inhibit performance of a task, such as the lack of time that can prevent an individual from donating activewear (Ajzen, 1985; Ajzen, 2002; Bandura, 1998; Godfrey *et al.*, 2012). Controllability is comprised of an external locus of control and is based upon situational factors that may or may not fall under the individual's direct control (Ajzen, 2002). It can therefore be argued that such situational factors form an integral part of controllability within PBC. This research therefore focused on explaining the influence of situational factors (that includes time, finances and convenience) and self-efficacy on consumers' intent in activewear donation.

To explain the influence of situational factors and self-efficacy on consumers' activewear donation, a survey research design was employed for explanatory purposes. A non-probability, purposive sampling method was used in recruiting consumers that pursue an active lifestyle in an attempt to address the hypotheses of this study. The sample consisted of 600 males and females between the ages of 18 and 65 from across South Africa. The data was collected through the use of a structured online questionnaire (Addendum A) that was based upon existing and adapted scales for the purposes of this study. The questionnaire consisted of six sections as follows: a prerequisite section that addressed participation and engagement in physical activity, four sections that addressed activewear disposal methods, intention to dispose of activewear, self-efficacy and controllability as well as situational factors (all of which were assessed by means of a 5-point Likert-type scale), and lastly a demographic section that addressed the respondents demographic profile. The data was analysed and presented in Chapter 4 with the use of descriptive and inferential statistics.

This study is of interest as limited research has been done to date that specifically focuses on this topic. Previous research has for example focused on the disposal of apparel in general (Meyer,

2013), or has more narrowly focused on Millennials' disposal behaviour (Olwoch, 2018). The intention of this study was to provide empirical evidence that could provide insight about the influence of self-efficacy, situational factors, pro-environmental and altruistic intent in relation to the act of donation of activewear of a broad range of consumers in the South African context. The following section provides a summary of the findings as presented in Chapter 4.

5.2 SUMMARY OF FINDINGS

As pointed out, the purpose of this study was to explain the influence of situational factors, self-efficacy and intent on consumers' activewear donation. To accomplish this purpose, various descriptive and inferential statistical analyses was performed commencing with a more basic description of the demographic profile of the sample.

Demographic profile of sample

A prerequisite for participation in this study was that participants had to be between the ages of 18 and 65 and participate in at least one physical activity. This was done in order to ensure that participants had some experience and at least purchase and use some type of activewear items. In terms of demographic characteristics, data indicated that respondents for this research study were mostly white females, between the ages of 26 and 35. Respondents predominantly reside in the Gauteng province and had a tertiary education with a monthly income of approximately R16 000 or less. Respondents' favourite activewear brand was Nike, and the majority purchased activewear every 3 to 4 months.

Exploratory Factor Analysis

Exploratory Factor Analysis (EFA) was performed in order to differentiate the relevant underlying factors (i.e. constructs and concepts) in the dataset (Mazzocchi, 2008). The EFA was executed through the use of SPSS software with Principal Axis Factoring as the chosen extraction method. Following initial extraction, Varimax rotation was used where the factors were rotated to clearly define groups of variables (Yong & Pearce, 2013). In determining the number of factors to be retained, inspection of the point of inflexion on the scree plot, together with the consideration of Kaiser's criterion (Mazzocchi, 2008) suggested a four factor solution. The four factors were labeled as follows: Factor 1 Inhibiting situational factors, Factor 2 Intention to donate, Factor 3 Donation and Factor 4 Self-efficacy. Findings suggest that respondents had strong intentions to donate ($M_{Intention}$ = 4,26) and seem to have high levels of self-efficacy in terms of donation ($M_{Self\text{-}efficacy}$ = 4,04) revealing that respondents were confident in their ability to donate. Responses regarding donation as disposal method ($M_{donation}$ = 3,27) were also relatively positive, indicating some

preference towards donation as a disposal method. Regarding inhibiting situational factors ($M_{situation}$ = 2,2), a low mean indicated that respondents had a strong disagreement to statements, suggesting that donation is too costly, time consuming and/ or too much effort to engage in. The fact that respondents strongly disagreed with these statements, could in turn support the notion that their intention and confidence in their' ability to donate their unwanted activewear, because time, cost and inconvenience do not oppose their efforts. This exploratory analysis served as a suitable basis for further confirmatory factor analysis.

Confirmatory Factor Analysis

Unlike EFA, Confirmatory Factor Analysis (CFA) relies on existing and is strongly motivated by hypotheses (Brown, 2006; Mazzocchi, 2008). Thus in addition to self-efficacy and situational factors, a decision was made in order to further preserve a distinction between respondents' underlying altruistic and pro-environmental reasons for their intent and behaviour. This was implemented based upon existing theory and configured as a measurement model as presented in Chapter 2. The CFA measurement model was developed through the use of maximum likelihood estimation with the use of SPSS Amos sofware by means of raw data input and evaluation of various model fit indices (Mazzocchi, 2008). In addition to model fit, factor loadings were also considered in the establishment of an appropriate measurement model. Lastly, each construct was preferably measured by three indicator variables as four or more indicator variables per construct may become excessive (Iacobucci, 2010). Based upon these guidelines, a CFA measurement model was formulated that achieved good model fit values according to goodness of fit criteria.

Structural Equation Modeling

The last step of data analysis for this study included Structural Equation Modeling (SEM), which is described as statistical methods used in the testing of a theoretical or conceptual model (Mazzocchi, 2008). Prior to proceeding with SEM, convergent- and discriminant validity analyses was performed. Convergent validity was achieved and so too discriminant validity between the various constructs included in the SEM with the exception of altruistic and pro-environmental donation. This may be due to respondents' not being able to differentiate between underlying pro-environmental and altruistic reasons for engaging in specific donation behaviour. The final SEM model indicates that altruistic and pro-environmental donations are correlated constructs as both relate to actual behaviour. Similarly, pro-environmental- and altruistic intent are correlated as they both signify the underlying intent/ willingness to donate. In addition, self-efficacy and the influence of situational factors are also correlated due to both constructs being closely linked to the central concept of PBC. Overall, the model achieved good model fit values according to goodness of fit criteria.

All path coefficients except for two were statistically significant. Self-efficacy indicated a strong prediction for altruistic- and pro-environmental intent, thus supporting Hypotheses 1a and 1b. Inhibiting situational factors were not significantly related to altruistic- or pro-environmental intent, thus Hypotheses 2a and 2b were not supported. A strong negative correlation between inhibiting situational factors and altruistic- and environmental donation was evidenced, thus supporting Hypotheses 2c and 2d. Hypothesis 3 was supported in that altruistic intention predicts altruistic donation, similarly Hypothesis 4 was supported in that pro-environmental intent predicts pro-environmental donation.

5.3 CONCLUSIONS AND IMPLICATIONS

Based on the hypotheses, a proposed conceptual framework (as shown in Figure 1.1) was developed based on Ajzen (2002) theory of planned behaviour with focus directed toward PBC. PBC has two dimensions namely self-efficacy and controllability. For the purposes of this study, controllability was further refined and conceptualised as a set of situational factors that may inhibit a person's efforts to donate. As per existing literature, controllability, as a dimension of PBC, may have an immediate effect on behaviour, but also an indirect influence on behaviour through intent (Madden *et al.*, 1992). The decision was made to further retain a distinction between respondents' underlying altruistic and pro-environmental reasons for their intent and behaviour to see if an acceptable model could be established. Altruistic inclinations are said to revolve around the welfare of another human being (Alibeli & White, 2011; Stern *et al.*, 1993) and may be central to a consumers' donation behaviour. Polonsky (2011) infers that the term pro-environmental consumer behaviour is the consideration a consumer may have towards the environmental lifecycle of a product. The consumer may incorporate these considerations into his/ her decision-making, which may also include reflexion on how to dispose of the product in an environmentally responsible manner.

The relationship between self-efficacy and intent

Self-efficacy refers to the conviction one has in their own ability to perform a task (Bandura, 1998). In terms of this study, it could be explained as the self-confidence individuals have in their own ability to donate activewear. Altruistic intent refers to someone that has the intention to donate activewear in order to benefit others, such as donating activewear to children that do not have the necessary apparel in order for them to participate in a sport. Pro-environmental intent, on the other hand, focuses the intention towards an action that minimizes the impact on the environment such as donating activewear for the purpose of increasing the lifespan of the clothing and thus reducing the amount of waste that end up in landfills to ultimately combat global warming. **Hypothesis 1a** states that self-efficacy is positively associated with altruistic intent to donate activewear, and **Hypothesis 1b** stated that self-efficacy is positively associated with pro-environmental intent to

donate activewear. The results showed that self-efficacy influenced altruistic intent more than pro-environmental intent. It also confirms that self-efficacy as a dimension of PBC has an influence on respondents' intention as postulated in the TPB (Ajzen, 1985). These findings are supported by the meta analyses of TPB studies conducted by Armitage and Conner (2001) that self-efficacy significantly influence consumers' intentions. The results of this study indicate that if a consumer believes they have the ability to donate activewear (irrespective of altruistic or pro-environmental motivations) it would be a significant predictor of intention. Even though consumers' intention/ willingness to donate activewear may be less influenced by pro-environmentalism than altruism, they seem to be motivated by a combination of helping others and to lessen the effect on the environment. Poverty in South Africa is on the rise (Statistics South Africa, 2017), and those that have some way of helping the needy would perhaps first prioritise to do so and only thereafter focus on the environment.

These findings can be further supported through the study of Taljaard (2015), insomuch that results showed self-efficacy had a positive effect on the intention of male consumers to acquire apparel in a pro-environmental manner. Olwoch (2018) results (which formed part of the larger project to which this study was linked) also found that self-efficacy was a strong predictor of Millennial's intention to dispose of activewear in an eco-friendly manner. Bandura (1977) states that individuals would most likely avoid situations they believe they are not equipped for. An individual might believe that he or she is not able to donate activewear as they have not done it before, yet simultaneously, the task may seem less daunting if successfully completed on a previous occasion. According to Joung and Park-Poaps (2013), donation requires less investment and energy than other disposal methods, thus marketing strategies may point out the ease of donation to consumers' whilst focusing on the benefits donation holds for others that are less fortunate.

The relationship between situational factors and intent

Controllability, as the second dimension of PBC can be referred to as an "external locus of control" comprising of external factors that do not fall under the individual's perceived influence (Ajzen, 2002). Situational factors such as time, finances and convenience, which may inhibit efforts to donate, may thus strongly link to the concept of controllability. **Hypotheses 2a** states that inhibiting situational factors (e.g. time, financial and inconvenience) are negatively associated with consumers' altruistic intent to donate activewear. **Hypotheses 2b** states that inhibiting situational factors are negatively associated with consumers' pro-environmental intent to donate activewear. Hypotheses 2a and 2b were not supported, as no significant relationships were evident. Inhibiting situational factors such as the lack of finances or time therefore do not affect an individuals' altruistic intent to donate activewear. Similarly, inhibiting situational factors do not influence an individuals' pro-environmental intent to donate activewear. These results imply that external factors

do not necessarily impact on consumers' willingness to donate, which may be due to their overarching confidence in their own ability to donate. These findings coincide with the study by Taljaard (2015), as her results also indicated no significant influence between controllability and behavioural intent. This is also supported by Armitage and Conner (2001) meta analyses of TPB studies, which revealed that controllability did not significantly influence intentions, but rather actual behaviour as postulated in Hypotheses 2c and 2d.

The relationship between situational factors and donation behaviour

Donation describes the action of giving away items e.g. donating activewear to an individual (Oxford Dictionaries, 2018b) or organization without any financial gain. **Hypothesis 2c** states that inhibiting situational factors are negatively associated with consumers' donation of activewear based on altruistic reasons. **Hypothesis 2d** states that inhibiting situational factors are negatively associated with consumers' donation of activewear based on pro-environmental reasons. Hypotheses 2c and 2d therefore suggest an **inverse** relationship between inhibiting situational factors and actual donation. Based on the results reported in Chapter 4, inhibiting situational factors had a strong negative association with altruistic donation as well as pro-environmental donation, and showed that these factors may be strongly linked to actual donation behaviour. The initial argument put forward is that consumers may not want to spend a lot of time and effort in trying to donate to charities and other non-profit organisations, and if any of these barriers exist, they would rather spend that time on other matters, This relates to findings stating that action is partly determined by external barriers (Ajzen, 1991; Armitage & Conner, 2001). These external barriers may prevent these consumers from engaging in a pro-environmental manner (Fuentes, 2014; Grimmer & Miles, 2017; Polonsky, Vocino, Grimmer & Miles, 2014).

It should however be noted that the descriptive analyses ($M_{situation}$ = 2.20) revealed that respondents did not agree with the notion that situational factors (such as time, finances and convenience) inhibited their donation behaviour. South Africa is characterized by high levels of income inequality (Worldbank, 2018), which may contribute to several initiatives and organisations that are focused on alleviating and improving the circumstances of those less fortunate (Pick n Pay, 2018; Shoprite, 2018). With ample charities and projects focused on assisting and collecting clothing for the poor, the inconvenience, cost and time associated with finding suitable charities to donate unwanted activewear may therefore seem less problematic in the local context. Similarly, donating to family or friends may also require less financial input, time and effort. Hence there seems to be a strong and significant relationship between situational factors and actual behaviour, but the association is inverse i.e. as the inhibiting role of situational factors decreases, engagement in donation behaviour increases and vice versa. Should situational factors become more inhibiting, participation in donation behaviour may then decline.

Various studies have shown that donating to charities is one of the most convenient methods of disposal (Birtwistle & Moore, 2007; Domina & Koch, 2002; Morgan & Birtwistle, 2009; Wang, 2010). Olwoch (2018) results point to similar conclusions with regard to Millennials' disposal behaviour in the local context. From an implication point of view, this means that any external barriers hindering consumers from donating should be kept to a minimum, and that any barrier large or small may impact the eventual behaviour of the individual wanting to donate. Thus donation should be made more accessible through the use of more collection points, or even collection at the front door of homes, as this is a very convenient option saving the individual time and finances. This may further enhance consumers' self-efficacy and confidence in their own abilities to engage in donation behaviour.

Hypotheses 3 states that consumers' altruistic intent is positively associated with their donation of activewear based on altruistic reasons. **Hypotheses 4** states that consumers' pro-environmental intent is positively associated with their donation of activewear based on pro-environmental reasons. Based on the SEM results, altruistic intent had a positive influence and was a significant predictor of altruistic donation. Similarly pro-environmental intent had a positive influence, and was also a significant predictor of pro-environmental donation. These results indicate that if an individual has the intention to donate activewear for the purpose of helping someone, they would most likely act on the intention in an altruistic manner, similarly if the individual has the intention of donating activewear for the purpose of helping the environment, they would most likely act on the intention in a pro-environmental manner. However, the correlation specified in the final SEM between donation based on altruistic reasons and donation based on pro-environmental reasons also suggest that respondents' underlying motives for engaging in donation may be strongly intertwined i.e. respondents may donate based on a combination of altruistic and pro-environmental reasons. At this point, the pro-environmental consequences of donating unwanted activewear may be seen as an added benefit to the already specified motive of helping others, which can form a strong basis for promotional campaigns to encourage donation. Although intention relates to action, various findings show that the realization of an intention into an action is partially determined by internal and external barriers (Ajzen, 1991; Armitage & Conner, 2001) as was postulated in Hypotheses 1a, 1b, 2c and 2d. Since behaviour is not always consistent with intention (Englis & Phillips, 2013) it is imperative that results such as those obtained from this study must be understood in terms of practical implications for industry and policy formulation, which forms the main discussion in the section to follow.

5.4 IMPLICATIONS FOR INDUSTRY AND POLICY FORMULATION

A global movement among major retail groups suggests a shift in goals from purely economic gain, towards larger social and environmental concerns (Tsarenko *et al.*, 2013) as it ties in with the concept of Corporate Social Responsibility (CSR) and the consumers' demand thereof (Baskentli, Sen, Du & Bhattacharya, 2019). Likewise an increasing number of companies are diligently working towards reducing the textile and apparel industry's environmental impact on an ongoing basis (Larney & van Aardt, 2010). As an example, brands such as Nike Inc., Woolworths and H&M are making serious efforts to incorporate sustainable business practices in trying to curb their environmental impact (Huffingtonpost, 2017; Luiz *et al.*, 2011; Nike INC, 2017; Sustainability.hm.com, 2018; Wendell, 2018). Efforts to curb the environmental impact of this industry, would benefit from greater transparency and in this regard retailers and other stake holders in the textile and apparel industry should inform consumers of their pro-environmental strategies and also have them take part in pro-environmental initiatives such as recycling or donation of unwanted garments. Findings from this research study provides information on how marketers in the textile and apparel supply chain could reach and assist consumers to participate in initiatives surrounding donation, especially where consumers do not have control over external factors that influence their donation behaviour. It is suggested that through the use of marketing policies, information strategies, advertising and awareness campaigns, consumer behaviour could eventually be influenced (Vlek & Steg, 2007), especially towards donating activewear in an altruistic and/or pro-environmental manner. Consumers may also be influenced to dispose of their activewear in a pro-environmental manner through exposure to more information or business opportunities that relate to the environmental impact of the textile and apparel industry, possibly through the use of publications and conferences, government reports and waste statistics.

Previous empirical research established that compared to other pro-environmental disposal options, consumers have a strong tendency to donate (Meyer, 2013; Olwoch, 2018; Stols, 2017) and that donation is strongly influenced by altruistic concern, especially in South Africa (Meyer, 2013). This study focused attention on the overarching concept of perceived behavioural control in relation to two sub-dimensions namely self-efficacy and the controllability of situational factors that may inhibit donation. These two factors may have a direct or indirect influence on a consumer's intention and eventual behaviour such as the intention to act altruistically, or acting in a pro-environmental manner when donating activewear. Self-efficacy was found to have a substantial influence on intention to donate activewear. An example where retailers could use this information is in the development of awareness campaigns that reinforce consumers' confidence and belief in their own ability (i.e. self-efficacy) to make a difference by helping the underprivileged community in enabling them to also participate in sports through their donation of activewear. From an environmental perspective, awareness campaigns can highlight the detrimental impact that textile

waste has on the environment and how donating lengthens the life span of the garments in keeping them out of landfills. All of this can relate back to the individual's ability to make a change, simply by engaging in donation behaviour.

The findings also reveal the significant association between inhibiting situational factors such as time, finances and convenience and the actual disposal behaviour of the consumer. In this regard continued effort should be directed toward combating the potential negative impact of inhibiting situational factors on donation behaviour. This agrees with (Olwoch, 2018) recommendations in terms of convenience as the basis for campaigns to further promote appropriate disposal behaviour. Charities could for example develop an alliance with fashion / athletic retailers, so that consumers have easy access to donation bins when shopping at the specific stores. Donation bins could also be placed at sporting events, as many spectators are involved with a sport one way or another, and participants most likely own activewear they too would like to donate. This would potentially eliminate inhibiting situational factors such as inconvenience and time, as potential donators are already at the shop / event. As altruistic motivations were found to be a dominant factor in donation, some campaigns could also focus on the potential donator's contribution toward assisting underprivileged communities to take part in various sports / activities.

As a further recommendation in accordance with the increase in online shopping and online auctions (Joung & Park-Poaps, 2013), donation options could also be made available as part of the online retail community such as takealot, spree, zando or any other online retailer. As online apparel retailers ship online purchases to the consumer mostly via courier, thus an extra envelope or box could be supplied with delivery, and the consumer could place unwanted activewear in the bag and give it directly to the courier. Upon receiving the donated items, a voucher may be supplied by the online retailer to the consumer towards their next purchase. This may facilitate donation even within the online shopping domain by simple addressing the role of situational factors such as time, finances and convenience that may otherwise inhibit a shopper's efforts to donate.

5.5 THEORETICAL CONTRIBUTION

To date limited empirical research has been done surrounding consumers disposal options in the field of activewear and also more specifically within the geographical scope of South Africa. This study, through the use of exploratory evidence, may serve as a foundation for future research in the field of Consumer Science within South Africa. Limited research studies have been conducted throughout South Africa that relate to applied behavioural theories such as TPB in the prospect of gathering information relating to pro-environmental apparel behaviour (Olwoch, 2018; Stols, 2017; Taljaard, 2015). This study was intended to explore the concept of PBC and its sub-dimensions

namely self-efficacy and controllability with focus on the intent and action of activewear donation within South Africa. Findings from this study correspond to research findings by Barr (2007), that self-efficacy can be seen as an indicator of waste management behaviour, and that PBC is known for having a substantial influence on consumer waste behaviour (Godfrey *et al.*, 2012).

According to findings of Taljaard (2015), PBC posed several challenges, as it was suggested that an investigation in controllability's relationship between intent and actual behaviour be explored, and not just on intention. This was accomplished in this study, within the confines of pro-environmental donation of activewear, and the situational factors forming part of controllability's external factors. This contributes to insight about situational factors within the South African context of disposal behaviour, especially in donation of activewear.

South Africa is a developing country with diverse cultures and ethnicities, thus this research could serve as a basis for further exploration of TPB and PBC as illustrated in the conceptual framework of this study. In the analysis, various internal and external influences on pro-environmental intent and behaviour and how they relate to activewear donation were addressed. These factors have not yet been investigated to a great deal within the South African context, and additional research could be done to further the understanding thereof within an emerging market such as South Africa. In spite of theoretical and practical implications, several limitations should be addressed with keeping future research in mind.

5.6 LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

As the data for this study was gathered using a non-probability sampling method, the data cannot be generalised to the larger South African population (De Vos & Strydom, 2011; Kothari, 2004). Although purposive sampling was used to include respondents with certain prerequisite characteristics (between the ages of 18 and 65 with an active lifestyle) (De Vos & Strydom, 2011), this excluded a large portion of potential respondents that may purchase, use and dispose of activewear for normal day-to-day wear as opposed to participation in active lifestyles . Future research may thus benefit from a sample that is in general more representative of the larger South African consumer population.

This model only focussed on certain dimensions of TPB and that the findings can therefore only be interpreted as such. Furthermore, this study solely focused on donation as a disposal option, as it was found to be a the most popular disposal method in the local context (Meyer, 2013). Future research may therefore focus on other/ alternative disposal methods that also have pro-environmental consequences such as recycling or reselling. Recycling and reselling may have large potential in the local context, especially for job creation and entrepreneurial initiatives e.g. the

repurposing of fabric in order to make shoes for the less fortunate. Future research may also focus on underlying reasons of discarding behaviour or discarding of clothing as consumers' may not even think about the environment or others when discarding clothing.

These studies can then also direct specific focus on gender differences in consumers' disposal behaviour as it has been proposed that male and female consumers have different decision-making behaviours (Bakewell & Mitchell, 2006). Similarly, Mobley and Kilbourne (2013) state that gender may have an influence pro-environmental motivations and intent.

A survey research design was employed for this study to explain the relationship between consumers' self-efficacy, control beliefs, intentions and behaviour in their donation of activewear. However, the potential exits to gain a deeper understanding as to why consumers react the way they do in relation to their intentions and actions regarding disposal of activewear. This in turn may give more insight in helping to curb the degradation of the environment. Therefore, future research could make use of qualitative research methods in gaining more understanding into mentioned matters. This method would be significant, as qualitative methods have been found to be advantageous within emerging contexts where certain methodological challenges such as lower literacy and low response rates could be effectively addressed (Burgess & Steenkamp, 2006; Chatterjee, 2008). Qualitative insight may also combat some of the response bias that is a continuous concern in environmentally related studies (Bamberg & Möser, 2007). Response bias indicates that respondents are inclined to over exaggerate their pro-environmental intention relative to behaviour (Steg & Vlek, 2009).

5.7 FINAL CONCLUSION

This chapter included a reflection of the study with a summary of the findings and conclusions related to the overall research study in terms of the hypotheses. Also included were implications for industry and policy formation, theoretical contributions, limitations of the study and recommendations for prospective research. Humans are the leaders in having an impact on the environment (Goudie, 2018) and as humans we hold the future of the earth in our own hands. For this reason it is important that knowledge of pro-environmentalism, and the movement towards a more pro-environmental lifestyle be passed on in order to take action in a bid to curb the degradation of the planet. As for many South African consumers, donation might be the start of their attempt towards a more pro-environmental lifestyle and towards a cleaner more sustainable country. With that said, it all starts at home.

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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)

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 recycle 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 donate 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 resell 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: ETHICS 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 DECLARATION

DECLARATION OF ORIGINALITY

UNIVERSITY OF PRETORIA

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

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

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

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

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

Full names of student: GERT DANIEL MULLER

Student number: 22149547

Topic of work: Masters thesis

Declaration

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

2. I declare that this thesis (eg essay, report, project, assignment, dissertation, thesis, etc) is my own original work. Where other people's work has been used (either from a printed source, Internet or any other source), this has been properly acknowledged and referenced in accordance with departmental requirements.

3. I have not used work previously produced by another student or any other person to hand in as my own.

4. I have not allowed, and will not allow, anyone to copy my work with the intention of passing it off as his or her own work.

SIGNATURE .....