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The Effect of Environmentally-Relevant Personal Values on the Purchase Intention of Second-Hand Clothing

A Quantitative Study

by

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Abstract

Purpose: To study the effect of environmentally-relevant personal values (biospheric, altruistic, egoistic and hedonic) on the purchase intention of second-hand clothing (SHC).

Methodology: This research is a quantitative study and follows a deductive research approach. The empirical data was obtained through convenience sampling by means of an online self-completion questionnaire. A total of 669 responses were generated out of which 665 valid and usable responses were obtained that were the basis of our analysis. The data was analysed using PLS-SEM on the SmartPLS software.

Theoretical Perspective: The primary theoretical framework used for this study is the Theory of Planned Behavior. This was combined with Values Theory to understand the effect of environmentally-relevant personal values on the purchase intention of SHC.

Findings: This research confirmed that three personal values (biospheric, egoistic and hedonic) play a role in determining SHC purchase intention. Our findings suggest that biospheric and hedonic values positively affect SHC purchase intention, i.e., lead to pro-environmental behavior, while egoistic values are negatively related, i.e., discourage pro-environmental behavior. Although the relationship with biospheric values was expected, the relationship with hedonic values was in contradiction with existing research, which has highlighted hedonic values to be a hinderance to pro-environmental behavior. Moreover, there was insufficient evidence to suggest that altruistic values play a significant role in SHC purchase intention. This finding was also in contrast to past research where it has been firmly established that altruistic values positively relate to pro-environmental behavior. Lastly, attitudes towards the purchase of SHC, subjective norms and perceived behavioral control were all found to positively influence the intention to purchase SHC; attitude had the most significant role.

Implications: Focusing on keeping consumer attitudes towards SHC favorable seems to be the best strategy to increase the adoption rate of SHC. Managers of second-hand retailers are also recommended to devise marketing strategies that target consumers' biospheric and hedonic values because our study shows that these values lead to a positive purchase intention towards SHC. Furthermore, fashion companies that sell new clothes, whether fast fashion, sustainable or luxury fashion brands, should focus on starting a category where they sell SHC to contribute to the circular flow of fashion consumption leading to a more sustainable fashion industry.

Originality: This research is the first study to investigate the effect of environmentally-relevant personal values on the purchase intention of SHC.

Keywords: Second-hand clothing, Environmentally-relevant personal values, Biospheric values, Altruistic values, Egoistic values, Hedonic values, Purchase intention, Theory of planned behavior.

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1 Introduction

You are sitting in the cafeteria at your college as your friend walks up to you. You love her outfit and wonder which brand it is from because it is something unique that you have not seen anywhere else. You ask her about it and to your utmost surprise, she tells you that it is from a second-hand clothing store in Sweden!

With an increased consumer focus on pro-environmental behavior and sustainability, we have observed the rising significance of unique consumption trends, especially in the fashion industry. Among these is the rapidly growing second-hand clothing (SHC) segment, which will be the primary focus of our research. The following section presents a brief background about the evolution of SHC consumption over time, and how it can be considered as a positive form of pro-environmental behavior.

1.1 Background

1.1.1 The Evolution of Second-hand Clothing Consumption

The concept of SHC can be dated back to the era between 1600 and 1850 when Europe was reshaping economically, culturally, and materially (Lemire, 2012). During this period SHC became an important alternative for consumers to meet their clothing requirements (Barahona & Sánchez, 2012; Lemire, 2012). According to Weinstein (2014), second-hand consumption declined and was subject to stigmatization in the twentieth century, before it experienced a renewed growth in popularity and accompanying de-stigmatization in the 2000s. Similarly, other scholars also discuss that second-hand consumption has rapidly grown worldwide since the turn of the century, especially because of rising consumer interest in sustainability and more particularly sustainable fashion (de Brito, Carbone & Blanquart, 2008; Guiot & Roux, 2010).

It can be observed that SHC has become a highly popular phenomenon in recent years, and has experienced unprecedented growth (Henkel, 2018; Yang, Song & Tong, 2017). SHC can be defined as previously owned and used clothing (Carrigan, Moraes & McEachern, 2013), and includes clothing sold by both traditional thrift and donation stores, as well as contemporary resale alternatives, such as online stores (thredUp, 2021a). According to thredUp (2021a) – thredUp is the largest second-hand fashion platform in the world – the second-hand market is expected to reach a value of \$64 billion by 2024 and is projected to grow twice as large as fast fashion by 2029. Further, Toma (2019) highlights that the growth of the second-hand market has accelerated at the same time that the retail industry has plummeted. A study by Boston Consulting Group (BCG) and Vestiaire Collective (a leading global platform for SHC) suggests that the second-hand fashion market is expected to experience a compound annual growth rate

(CAPG) of 15% to 20%; in fact, some online second-hand companies may potentially see annual growth rates as high as 100% (Willersdorf, Krueger, Estripeau, Gasc & Mardon, 2020).

In essence, second-hand consumption can be regarded as an important alternative to traditional options (Brace-Govan & Binay, 2010; Chu & Liao, 2007; Guiot & Roux, 2010; Williams & Paddock, 2003), which can be argued as especially true in the fashion industry. This is because the perception and meanings of second-hand consumption have evolved over time (Brace-Govan & Binay, 2010; Williams & Paddock, 2003) and the social stigmas associated with it are rapidly dissipating (Darley & Lim, 1999), through an increase in environmental concerns and the notions of bargain hunting and the shared economy (Kapner, 2019). Likewise, Franklin (2011) posits that second-hand goods are now being viewed as “cool” and “stylish” (p.156). Further, technology such as the internet has made second-hand shopping more “accessible, reliable and cool” (Kapner, 2019, n.p.). Another interesting observation is that alternative terms have been coined for SHC, such as *pre-loved clothes* (Turunen & Leipämaa-Leskinen, 2015), to make it sound more attractive. Furthermore, there has been a shift in the mentality that SHC can only be bought by ‘poor’ people, meaning that SHC has started to enter the mainstream fashion market. According to Kestenbaum (2017), consumers with incomes above \$125,000 are now more likely to engage in SHC consumption, while 77% of consumers on thredUp are working professionals and 71% actually own a house. Consequently, today SHC is not only for people with financial constraints but rather has become a popular part of the fashion industry for consumers from varying income groups.

For instance, Cervellon, Carey and Harms (2012) discuss that luxury brands like Ralph Lauren are also attempting to enter the second-hand market by looking to sell vintage clothing in their flagship stores. Similarly, Jordan (2015) describes how Bergdorf Goodman (a high-end New York fashion retailer) launched its vintage collections using the flea market second-hand concept. Examples at a more ‘basic’ level include H&M’s Sellpy platform, which has experienced unprecedented growth – indeed, the rapidly growing second-hand sector is also evidenced through the swift expansion of the Sellpy platform to Netherlands and Austria after resounding success in Sweden and Germany; it is currently the largest online store for second-hand fashion items in Sweden (H&M Group, 2021). Similarly, multi-brand e-commerce company, Zalando, has also entered the second-hand ‘pre-owned’ segment and recently expanded to 7 new markets (Zalando, 2021). Another example is thredUp, which has rapidly grown from a small startup in 2009 to be the world’s largest second-hand platform (thredUp, 2021b) with revenues close to \$186 million in 2020 (Wilhelm, 2021). Not only brands, but also celebrities have taken to the second-hand trend (team thredUp, 2016; West, 2020), which has only served to further accelerate its popularity. Hence, the second-hand market is rapidly growing and becoming a significant part of the fashion industry.

Furthermore, the sustainability trend and desire for ethical consumption has also increased during COVID-19 and is likely to intensify afterwards (Achille & Zipser, 2020). This shift in consumer purchasing behavior has become especially pronounced in the fashion industry, where a significant proportion of consumers are altering their behavior to limit the environmental impact of their purchases by spending less on fashion, recycling used clothes and/or buying second-hand fashion items (Granskog, Lee, Magnus & Sawers, 2020). Experts agree that buying habits are changing because of the pandemic, out of both economic necessity and a shift in values, with particular focus on sustainability and environmental concerns, which

seem to lead directly to the surge in the second-hand fashion market (Granskog, Lee, Magnus & Sawers, 2020; Friedman, 2020). It has been observed that sales of SHC have skyrocketed during the pandemic and are likely to sustain the growth pattern post-pandemic (Lieber, 2020; thredUp, 2021a). Consequently, COVID-19 has drastically propelled the growth of an already rising SHC sector, making it an increasingly important market segment in the fashion industry.

1.1.2 Second-hand Clothing as a Pro-environmental Behavior

SHC consumption can be identified as a pro-environmental behavior because it is sustainable and environmentally-friendly. Pro-environmental behavior is referred to behavior that protects the environment (Steg & Vlek, 2009), and can be defined as “all possible actions aimed at avoiding harm to and/or safeguarding the environment” (Balundè, Perlaviciute & Steg, 2019, p.2). According to Hadler and Haller (2011), such behavior can be enacted in either public or private domains, such as by participating in eco-movements or engaging in recycling practices, respectively. In an industry as unsustainable as fashion, it is crucial that a shift towards pro-environmental behavior needs to arise.

The fashion industry has significant negative impacts on the environment (Henninger, 2015; Kozlowski, Bardecki & Searcy, 2012; McFall-Johnsen, 2020; Niinimäki, Peters, Dahlbo, Perry, Rissanen & Gwilt, 2020; Vlachos & Malindretos, 2015). It is one of the most unsustainable and polluting industries in the world because of its wasteful and disposal-intensive culture that negatively impacts the environment by “depleting natural resources and overfilling landfills” (thredUp, 2021a, p.26) – around 85% of all clothes are disposed of every year (McFall-Johnsen, 2020). This means that most clothes eventually end up in landfills rather than being reused or recycled (Allwood, Laursen, de Rodriguez & Bocken, 2006; Fletcher 2008). Fast fashion has been particularly highlighted as unsustainable and damaging to the environment (Claudio, 2007; Niinimäki et al. 2020) because of large volume production and high waste and disposal rates (Niinimäki et al. 2020). Hence, it is vital that sustainable alternatives need to be found in order to safeguard the planet – second-hand fashion is one such option.

According to Choi and Cheng (2015), second-hand fashion can be an important form of sustainable fashion, contending that it can help to change consumers’ purchase behavior and disposal habits. Similarly, Yang, Song and Tong (2017) postulate that one of the key sustainable business operations is recycling; in the fashion industry, one form of recycling can take place through reuse, an example of which is SHC. SHC consumption allows one to oppose the common waste and disposable trend in the fashion industry (Henkel, 2018). Oxfam, a charity, posits that SHC is sustainable because it uses the same resources; no additional resources are used except for transportation costs (Roberts-Islam, 2019), which results in less pollution (Leon, 2019). Additionally, SHC is more sustainable because the product’s usable life is extended – a piece of clothing becomes more sustainable the longer it is used (Henkel, 2018; Sorensen & Jorgensen, 2019), which is because the clothes are not disposed of in landfills but are instead reused (Leon, 2019; Sorensen & Jorgensen, 2019). Moreover, SHC consumption is a productive way to maximize the utilization of the resources used in production (Leon, 2019; thredUp, 2021a) and subsequently lower fashion products’ negative environmental impacts.

A study by Han, Seo and Ko (2017) highlights that fashion consumers are increasingly engaging in pro-environmental behavior, although they may not necessarily purchase new sustainable fashion products. For instance, some consumers consider purchasing fashion products from a second-hand shop to be more sustainable instead of buying new eco-fashion products (Han, Seo & Ko, 2017). Further, Stephens (1985) also posits that environmentally-aware apparel consumers try to decrease clothing waste through behaviors such as purchasing second-hand clothing and recycling clothing. Similarly, several other researchers also found that consumers perceive SHC purchase as one way to engage in pro-environmental behavior (Bly, Gwozdz & Reisch, 2015; Connell, 2011; Joung & Park-Poaps, 2013; Shim, 1995). Consequently, research has shown that SHC is an important alternative for sustainable clothing and can represent a vital form of pro-environmental behavior in the fashion industry.

1.2 Research Problem

Given the background, we believe that the rapidly increasing consumption of SHC is quite intriguing, and that there is a potential for valuable contributions to the field of consumer behavior towards SHC. As discussed earlier, SHC could be considered as an important form of pro-environmental behavior in the fashion industry. However, as we will highlight in our literature review, primary research has focused on understanding the motivations for buying second-hand, instead of understanding the purchase intention from different viewpoints. Hence, we are conducting this research with a novel perspective to contribute to this research gap.

Moreover, we argue that the motivations to buy SHC have also shifted. Past research has emphasized economic reasons as the primary driver for second-hand consumption (for e.g., Cervellon, Carey & Harms, 2012; Guiot & Roux, 2010). However, this motivation does not seem to be as important for several consumers today. For instance, we found that new clothes can be bought from inexpensive clothing stores (such as H&M and ZARA) at the same (or lower) price, unless consumers buy statement or designer pieces from SHC stores. Indeed, even if consumers buy only designer clothes at second-hand shops (which are cheaper than new designer clothes), it still has more to do with status or image and less to do with savings (for e.g., Turunen & Leipämaa-Leskinen, 2015). This is because if the primary motivation is to save money, they could in fact buy new clothes from cheap fast fashion brands instead of buying second-hand designer clothes which, although cheaper than new designer clothes, are still more expensive compared to new clothes bought at H&M, for instance. Similarly, environmental motivations for buying SHC have also been highlighted (for e.g., Cervellon, Carey & Harms, 2012; Hur 2020). Hence, other factors are becoming important determinants in the purchase intention of consumers towards SHC. Following these arguments, we also seek to emphasize another viewpoint to understand SHC purchase intention from an environmental perspective by studying the role of environmentally-relevant personal values in SHC consumption.

Furthermore, the COVID-19 pandemic has especially highlighted several subjects of interest with regards to SHC. Although SHC consumption was already increasing before COVID-19, with the risk of disease and contamination, one would have expected SHC consumption to decline during the pandemic. According to several researchers, germs, contamination and the

chance of disease transfer have historically inhibited consumption of SHC (Belk, 1988; Groffinan, 1971). However, instead of observing a decrease in the sales of SHC during COVID-19, a tremendous increase was seen (for e.g., see thredUP, 2021a). What is even more interesting is that clothing sales in general have declined during COVID-19, while sales of SHC have continued to skyrocket (thredUP, 2021a). This implies that consumers have shifted their opinions about SHC consumption, and that it can now be observed as a prominent alternative for purchasing clothes. Consequently, this provides us with the opportunity to explore and measure individuals' intention to purchase SHC. Furthermore, experts believe that the purchase of SHC is a rising trend which is likely to stay and intensify post-pandemic. The crisis has simply accelerated the growth of a clothing sector that was already on the rise; hence, research in this field can prove to be very valuable.

All of the aforementioned arguments lend credence to the fact that an investigation of consumer intention towards the purchase of SHC is merited. We believe that it is important to understand whether SHC is equally important (from an environmental values perspective) to all SHC shoppers or whether there is only a segment of SHC consumers driven by specific environmentally-relevant personal values which encourages them to engage in pro-environmental behavior through the consumption of SHC.

1.3 Aims and Objectives

Our study aims to make several contributions to the burgeoning field of research on SHC, and we believe that our study is important for several reasons. Firstly, we attempt to gain an understanding of the relationship between consumers' environmentally-relevant personal values and SHC purchase intention, which will not only provide a novel perspective to analyzing the intention to purchase SHC, but also allow SHC retailers to better understand their customers. Furthermore, as is common knowledge, the fashion industry is one of the most climate disrupting industries (McKinsey & Company, 2020; Niinimäki et al. 2020). However, several experts have argued that second-hand consumption may be a promising solution to the fashion industry's negative environmental impact (Henkel, 2018; Leon, 2019; Sorensen & Jorgensen, 2019; thredUp, 2021a). Consequently, we also aim to provide both researchers and practitioners with a deeper insight into consumers' purchase intentions towards SHC, such that they can be harnessed to pave the way towards a more sustainable fashion industry.

1.4 Research Purpose

The purpose of our research is to understand the purchase intention of consumers towards SHC. Specifically, we will be examining the role of personal values in purchase intention, and how they affect consumers' attitude toward SHC consumption. More particularly, we will be focusing on environmentally-relevant personal values. We believe that it is important to investigate the effect of different personal values to understand if there is any particular value

that encourages the purchase intention towards SHC more than other values. Consequently, in this paper we will be analyzing and understanding the effect of environmentally-relevant personal values on consumer attitudes towards SHC consumption, and studying the intention to purchase SHC.

1.5 Research Question

In light of the aforementioned background of our topic, an elaboration of this study's aims and objectives, and reflection on the research purpose, this study will be based on the following research question:

“How do environmentally-relevant personal values affect consumer purchase intention towards SHC?”

1.6 Delimitations

Firstly, it must be clearly explained what we mean by second-hand clothing (SHC). In literature two interrelated and parallel terms are often used for second-hand fashion consumption which might be considered the same but are actually different. The first is *second-hand clothing (SHC)* which is defined as previously owned and used clothing regardless of the product age, while the second is *vintage clothing* which refers to authentic and rare clothes from a specific era, although they may not necessarily be used (Carrigan, Moraes, & McEachern, 2013). For the purpose of our study, we are considering only SHC as defined by the definition above. Within SHC we are not restricting our study to consumer behavior towards any particular selling platform such as physical stores or online platforms. Likewise, we have also not limited our research to a particular fashion segment, such as the luxury SHC market. Moreover, our research is based on consumer behavior toward SHC only; thus, we have not considered the role of SHC from the retailers'/sellers' perspective.

Furthermore, in lieu of our analysis with values, it should also be noted that personal values should not be confused with the perceived value of the SHC purchase for an individual. For example, we are looking at how an individual's personal hedonic values (i.e., a person who loves to have fun, etc) impact the purchase intention. This should not be confused with the hedonic value that the purchase of the SHC will bring to the individual. Prior research on second-hand consumption has primarily focused on the perceived value that the activity itself entails and brings to the consumer rather than the effect or role of consumers' personal values on the intention to purchase. Consequently, we define personal values as the values that the individual holds personally which may vary among individuals based on, for example, the culture and upbringing of the individual.

1.7 Outline of the Thesis

The subsequent parts of our thesis have been structured into six sections. In the following section, we conduct a thorough review of current literature regarding SHC, before proceeding to outline our theoretical framework in section 3. The fourth section will address the methodology used to achieve the aims and objectives of our study, while section 5 and 6 focus on our analysis and discussion of the results, respectively. We then proceed to conclude our study with theoretical and managerial implications, along with our research limitations and suggestions for future research in the final section.

2 Literature Review

In order to conduct a thorough and extensive literature review regarding our topic, i.e., second-hand clothing (SHC), we used a combination of different databases. More specifically, we utilized Scopus, LUBSearch, Web of Science and ScienceDirect as our primary databases to find relevant articles for our research. To do so, we searched for previous studies using keywords specific to our research, such as ‘second-hand’, ‘second-hand consumption’, ‘second-hand buying’, ‘second-hand purchase’, ‘second-hand clothing’, ‘environmentally-friendly clothing’, and ‘sustainable clothing consumption’. Furthermore, related terms to second-hand, such as ‘thrift’, ‘vintage’, and ‘pre-loved’ were also used as alternative search keywords.

2.1 An Overview of Research on Second-hand Consumption

According to Turunen and Leipämaa-Leskinen (2015), previous literature on second-hand consumption can be divided into two particular themes: (1) acquiring used possessions, and (2) disposing of possessions. For the purpose of our research, we will concentrate on the first perspective because disposal of SHC is not a focus of our study. Indeed, our emphasis is instead on understanding consumers’ purchase intention towards SHC. Hence, we will be examining existing literature that divulges on consumers’ acquisition of second-hand products and their motivations for doing so.

Prior research on second-hand consumption has focused on several contexts, such as luxury (Ryding, Henninger & Cano, 2018; Turunen & Leipämaa-Leskinen, 2015) and vintage (Cervellon, Carey & Harms, 2012; DeLong, Heinemann & Reiley, 2015; Ryding, Henninger & Cano, 2018) among others. Several second-hand consumption studies have also particularly focused on fashion and clothing (Guiot & Roux, 2010; Isla, 2013; Roux & Korchia, 2006; Turunen & Leipämaa-Leskinen, 2015). Primary research in this field have explored the role of second-hand consumption in identity construction (Na’amneh & Al Husban, 2012; Roux & Korchia, 2006) or investigated the underlying motivations or demotivations for buying second-hand products (Bardhi & Arnould, 2005; Guiot & Roux, 2010; Hur, 2020; Stone, Horne & Hibbert, 1996). Consequently, we aim to highlight prominent studies in these fields of research in the following subsections.

2.2 Role of Second-hand Clothing in Identity Construction

As highlighted by Ferraro, Sands and Brace-Govan (2016), second-hand consumption can be considered in the context of consumption theory, which explores different perspectives on the reasons why individuals and societies consume. Consumption can relay personal, social and cultural meanings, thereby making it a highly strategic practice (Holt, 1995); indeed, objects, i.e., products/services can be regarded as a medium for imparting messages and cultural meaning in society (McCracken, 1986). It has also been argued that consumption has increasingly become an important part in the construction of the self and individual identity (Gregson & Crewe, 1997; McCracken, 1986).

This notion is also prevalent in second-hand consumption, where consumers are observed to actively express and construct identity, experience and meanings through their purchase of second-hand items (Arsel & Thompson, 2011; Banister & Hogg, 2004; Na'amneh & Al Husban, 2012; Roux & Korchia, 2006). Early studies in this field have established that SHC was not only used as a means to fulfill basic clothing needs, but also to construct individual identity and feelings of well-being (Ginsberg, 1980; Lemire, 1997; McRobbie, 1989). Other recent studies have also highlighted that a significant motivation for second-hand consumption is individuals' desire to express themselves as unique and original (Cervellon, Carey & Harms, 2012; Guiot & Roux, 2010; Liang & Xu, 2018; Medalla, Yamagishi, Tiu, Tanaid, Abellana, Caballes, Jabilles, Selerio Jr., Bongo & Ocampo, 2021; Roux & Guiot, 2008; Xu, Chen, Burman, & Zhao, 2014; Yan, Bae & Xu, 2015). Furthermore, numerous studies posit that clothing can be viewed as a symbolic product which can portray a person's identity and/or status (Cass, 2001; Goldsmith, Flynn & Clark, 2012; Workman & Lee, 2011). Similarly, Isla (2013) postulates that consumption of SHC helps to relay individuals' identities and values. Resultantly, second-hand consumption is increasingly becoming an identity marker for individuals.

According to Rothstein (2005), identity is an important determinant of SHC consumption because it is affected by people's particular circumstances at a specific point in time. Several different identity constructions have been observed with regards to second-hand consumption. These identities can, for example, be built by engaging in exclusive (Beard, 2008), authentic (Guiot & Roux, 2010; McColl, Canning, McBride, Nobbs & Shearer, 2013), and unique (Brace-Govan & Binay, 2010; Roux & Guiot, 2008) SHC consumption. For instance, by translating their moral identity through the concept of anticonsumerism, SHC consumers in Australia bought used clothes from charity organizations (Brace-Govan & Binay, 2010), thereby expressing an anticonsumerism identity. Another common factor in second-hand consumption is style consciousness, or an identity constructed around a self-expression based on one's own style (for e.g., Zaman, Park, Kim & Park, 2019). The study showed that consumers from three different types of SHC stores – thrift stores, consignment stores and online stores – found that style consciousness was an important factor for consumers across all three types of stores (Zaman et al. 2019). Other researchers have also reached similar conclusions regarding the importance of style consciousness in SHC consumption (Bly, Gwozdz & Reisch, 2015; Yan, Bae & Xu, 2015). Likewise, some consumers may also construct

and portray a socially-conscious self or identity through their choice of second-hand consumption (Roux & Korchia, 2006).

In contrast, other individuals buy second-hand products, like clothing, for symbolic purposes such as signalling status in society; this can be observed particularly with luxury second-hand products, which may be used as an identifier for belonging to a higher social class or being wealthy (Turunen & Leipämaa-Leskinen, 2015). Similarly, Hansen (1999) argues that the uniqueness or exclusivity often found in SHC allows consumers to distinguish themselves from others, thereby gaining more attention; this in turn positively impacts their standing in society. Beard (2008) also posits that the uniqueness factor in SHC creates a perception of superiority and luxury, thereby playing an important role in building one's identity. Additionally, a few researchers have also established that several consumers in developing countries purchase SHC because they want to be associated with Westernization and modernization – according to Besnier (2004), modernization has influenced consumers to adopt a more Western lifestyle. For instance, Hansen (1999) revealed that consumers in developing nations prefer second-hand Western clothes over new traditional clothes, because Western fashion is perceived as a symbol of both modernization and equality.

Finally, Xu et al. (2014) disclose that extrinsic motivations such as peer pressure also have a significant influence on SHC consumption. This peer pressure coerces individuals to purchase SHC in order to be identified as part of and be viewed positively in society – this is because failure to comply with accepted behavior (Armitage & Conner, 2001) can result in ostracization from society. Hence, in some cultures, consuming SHC can also be seen as a way to symbolize an identity that is demanded by society.

2.3 Motivations to Purchase Second-hand Clothing

2.3.1 Economic/Frugal Motivations

Current research on second-hand consumption indicates that a primary motivation, and one of the most dominant predictors, for individuals to purchase SHC is economic (Cervellon, Carey & Harms, 2012; Guiot & Roux, 2010; Hur, 2020; Isla, 2013; Medalla, Yamagishi, Tiu, Tanaid, Abellana, Caballes, Jabilles, Himang, Bongo & Ocampo, 2020; Roux & Guiot, 2008; Su & Wang, 2014; Yan, Bae & Xu, 2015; Zaman et al., 2019). According to Guiot and Roux (2010), economic motivations for second-hand consumption are driven by the search for reasonable prices and bargains; indeed, economic reasons for purchasing SHC are based on price sensitivity and/or price consciousness. Other researchers have similarly highlighted the need for cheaper bargains as the main economic motivation for buying second-hand products (Anderson & Ginsburgh, 1994; Bardhi & Arnould, 2005; Gregson & Crewe, 1997; Stone, Horne & Hibbert, 1996; Williams & Paddock, 2003). Likewise, Turunen and Leipämaa-Leskinen's (2015) study emphasizes how consumers find high-end, branded second-hand products at significantly cheaper prices and thus feel like they have found a great deal. In essence, second-hand products, such as clothing, act as an outlet to reduce financial stress and

fulfill primary needs without having to sacrifice other purchases (Guiot & Roux, 2010). As a result, economic reasons have historically remained a major determinant of SHC consumption.

Another closely related concept is frugality, which means that an individual not only restrains from purchasing products, but also uses his/her existing goods more resourcefully (Lastovicka, Bettencourt, Hughner, & Kuntze, 1999). According to Zaman et al. (2019), consumers with greater levels of frugality prefer to purchase SHC because it reduces expenditure on clothing, while also being more resource-efficient because it increases material utilization. However, today several consumers prefer to purchase SHC for reasons other than economic factors. For example, a study by Steffen (2017) found that most German consumers did not engage in second-hand shopping for economic reasons, but rather because they wanted to live a certain lifestyle that they associated with second-hand consumption. Consequently, the following sections will highlight other factors that have been discussed in current literature as a motivation for second-hand consumption.

2.3.2 Recreational Motivations

Another motivation for second-hand consumption can be in the form of recreational motivation, which can be a consequence of social interaction, authenticity, treasure hunting, nostalgic pleasure, and variety of products, all of which could result in excitement and/or visual stimulation (Belk, Sherry Jr. & Wallendorf, 1988; Guiot & Roux, 2010). In addition, the ability to bargain, opportunity to browse and obtain some freedom from one's daily routine (Belk, Sherry Jr. & Wallendorf, 1988; Guiot & Roux, 2010; Mathwick, Malhotra & Rigdon, 2001) could also be important motivations for second-hand consumption. According to Ferraro, Sands and Brace-Govan (2016), all of the aforementioned attributes are important characteristics of second-hand consumption, which has resulted in a rising number of second-hand product buyers and collectors, for e.g., in clothing.

Furthermore, second-hand stores can also offer some form of improvisation and theatrical thrills for consumers (Guiot & Roux, 2010) through their museum-like environment, while also providing the opportunity to browse and hunt for products with the hope of finding something worthwhile (DeLong, Heinemann & Reiley, 2005). This allows the second-hand shopping experience to be exhilarating, fun, satisfying, and surprising, while also being seen as a hobby and a treasure hunt, where something of great value could be found at a low cost (Weil, 1999). According to Cervellon, Carey and Harms (2012), this treasure hunting concept in second-hand buying is seen as exciting; this experience is further positively enhanced if a consumer finds something unique (Turunen & Leipämaa-Leskinen, 2015). Furthermore, the interaction and socialization in second-hand stores also creates a sense of communal belonging between both sellers and buyers (Belk, Sherry Jr. & Wallendorf, 1988; Stone, Horne & Hibbert, 1996). Moreover, Gam (2011) also found that consumers' reasons for purchasing environmentally-friendly clothing (such as SHC) include hedonic motivations such as wishing to have fun and wanting to try the item. Other researchers have also emphasized the importance of hedonic motivations in second-hand consumption (Bardhi & Arnould, 2005; Hur, 2020; Liang & Xu, 2018; Medalla et al. 2020; Weil, 1999; Xu et al. 2014). Consequently, recreational and hedonic motivations play an important role in second-hand shopping and consumption.

Furthermore, several scholars have found nostalgia to be an important determinant of second-hand consumption (Hur, 2020; Medalla et al. 2020; Roux & Guiot, 2008). Nostalgia can be defined as individuals' tendency to reflect on past experiences and values (Zauberman, Ratner & Kim, 2009), and yearn for times gone by and the possessions associated with those times (Holbrook, 1993). Studies have disclosed that individuals who are prone to nostalgia may likely buy second-hand products because they believe that such items evoke memories of the past (Guiot & Roux, 2010; Roux & Guiot, 2008). We contend that SHC could also induce nostalgic feelings among consumers; for example, a vintage designer shirt that was extremely popular during your adolescence is likely to bring back memories of those times.

However, other researchers postulate that nostalgic motivations may not hold for all types of SHC consumption. For instance, the study by Cervellon, Carey and Harms (2012) gave mixed results; their findings suggest that nostalgia could be considered a motivation for buying only vintage fashion (clothing that is representative of a particular time/era and may be used/unused), but not for general SHC (normal used clothes). As a result, Zaman et al. (2019) contend that contemporary second-hand stores, such as online stores, which primarily sell modern, current and trendy clothing or fashion items may be less susceptible to nostalgic motivations as compared to traditional vintage or thrift stores. Similarly, other scholars suggest that nostalgic behavior is especially relevant for luxury second-hand products because of the heritage of the brand and/or product (Turunen & Leipämaa-Leskinen, 2015), and for vintage fashion (McColl et al., 2013). Consequently, nostalgia is also an important motivation for buying certain types of SHC.

2.3.3 Fashionability Motivations

Fashionability has also been highlighted as another motivation for the consumption of SHC (Ferraro, Sands & Brace-Govan, 2016; Medalla et al. 2020; Medalla et al. 2021). As discussed earlier, historically individuals mainly bought SHC for economic reasons, considering such clothes as undesirable (DeLong, Heinemann & Reiley, 2005). However, SHC has since evolved into a desirable fashion (Beard, 2008; Gregson, Crewe & Brooks, 2002). Consequently, the importance of fashionability as a motivation for buying SHC has also increased.

Ferraro, Sands and Brace-Govan (2016) have particularly highlighted the role of fashionability as a motivation for consumers to purchase second-hand goods, although they indicate that a polarisation in fashion motivations exists. They identified four segments of second-hand shoppers and found that three segments (83% of total second-hand shoppers) were driven by fashion (although to varying degrees) when shopping in second-hand stores. The researchers identified the first of these three segments as *Infrequent Fashionistas*, whose second-hand consumption is mainly driven by high fashionability motivation although they do not purchase second-hand items regularly. Their second segment was named *Fashionable Hedonists*, who are primarily characterised by hedonic motivations; this segment's motivation for buying second-hand was a combination of fashionability and the vast variety of products that could be found at second-hand stores. The scholars labelled the third segment as *Thrill Seeking Treasure Hunters*, who not only have fashionability motivations, but also recreational and economic motivations. Finally, the writers discuss the fourth segment, *Disengaged Second-Hand*

Shoppers (representing 17%) who did not have fashionability motivations for second-hand shopping; indeed, this group of consumers did not enjoy shopping in general and only infrequently purchased second-hand products. Nevertheless, a significant majority of second-hand shoppers were found to have fashionability motivations.

In another research, Gam (2011) found that consumers who are fashion-conscious and have higher interest in being well-dressed have a stronger purchase intention regarding environmentally-friendly clothing, such as SHC. Similarly, another study conducted on three different types of SHC stores: *thrift stores* (primarily sell second-hand items obtained from local donations), *consignment stores* (usually for-profit businesses), and *online stores* (online consignment stores) found that fashion consciousness was a major reason for SHC consumption by online and consignment shoppers (Zaman et al. 2019). However, there is also a contrasting view in literature where it has been argued that fashion consciousness is irrelevant to SHC consumption (Cervellon, Carey & Harms, 2012), although Zaman et al. (2019) contend that this could be a result of the different categorizations of SHC. As observed, some researchers identify SHC as unique, vintage items (Ferraro, Sands & Brace-Govan, 2016), while others regard SHC more generally – any sort of clothes that have been previously used (Cervellon, Carey & Harms, 2012). Hence, we argue that fashionability motivations would be particularly high for second-hand clothing consumers who seek unique and original SHC, rather than for those who are primarily looking to fulfill their basic needs, i.e., simply buying something to wear.

2.3.4 Environmental Motivations

A significant and increasingly important motivation for second-hand consumption is the sustainability imperative and concern for the environment. Consumers are becoming more critical of what they buy and consume especially with regards to environmental impact. Several researchers have discussed that consumers are becoming concerned with unsustainable, environmentally-harmful, wasteful, and/or excessive consumption and behaviors, and are striving to mitigate the damaging impact of products on consumers' health, the environment and the society (Brace-Govan & Binay, 2010; Cervellon, Carey & Harms, 2012; Ha-Brookshire & Hodges, 2009). A similar trend has been observed in the fashion industry, where consumers are attempting to change their behavior and shift towards more sustainable and pro-environmental consumption (Fu & Kim, 2019; Ki & Kim, 2016; Lee & Park, 2013). It can be argued that SHC consumption is one solution to this problem.

According to Koo (2000) the reuse and recycling of clothing is a paramount method to limit the negative environmental impact of clothing consumption. With regards to SHC, past research consistently postulates that a primary driver of SHC consumption is individuals' emphasis on sustainability and the environment (Cervellon, Carey & Harms, 2012; Hur 2020; Liang & Xu, 2018; Xu et al., 2014; Yan, Bae, & Xu, 2015). Similarly, a study by Gam (2011) on the purchase intention of environmentally-friendly clothing (such as SHC) also found environmental concern and eco-friendly behavior to be a major determinant for buying such clothing.

Numerous scholars have also argued that this eco-movement can be seen as part of critical motivations to disassociate oneself from the mainstream market – these may be for moral, ethical or environmental reasons, such as anticonsumerism and recycling (Guiot & Roux, 2010,

Pierce & Paulos, 2011). According to Roux and Korchia (2006), second-hand consumption can also be considered as a form of consumer resistance against unsustainable consumption in a society that encourages wasteful behaviors. Similarly, second-hand consumption could also be driven by motivations to avoid large companies and resist the market (Brace-Govan and Binay, 2010). Additionally, for some consumers second-hand shopping can also be a form of resistance against conspicuous consumption or buying for social status reasons (Guiot & Roux, 2010). As discussed by Zaman et al. (2019), this resistance allows consumers to avoid displaying extravagance and focus primarily on the use value of products. Indeed, some researchers have established a negative relationship between second-hand consumption and materialism (Roux & Guiot, 2008). However, Roux and Guiot (2008) also suggest that consumers may sometimes still show materialistic behavior in second-hand shopping, for instance, by benefiting from low prices to buy a larger volume of products, such as buying more SHC to own a greater variety of clothes.

2.4 Demotivations of Second-hand Clothing Consumption

Another stream of second-hand literature has focused on demotivations and reasons for not buying SHC. Historically, consumers' concerns about used clothes have been related to germs and contamination (Belk, 1988), to the transfer of disease and/or misfortune – superstitions, such as bad luck (Groffinan, 1971), or to a diminishing sense of self-identity (Erikson, 1968). Furthermore, Roux and Korchia (2006) discuss that real or imaginary remnants of the previous owner on SHC, such as marks and odors can be seen as part of someone else's identity which prohibits one to use his/her clothing.

A study by Hur (2020) also highlights several reasons why some consumers are not willing to purchase SHC. Firstly, she found that consumers were worried about their status or image in society and felt that wearing SHC would make them feel poor or cheap. This in turn led to self-confidence concerns and the risk of not being part of the “right social groups” (p.273). Secondly, she disclosed that some consumers perceived SHC to be of poor quality and had major concerns related to hygiene and contamination. Furthermore, the scholar discusses that consumers also perceived SHC as unfashionable and restrictive in the sense that the required color, size and/or style are difficult to find, which limits self-expression and creativity. Finally, her study also found that many consumers felt that shopping for SHC required a considerable amount of time and effort to find something that fits one's requirements, which they did not consider worthwhile.

In another research, Sorensen and Jorgensen (2019) revealed that many consumers perceived second-hand stores to be “disgusting due to the belief that these stores have unpleasant smells, damaged clothing, and an unorganized store appearance” (p.11). Other researchers also highlight that some consumers are unwilling to purchase SHC because they associate it with poor quality while others perceive it to be unfashionable and lack unique characteristics (McNeill & Moore, 2015; Sorensen & Jorgensen, 2019). In addition, Fisher, Cooper, Woodward, Hiller and Goworek (2008) also showed some consumers to be unenthusiastic

about buying SHC because of associated stigmas, the increased time required to shop at SHC stores, and not knowing about the origin of such clothes.

2.5 Literature Synthesis: Research Gaps

After a thorough screening of the existing literature, we believe that there is considerable room for further research. Because the concept of SHC has only recently become a popular market phenomenon, particularly in the aftermath of the increasing awareness regarding sustainability, this research field is currently not very expansive. The primary focus in this research stream has been to identify different factors that encourage or discourage the buying of second-hand fashion products, or how SHC plays a role in identity construction.

Based on the literature review, we were able to identify an important research gap pertaining to SHC research. Although it has been widely established in literature that values play a vital part in consumer behavior (Schultz & Zelezny, 1999; Steg, Perlaviciute, van der Werff & Lurvink, 2014), this has yet to be studied in relation to SHC consumption. We have been unable to find any research in existing literature (based on our extensive research) that has tried to understand the impact of different personal values on the intention to purchase SHC. More specifically, there is no research that has studied the impact of values particular to pro-environmental behavior and their impact on the purchase intention of SHC, which we believe presents a promising research area.

Consequently, in consideration of the current state of research with regards to SHC and the aforementioned research gaps, our study is relevant and has the potential to make significant contributions to research in consumer behavior. Our research provides a novel perspective by studying the impact of different environmentally-relevant personal values on the purchase intention of SHC, which is precisely where we seek to make a contribution to both theory and practice.

3 Theoretical Framework and Development of Hypotheses

This chapter outlines the theoretical framework that this study is based upon. Building from our literature review and identified research gaps, the hypotheses and conceptual framework for this study are developed and presented in this section. For the purpose of this research, we will be using Values Theory to understand how personal values may affect attitudes and purchase intention towards SHC. In order to test and understand the role of values in our research context we decided to use the Behavioral Decision Theory (BDT) to study consumers' purchase intention towards SHC. Within this stream of literature one specific theory, the Theory of Planned Behavior (TPB), was chosen as a theoretical lens to guide our research. Consequently, we will be combining Values Theory and the TPB to understand how consumers' personal values impact their purchase intention to buy SHC. This will allow us to gain a deeper insight into consumers' purchase intention with regards to SHC.

3.1 Values Theory

3.1.1 Values and Pro-environmental Behavior

The concept of *values* is a pivotal construct in social sciences; values have been used to “characterize cultural groups, societies, and individuals, to trace change over time, *and to explain the motivational bases of attitudes and behavior*” [italics added for emphasis] (Schwartz, 2012, p.3). Several scholars have argued that behavior is an amalgamation of values and attitudes (Fritzsche & Oz, 2007). Historically, it has been proposed that values form the building block for decision-making behavior through their role in the development of individual attitudes (Connor & Becker, 1975; Homer & Kahie, 1988). Similarly, Williams (1968) argues that personal values serve as standards or criteria for preference. Hence, we argue that values are an important part of attitudes, and resultantly, consumer purchase intention and behavior.

Numerous studies posit that values are an important determinant of pro-environmental consumer beliefs, attitudes and behavior (Abrahamse & Steg, 2013; Hornsey, Harris, Bain & Fielding, 2016; Nordlund & Garvill, 2002; Schultz & Zelezny, 1999; Schultz, Gouveia, Cameron, Tankha, Schmuck & Franěk, 2005; Steg et al., 2014). Furthermore, several scholars have attempted to identify specific values that form a basis for environmentally-relevant beliefs, attitudes, preferences, and behaviors (de Groot & Steg, 2007, 2008; Karp, 1996; McCarty & Shrum, 1994; Stern, Dietz, Abel, Guagnano, & Kalof, 1999). The majority of these studies were based on Schwartz's (1992, 1994) value theory and found that the self-transcendent vs self-enhancement dimension is particularly relevant to understand environmental beliefs, attitudes

and behavior (Steg et al. 2014). According to Steg et al. (2014), self-transcendence values mean that individuals “consider the interests of the collective when making choices” (p.166). In contrast, self-enhancement values imply that people “focus on their personal costs and benefits when making choices” (Steg et al. 2014, p.166). Past research has indicated that individuals who endorse self-transcendence values are more likely to have pro-environmental beliefs and attitudes and engage in such behavior, while those who endorse self-enhancement values are likely to *not* display pro-environmental beliefs, attitudes and behavior (Collins, Steg & Koning, 2007; Dietz, Fitzgerald & Shwom, 2005; Kalof, Dietz, Stern, & Guagnano, 1999; Nordlund & Garvill, 2002, 2003; Schultz et al., 2005; Stern, 2000; Stern, Dietz & Guagnano, 1998; Stern, Dietz, Kalof, & Guagnano, 1995; Thøgersen & Ölander, 2002). However, it is necessary to identify the particular values that belong to these categories and help us in understanding environmentally-relevant beliefs, attitudes and behavior.

Generally, scholars have established that two types of self-transcendence values – *biospheric* and *altruistic* – are especially relevant to analyze environmentally-relevant beliefs, attitudes, preferences and behaviors, while self-enhancement values have generally been conceptualized as *egoistic* values in an environmental context (de Groot & Steg, 2007, 2008, 2010; Grønhøj & Thøgersen, 2009; Nilsson, von Borgstede & Biel, 2004; Steg, de Groot, Dreijerink, Abrahamse & Siero, 2011; Steg, Dreijerink & Abrahamse, 2005). A prominent research on the importance of values in environmental attitudes and behavior was conducted by Stern and Dietz (1994), which resulted in the introduction of the *value-basis theory*. This theory was based on Schwartz’s (1992) model and focuses on “environmental attitudes and behaviors derived from an awareness of the harmful consequences to valued objects” (Schultz et al. 2005, p.458). These scholars also identify the aforementioned values (biospheric, altruistic and egoistic) as relevant in determining environmentally-relevant attitudes and behavior (Stern & Dietz, 1994).

It must be noted that Stern and Dietz (1994) were unable to distinguish between biospheric and altruistic values based on the results of their research. Although it cannot be denied that both biospheric and altruistic values are correlated because they both reflect self-transcendence values (Steg et al. 2014), subsequent research provided clear evidence for a differentiation between these two types of self-transcendence values (for e.g., de Groot & Steg, 2007, 2008, 2010; Grønhøj & Thøgersen, 2009; Nilsson, von Borgstede, & Biel, 2004; Steg, Dreijerink, & Abrahamse, 2005; Steg et al., 2011). Significantly, this can sometimes lead to conflicting and opposite conclusions with respect to pro-environmental beliefs, attitudes, preferences, and behaviors (Steg et al. 2014). For instance, de Groot and Steg (2008) disclose that altruistic values would be negatively related to environmental donations as compared to donations made to humanitarian organizations, while biospheric values would be positively related (and vice versa). This is why it is important to distinguish between the two values, as argued for by Steg et al. (2014). Hence, while biospheric and altruistic values are undoubtedly related, it is necessary to analyze these values separately. Consequently, three values have been highlighted as significant in studying pro-environmental behavior: *biospheric*, *altruistic* and *egoistic* values. According to Schultz et al. (2005), these values are derived from three basic sources: all living things, other people, and/or the self, as elaborated on in the following subsections.

3.1.1.1 Biospheric and Altruistic Values

Biospheric values are based on a concern for all living things (Schultz et al. 2005). According to Steg et al. (2014), biospheric values are concerned primarily with the “quality of nature and the environment” (p.166) in general, without any relation to the welfare of human beings. On the other hand, altruistic values are related to the well-being of other people and human beings specifically (Schultz et al. 2005; Steg et al. 2014). Past research has generally suggested that both biospheric and altruistic values are positively related to pro-environmental beliefs, attitudes, preferences, and behaviors (for e.g., de Groot & Steg, 2008, 2010; Fritzsche & Oz, 2007; Honkanen & Verplanken, 2004; Nilsson, von Borgstede, & Biel, 2004; Nordlund & Garvill, 2002, 2003; Schultz et al. 2005; Schultz & Zelezny, 1998, 1999; Steg et al. 2011; Stern, 2000; Stern et al., 1995, 1999; Thøgersen & Ölander, 2002). This relationship can be argued as quite logical; because pro-environmental behavior focuses on safeguarding the environment (Balundė, Perlaviciute & Steg, 2019; Steg & Vlek, 2009), it naturally includes a concern for both the environment *and* well-being of human beings (which comes from a healthier environment). Consequently, as SHC has been established as a pro-environmental behavior, we derive the following hypotheses for our study:

H1: Consumers’ biospheric values positively affect the attitude towards the purchase of SHC.

H2: Consumers’ altruistic values positively affect the attitude towards the purchase of SHC.

3.1.1.2 Egoistic Values

Egoistic values focus more on the individual (Schultz et al. 2005) and are concerned with the costs and benefits of “choices that influence the resources people have, such as wealth, power, and achievement” (Steg et al. 2014, p.167; also see for e.g., de Groot & Steg, 2008; Nordlund & Garvill, 2002). Because people with such values are concerned primarily with themselves, they will engage in pro-environmental behavior only if the perceived *personal* benefits from engaging in that particular behavior outweigh the perceived costs (Schultz & Zelezny, 1999; Schultz et al. 2005; Steg et al. 2014; Stern & Dietz, 1994). As a result, studies have shown egoistic values to be negatively correlated with pro-environmental beliefs, attitudes, preferences, and behaviors (for e.g., de Groot & Steg, 2008; Honkanen & Verplanken, 2004; Nordlund & Garvill, 2002; Schultz & Zelezny, 1998; Steg, Dreijerink, & Abrahamse, 2005; Stern et al., 1995), unless such behavior results in significant personal benefits. Similarly, Manchiraju and Sadachar’s (2014) study on behavioral intention towards ethical fashion consumption also found that behavioral intention was significantly negatively influenced by self-enhancement (egoistic) personal values. According to Steg et al. (2014), this negative relationship indicates that when people have strong egoistic values and prioritize personal gains, they seem to be less concerned for the environment.

However, a contradictory view in recent research has indicated that there could be a possible *positive* relationship between egoistic values and pro-environmental behavior provided the “right conditions” are present, although there is still little evidence to support this speculation

(Schultz et al. 2005, p.471; also see for e.g. Schultz & Zelezny, 2003; Stern, Dietz, & Kalof, 1993; Stern et al., 1995; de Groot & Steg, 2009). This is an interesting development that also represents a conflict in existing research, which merits further research and needs to be studied with regards to different pro-environmental behaviors. However, we believe that the ‘right conditions’ would still imply that some sort of personal benefits accrue from participating in pro-environmental behavior. We argue that the purchase of SHC could be an example of the ‘right condition’ because it allows people to engage in pro-environmental behavior, while also allowing them to fulfill their egoistic desires. For example, a person belonging to a lower income group can buy luxury SHC at a fraction of the cost of the original item and thus attain his desired social status by signalling wealth and status through his/her clothing. Consequently, we have developed the following hypothesis:

H3: Consumers’ egoistic values positively affect the attitude towards the purchase of SHC.

3.1.1.3 Hedonic Values

Recently, several researchers have indicated that a fourth personal value could be relevant in the study of environmentally-relevant beliefs, attitudes, preferences and behavior: *hedonic values* (Balundė, Perlaviciute & Steg, 2019; Steg & de Groot, 2012; Steg et al., 2014). Hedonic values are grounded in pleasure-seeking or gratification for oneself (Schwartz, 2012), and are described as being related to entertainment and fun-seeking behavior (Bellenger, Steinberg & Stanton, 1976). Likewise, hedonic values have been associated with experiences of playfulness, pleasure, fantasy and entertainment (Babin, Darden & Griffin, 1994; Hirschman & Holbrook, 1982). In a similar vein, Steg et al. (2014) discuss that hedonic values reflect a “concern with improving one’s feelings and reducing effort” (p.167). According to Schwartz (1992), hedonic values belong to both the openness to change and self-enhancement categories. However, in environmental-related research, hedonic values have generally been categorized under self-enhancement values (Steg et al. 2014).

A preliminary indication of the relevance and significance of hedonic values in environmental research was revealed by Thøgersen and Ölander (2002) – their results established that hedonic values had a weak negative correlation with sustainable consumption patterns. However, their hedonic value scale had low reliability; hence, the results could not be considered well-grounded and dependable. It was Steg and de Groot (2012) and Steg et al. (2014) who really established the importance of studying hedonic values in environment-related studies.

Two lines of research can be drawn on to support this proposition (Steg & de Groot, 2012; Steg et al. 2014). Firstly, numerous studies have discussed the significance of hedonic values in consumption behavior (Dittmar, 1992; Hirschman & Holbrook, 1982). Because many consumer behaviors based on hedonic values (such as buying cars) are environmentally-relevant because of their environmental impact, hedonic values would be a major determinant of environmental behavior as well (Steg & de Groot, 2012; Steg et al. 2014). Secondly, Lindenberg and Steg’s (2007) use of goal framing theory suggests that environmental behavior is based on three overarching goals: *hedonic goals* (to feel better right now); *gain goals* (to guard and improve one’s resources); and *normative goals* (to act appropriately). According to this theory, one goal

will be most influential in a particular situation and hence have a major impact on preferences and decisions (Steg & de Groot, 2012; Steg et al. 2014). Furthermore, an individual's endorsement of a particular value would also make it more likely that the goal related to that value would take precedence in that specific situation (Steg et al. 2014). As a result, those who endorse hedonic values are likely to align with hedonic goals; this in turn implies that hedonic values are an important determinant of environmental behavior (Steg & de Groot, 2012; Steg et al. 2014). Additionally, Lindenberg and Steg (2007) argue that hedonic goals are theoretically the strongest; hence, hedonic values may have a significant impact on environmental behavior.

Based on this reasoning, Steg et al. (2014) conducted 4 studies, all of which found conclusive evidence to suggest that hedonic values can be distinguished from egoistic values and are significant in and negatively related to environmentally-relevant beliefs, attitudes, preferences, and behaviors. More importantly, however, was the fact that hedonic values continued to be significantly and negatively related to pro-environmental behavior even when the other three values were controlled for (Steg et al. 2014). Consequently, in environmental research it is vital to not only study egoistic but also hedonic values when considering self-enhancement values.

However, due to the nature of our pro-environmental behavior i.e., purchase of SHC, we believe that hedonic values will be *positively* related to pro-environmental behavior rather than negatively related. Significantly, in this case, we also aim to contribute to current literature on the role of hedonic values in environmental behavior by suggesting that some forms of pro-environmental behavior may actually be encouraged by hedonic values. As established in our literature review, a primary motivation for SHC consumption has been the thrill-seeking and enjoyment gained from the treasure hunting phenomenon associated with SHC purchase. Consequently, we believe that consumers with high levels of hedonic values would reflect a positive intention to purchase SHC. Hence, we are going to test the following hypothesis:

H4: Consumers' hedonic values positively affect the attitude towards the purchase of SHC.

In conclusion, current literature has highlighted four personal values that are relevant to study pro-environmental beliefs, attitudes, preferences, and behaviors. These consist of two self-transcendence values (biospheric and altruistic) and two self-enhancement values (egoistic and hedonic). Consequently, we will be using these four values in combination with the Theory of Planned Behavior (TPB) to study consumer intention to purchase SHC.

3.2 Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB) was developed by Ajzen (1991) as an advancement of Ajzen and Fishbein's (1980) Theory of Reasoned Action (TRA). In the 30 years since, the TPB has become one of the most widely used and cited models to study consumer intention and behavior in a vast variety of behavioral domains (Ajzen, 2020). As shown in Figure 1, according to the TPB, there are three main components that shape an individual's intentions to behave in a certain manner – *attitude towards the behavior* (ATTB), *subjective norms* (SN) and *perceived*

behavioral control (PBC); the intention (and perceived behavioral control) then leads to the behavior.

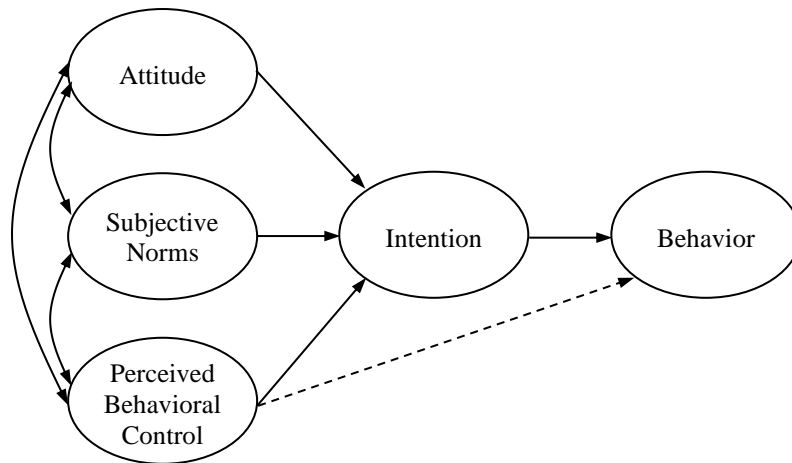


Figure 1: Theory of Planned Behavior – adapted from Ajzen (1991)

According to Ajzen (1991), the first component of the model, ATTB, is defined as the “degree to which a person has a favorable or unfavorable evaluation or appraisal” (p.188) of that particular behavior. The second determinant of purchase intention and behavior is SN, which are described as the “perceived social pressure to perform or not to perform the behavior” (Ajzen, 1991, p.188). The third component, PBC, is what makes the TPB different from the TRA, and it is referred to as the “perceived ease or difficulty of performing the behavior” based on past experiences and expected hurdles to performing that specific behavior (Ajzen, 1991, p.188). According to Madden, Ellen and Ajzen (1992), perceived behavioral control has an effect on both purchase intention and behavior. The third factor (perceived behavioral control) was missing in the TRA, which is why the TPB can be seen as an upgraded and refined version of the TRA.

We believe that this model is ideal for our research design and scope limitation. It is an extensively tested and robust theoretical model that has been “used successfully to explain and predict [consumer] behavior in a multitude of behavioral domains” (Ajzen, 2020, p.314), and has been established to have strong predictive validity (Armitage & Conner, 1999, 2001). The theory has been widely used to understand pro-environmental behavior and specifically even environmentally-friendly fashion consumption. For example, a study by Maloney, Lee, Jackson & Miller-Spillman (2014) that examined consumers’ purchase intentions toward organic apparel products also used the TPB. Their research found that ATTB and SN had a direct influence on consumer purchase intention while PBC had an indirect influence on intention through ATTB. Another research by Saricam and Okur (2019) that analyzed consumer behavior towards sustainable fashion found similar results with ATTB and SN playing a major role in the purchase intention whereas PBC was the least influential on purchase intention. More specifically for our research, Seo and Kim (2019) also carried out a study on the purchasing behavior of second-hand fashion shoppers in a non-profit thrift store context and found that purchase intention was significantly influenced by ATTB, which was positively affected by environmental beliefs and beliefs regarding non-profit thrift stores while SN indirectly affected

purchase intention through attitude. However, in their research, PBC had no influence on the purchase intention. Consequently, using the TPB in line with our study, the following hypotheses were constructed:

- H5:** Consumers' attitude towards the purchase of SHC positively affects the purchase intention towards SHC.
- H6:** Subjective norms regarding the purchase of SHC positively affects the purchase intention towards SHC.
- H7:** Perceived behavioral control over the purchase of SHC positively affects the purchase intention towards SHC.

The TPB provides us with a solid foundation to analyze the purchase intention of consumers towards SHC. However, due to time constraints our focus will be on purchase intention only and not whether the purchase intention actually translates into behavior. This is because behavior can only be measured at some later point in time after measuring intention (see for e.g., Ajzen, 1991, 2013), thus requiring a longitudinal study where the same respondents are inquired after a few months' time about actual behavior so that the researcher can check whether intention translates into behavior or not.

3.3 Summary of Hypotheses

We have summarized our research hypotheses in Table 1, as displayed below.

Table 1: Research Hypotheses

Hypotheses	
H1	Consumers' biospheric values positively affect the attitude towards the purchase of SHC
H2	Consumers' altruistic values positively affect the attitude towards the purchase of SHC
H3	Consumers' egoistic values positively affect the attitude towards the purchase of SHC
H4	Consumers' hedonic values positively affect the attitude towards the purchase of SHC
H5	Consumers' attitude towards the purchase of SHC positively affects the purchase intention towards SHC
H6	Subjective norms regarding the purchase of SHC positively affects the purchase intention towards SHC
H7	Perceived behavioral control over the purchase of SHC positively affects the purchase intention towards SHC

4 Methodology

In this chapter, we discuss the methodological paradigm that has been applied in the process of conducting our research.

4.1 Research Approach and Philosophy

It has been well-established that the research purpose of the study, along with the research aims and objectives, guide the choice of research approach (Bryman & Bell, 2011; Easterby-Smith, Thorpe, Jackson & Jaspersen, 2018). Since the purpose of this study is to understand the purchase intention of consumers based on the TPB in combination with Values Theory, we are using a deductive research approach. Deduction is a top-down approach whereby a chosen theory is the starting point for the research upon which certain hypotheses are constructed (related to the research that is to be conducted) which are then empirically tested; the results are then compared to the original theory in order to support or reject it (Burns & Burns, 2008).

According to Easterby-Smith et al. (2018), there are different philosophical assumptions about the methods of conducting research, and it is important to identify the ontological and epistemological underpinnings of one's research. This is because these assumptions about the perception of the world provide guidelines on how research should be conducted by determining the research design and methodological considerations, while an understanding of the research philosophy also helps to ensure the quality of data collection (Easterby-Smith et al. 2018). Our research approach is based on an epistemological position referred to as positivism which holds that the environment or the society in which we "operate is objective and external to the individual" (Burns & Burns, 2018, p.27). The ontological position is internal realism which believes that the truth about something exists, although it is obscure (Easterby-Smith et al. 2018). This is because the truth about SHC purchase intention exists but is unclear and must be evaluated. Hence, our research is based on an epistemological position of positivism and ontological position of internal realism.

4.2 Research Design

Research design is a blueprint for a study and acts as a framework for data collection and analysis (Burns & Burns, 2008; Malhotra, 2010). Consequently, based on the choice of research design, different methods for data collection and analysis are appropriate (Bryman & Bell, 2011). For the purpose of our research, a conclusive research design was deemed appropriate because its objective is to test specific hypotheses and to examine relationships (Malhotra,

2010). The conclusive research design was preferred over an exploratory research design because it is more definitive in its findings – the findings represented by an exploratory research are subject to further exploratory or conclusive research in order to establish their claim(s) (Malhotra, 2010).

Conclusive research design can be either descriptive or causal (Malhotra, 2010). We chose to use descriptive research design because we are analyzing the strength/direction rather than the causal relationships between the research variables. Descriptive research can also be further classified into cross-sectional and longitudinal research (Malhotra, 2010). Between these, we opted for the cross-sectional research design because we deemed it a better method in lieu of time constraints and other precautionary measures due to COVID-19 which rendered it unfeasible to carry out a longitudinal study. Moreover, cross-sectional research design is the most commonly used descriptive design in marketing research and has certain advantages over the longitudinal research design such as its sample being more representative of the population and having less response bias (Malhotra, 2010). Consequently, we used a single cross-sectional research design as a framework to our study where data is obtained only once from a single sample of respondents that has been drawn from the target population (Malhotra, 2010). To summarize, our research is based on a descriptive conclusive research design; more specifically, we will be conducting a cross-sectional study.

4.3 Conceptual Framework

4.3.1 Research Model

In order to offer a visual representation of our hypotheses, we developed a model that combines the TPB and the four values identified in our theoretical framework, as displayed in Figure 2.

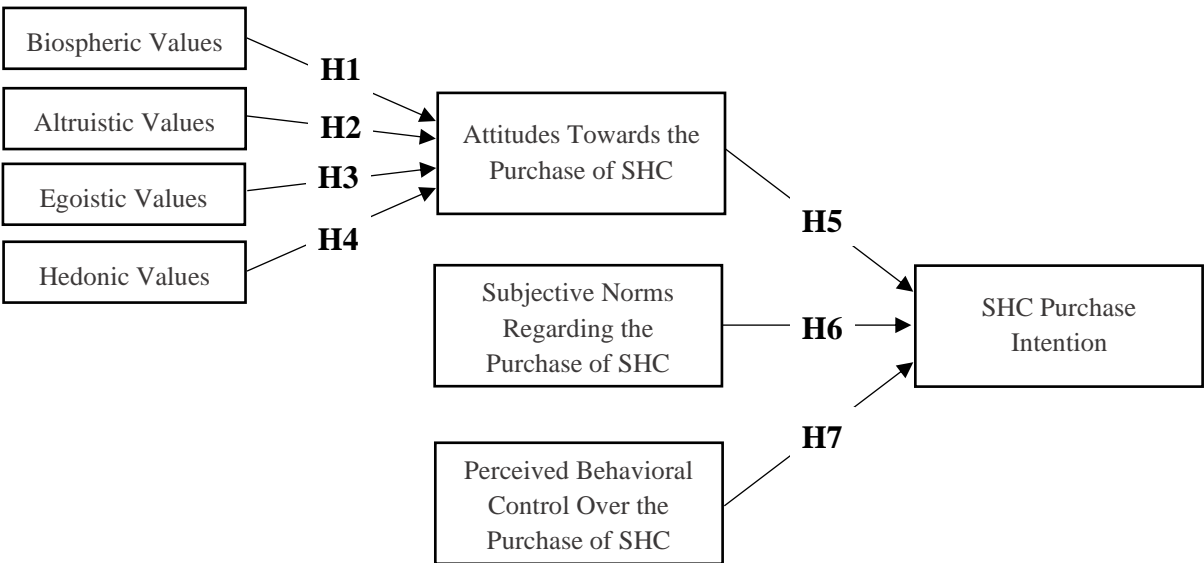


Figure 2: Research Model

As shown in the figure, the four values (biospheric, altruistic, egoistic and hedonic) are shown to impact the TPB through *attitudes* (H1 – H4), while the second part of the model represents a selective portion of the TPB (H5 – H7). We have excluded the ‘behavior’ aspect of the theory for reasons that were discussed earlier – lack of resources and time constraints prevent us from conducting a longitudinal research which is necessary to measure behavior.

4.3.2 Research Variables

Using the model in Figure 2, there are 8 variables that will be used in this research. These can be further bifurcated as follows: 6 independent variables, 1 mediating variable and 1 dependent variable. A classification of the variables has been summarized below in Table 2.

Table 2: Research Variables

Variable Category	Variable
Independent Variables (IV)	Biospheric Values Altruistic Values Egoistic Values Hedonic Values Subjective Norms Regarding the Purchase of SHC Perceived Behavioral Control Over the Purchase of SHC
Mediating Variable (MV)	Attitude Towards the Purchase of SHC
Dependent Variable (DV)	SHC Purchase Intention

4.3.3 Operationalization of Variables

Burns and Burns (2008) stress the importance for operationalization of variables which refers to converting vague variables into specific terms that are observable and measurable. They contend that in order to fully capture the meaning of the variable and to calculate the reliability and validity of the measurement, one should use more than one operational definition (measurement item). Indeed, Hair Jr., Black, Babin and Anderson (2019) recommend a minimum of 3 items for each variable to conduct PLS-SEM, which is our primary data analysis method. Consequently, we have used at least three measurement items for each of our variables. Furthermore, all measurement items used to assess the variables of our study were adopted from previous studies and modified to fit our study. Using measurement items that have been validated in existing research allows for strong validity and reliability of research.

For measuring values (biospheric, altruistic, egoistic and hedonic), we have selected a variation of the Portrait Value Questionnaire (PVQ) called the E-PVQ, which has been adapted to measure environmental attitudes, beliefs and behaviors (Bouman, Steg & Kiers, 2018). Although these environmentally-relevant values have generally been measured using the E-SVS – a brief and adapted version of the Schwartz Value Survey (SVS) that focuses on environmental behavior (Schwartz, 1994; Stern, Dietz & Guagnano, 1998) – past research has established that respondents often find it difficult to answer using the E-SVS, leading to concerns about the SVS methodology (Bouman, Steg & Kiers, 2018). Accordingly, we will use the E-PVQ methodology that was developed and tested as a valid alternative to the E-SVS by Bouman, Steg and Kiers (2018). Like the E-SVS, the E-PVQ is based on another corresponding scale, the PVQ, which was developed to measure the same values as the SVS, but in a simpler way (Schwartz, 2003; Schwartz, Melech, Lehmann, Burgess, Harris & Owens, 2001).

On the other hand, for measuring the TPB variables, we used the guidelines of Ajzen (2006) for constructing a questionnaire based on the TPB. Because there is no standard TPB questionnaire as for personal values (Ajzen, 2020), we have used the items recommended by Ajzen (2013) and Fishbein and Ajzen (2010) in their example TPB questionnaires, which have in turn been well-cited and validated in other prominent research that use the TPB as a theoretical lens. Consequently, three items each were used to measure the four values, four items were used to measure attitude, four items were used to measure subjective norms, three items were used to measure perceived behavioral control, and three items were used to measure purchase intention. The specific measurement items used have been presented in Table 3.

Table 3: Operationalization of Variables

Variable	Items	Source
Biospheric Values	It is important to me to prevent environmental pollution	Bouman, Steg and Kiers (2018)
	It is important to me to protect the environment	
	It is important to me to respect nature	
Altruistic Values	It is important to me that every person has equal opportunities	Bouman, Steg and Kiers (2018)
	It is important to me to take care of those who are worse-off	
	It is important to me to be helpful towards others	
Egoistic Values	It is important to me to be influential	Bouman, Steg and Kiers (2018)
	It is important to me to have money and possessions	
	It is important to me to work hard and be ambitious	
Hedonic Values	It is important to me to have fun	Bouman, Steg and Kiers (2018)
	It is important to me enjoy the life's pleasures	
	It is important to me to do things that I enjoy	

Subjective Norms Regarding the Purchase of SHC	Most people who are important to me think that I should buy SHC	Ajzen (2013); Fishbein and Ajzen (2010)
	Most of the people with whom I am acquainted with buy SHC	
	Most people whose opinions I value would approve of my purchase of SHC	
	It is expected of me that I buy SHC	
Perceived Behavioral Control Over the Purchase of SHC	Whether or not I buy SHC is completely up to me	Ajzen (2013); Fishbein and Ajzen (2010)
	For me, buying SHC is easy	
	I am confident that if I wanted to, I could buy SHC	
Attitude Towards the Purchase of SHC	For me, buying SHC is boring – interesting	Ajzen (2013); Fishbein and Ajzen (2010)
	For me, buying SHC is bad – good	
	For me, buying SHC is worthless – valuable	
	For me, buying SHC is unpleasant – pleasant	
SHC Purchase Intention	I plan to buy SHC in the future	Ajzen (2013); Fishbein and Ajzen (2010)
	I will buy SHC in the future	
	I am willing to buy SHC	

4.4 Sampling Process

4.4.1 Target Population

Malhotra (2010) posits that it is vital that the target population is defined precisely to avoid ineffective or misleading results. He posits that in order to effectively define the target population, the researcher(s) should be able to define in a statement about who should and should not be a part of the sample. Consequently, we ensured that our target population is defined clearly and precisely by following the four factors highlighted by Malhotra (2010): elements, sampling units, extent, and time. The *element* and *sampling unit* for our research were the same i.e., the respondents of our survey from which the information was desired. These were classified as all potential SHC buyers from the age of 18 and above. *Extent* (geographical boundaries) was not restricted because our objective was to obtain a holistic and global understanding of our research topic. Finally, there is no restriction on *time* relevant for the population because our study does not focus on a particular point in time. Consequently, the target population of this research can be defined as people of all gender aged 18 and older.

4.4.2 Sample Size

A rule of thumb in determining the minimum sample size for a study is the Central limit theorem (CLT), which stresses that “when the sample has at least 30 members, the distribution of all sample means of the same sized samples closely approaches a normal distribution without regard to the distribution of the population from which the sample is drawn” (Burns & Burns, 2008, p.188). However, we aimed for a larger sample size of approximately 300 respondents because for conclusive research such as descriptive surveys, larger samples are required to obtain valid and reliable results (Malhotra, 2010). Based on these criteria, we were able to collect data from a total of 669 respondents (4 erroneous responses were later deleted; hence, there were 665 valid and useable responses). Consequently, owing to the relatively large sample size, we believe our results will hold value and contribute effectively to this field of research.

4.4.3 Sampling Design

Several considerations were made when we determined the most suitable sampling design for our research. Firstly, a sample was chosen instead of a census due to budget and time constraints. Malhotra (2010) also posits that these conditions favor the use of a sample over a census. Furthermore, because our target population is significantly large (potential buyers of SHC worldwide), the collection of census data would have been impossible even in the absence of the aforementioned constraints. For the sampling technique, the convenience sampling method was used because it is the least expensive and least time-consuming of all sampling techniques and with this method, the sampling units (respondents) are easy to access, measure and are quite cooperative (Malhotra, 2010; Burns & Burns, 2008). Moreover, the COVID-19 situation made this alternative the most feasible option with regards to safety.

However, the convenience sampling method has certain disadvantages. It is a non-probability sampling technique meaning that certain people in the population have zero chance of being included (Burns & Burns, 2008; Easterby-Smith, Thorpe & Jackson, 2015). Although it has been established that this research design is flawed due to low representation and potential researcher bias (Bryman & Bell, 2011; Malhotra, 2010), other researchers contend that it can still be useful depending on the purpose of the study (Easterby-Smith, Thorpe & Jackson, 2015). Nevertheless, through the diversity of our data collection approach (as described later), we have attempted to minimize bias and misrepresentation of the target population to as large an extent as possible. Hence, taking the aforementioned aspects and constraints into consideration, convenience sampling was perceived as a suitable sampling design for our study.

4.5 Data Collection

4.5.1 Data Source

Due to the nature of our research approach, we deemed it appropriate to collect primary data, which has several benefits. Firstly, because primary data are originated by the researcher(s)

specifically to address the research problem, it better aids data collection with respect to the research question(s) (Easterby-Smith, Thorpe & Jackson, 2015; Malhotra, 2010). Secondly, primary data is collected by the researchers themselves which provides greater control over both the sample structure and the data obtained from respondents which leads to greater surety that the data will meet the research objectives, which is often difficult when using secondary data because oftentimes researchers are unable to find data that is specifically suited for the study in order to be carried out effectively (Easterby-Smith, Thorpe & Jackson, 2015). Finally, primary data can also “lead to new insights and greater confidence in the outcomes of the research” (Easterby-Smith, Thorpe & Jackson, 2015, p.49). Consequently, we will use primary data as our main data source.

4.5.2 Data Collection Instrument

The primary data was collected through surveys because they have been argued to be highly useful and the most commonly used method of data collection for quantitative studies (Burns & Burns, 2008; Easterby-Smith, Thorpe & Jackson, 2015; Malhotra, 2010). Surveys have been extensively used due to the ease and simplicity of administration, coding, analysis and interpretation of data, along with ease of comparability given the numerical output (Malhotra, 2010). Furthermore, the use of fixed responses and the standardization of questionnaires reduce the variability that may arise in interviews through the difference in the interviewers; this also leads to higher reliability as responses are limited to a given set of alternatives (Malhotra, 2010). Additionally, Eliasson (2013) argues that data collection through surveys eliminates interviewer bias as survey respondents are not affected by the way the interviewer is asking questions. Consequently, our chosen data collection instrument was a survey.

Further, our questionnaire was developed as an online self-completion survey – this format was chosen for a number of reasons. It enables researchers to reduce costs, provides easy accessibility for a large number of respondents, and allows for dynamic error-checking of answers to ensure that people provide consistent answers throughout (Easterby-Smith, Thorpe & Jackson, 2015). Furthermore, online surveys enable researchers to download the data directly into programs such as SPSS and Excel, which resultantly reduces the chances of transcription errors and other errors associated with data entry (Easterby-Smith, Thorpe & Jackson, 2015). Moreover, an online format also permitted us to maintain the safety of our respondents and reduce the risk of infection during the COVID-19 pandemic.

The questionnaire was created using an online survey platform, LamaPoll. This software was chosen over other alternatives (such as Google Forms and SurveyMonkey) because of the features and flexibility it provides in the creation of professional online surveys for students. Moreover, LamaPoll is widely used by many companies (LamaPoll, 2021), which ensures that the platform is well-validated and a professional tool for research. Importantly, LamaPoll is also GDPR-compliant and maintains the highest levels and standards of data protection (LamaPoll, 2021), which we considered necessary for ethical purposes. In order to further ensure the privacy of respondents, the survey was anonymized.

4.5.3 Questionnaire Design

There are three main types of survey designs that aim to undertake a detached viewpoint – factual, exploratory, and inferential (Easterby-Smith, Thorpe & Jackson, 2015). For the purpose of our study, the inferential survey design was deemed the most appropriate which aims at testing and establishing relationships between independent and dependent variables of the study (Easterby-Smith, Thorpe & Jackson, 2015). Furthermore, the questionnaire was designed to be self-administered i.e., where respondents record their own answers (Easterby-Smith, Thorpe & Jackson, 2015). In order to follow a structured way of designing our questionnaire, we followed the ten-step questionnaire design process proposed by Malhotra (2010), as discussed below.

Firstly, we determined the specific information needed in order to create precise questions that would provide us with the required data. Secondly, considering our type of interviewing-method (self-administered), we made sure that the questions were simple and detailed instructions were provided. Specifically, we ensured that the questions were easy to understand and did not have dual meanings which could lead to confusion for the respondents. As discussed earlier, we also have at least three statements as a measurement for each variable to allow for an in-depth understanding of the particular variable and avoid double-barreled or ambiguous questions. Additionally, sensitive and/or offensive questions were also avoided.

Furthermore, only 29 questions (26 for measuring the variables of our research and 3 for demographic data) were included in the questionnaire to shorten the completion time for respondents and overcome the respondents' unwillingness to participate. These number of questions were sufficient for the information we required. Moreover, all questions were structured and based on a semantic or Likert scale except for the three questions on demographics. Structured questions improve the cooperation of respondents in self-administered questionnaires and specify the set of response alternatives and the response format, thus eliminating vague and random responses associated with open-ended questions that are difficult to interpret and analyze (Malhotra, 2010). Also, considerable attention was given to the form and layout of the questionnaire, which is especially important for self-administered questionnaires (Malhotra, 2010). Further, to eliminate the chance of no responses, all questions were made compulsory.

We also ensured that the questions were presented in a logical order. All questions related to a specific topic were grouped together, and brief transitional phrases were used to start a new section to enhance respondents' understanding. We followed Malhotra's (2010) order based on the type of information that is to be obtained: *basic information* (research problem related questions), followed by *classification information* (demographics related questions), and finally *identification information* (name, e-mail address, etc). However, *identification information* was intentionally excluded to anonymize the responses and fulfill privacy/ethical regulations and requirements. A copy of our questionnaire can be found in *Appendix B*.

4.5.4 Measurement and Scaling Procedures

For the purpose of this study, the most widely used technique in marketing research – the *non-comparative scaling technique* – was used where each item is scaled independently of other

items instead of rating the items against each other (Malhotra, 2010). Specifically, this study uses two types of itemized rating scales which is a further classification of non-comparative scaling (Malhotra, 2010). For all variables other than *attitude*, we used the Likert scale which is one of the most extensively used itemized rating scales. The respondents of our study were asked to evaluate the extent to which they agreed or disagreed with the given statements on a seven-point Likert scale ranging from 1 to 7 where 1 represented *strongly disagree* and 7 represented *strongly agree*. The complete range was specified as (strongly disagree – disagree – somewhat disagree – neutral – somewhat agree – agree – strongly agree). The 7-point Likert scale was preferred over a 5-point scale as it provides greater variability and more accurate findings compared to a scale with fewer points, and is also considered more suitable for online and self-completion questionnaires (Finstad, 2010).

The Likert scale was chosen because of its various advantages. Firstly, constructing and administering a Likert scale is easy for the researcher and is easily understood by respondents (Malhotra, 2010). Additionally, a Likert scale is appropriate to use when measuring intentions and perceptions (Burns & Burns, 2008). Moreover, while the Likert scale is inherently ordinal, several researchers posit that in business research, Likert scales are treated as an interval scale for flexibility of data analysis by interpreting it as an index (Malhotra, 2010; Sekaran & Bougie, 2016). Consequently, another benefit of using the Likert scale is that its interpretation as an interval scale permits researchers to apply a wide variety of statistical techniques such as correlation analysis, t-tests, regression and factor analysis which are commonly used in marketing research (Malhotra, 2010). Furthermore, the Likert scale has been extensively used by researchers for measuring the variables in TPB which reiterates the appropriateness of using this scaling technique for our research.

The second type of scaling technique that we utilized was a 7-point bipolar semantic differential scale – this was used to measure attitude. This scale is also widely used in marketing research and has high validity and reliability (Malhotra, 2010; Burns & Burns, 2008). Following Ajzen's (2006) recommendation for measuring attitudes, the semantic scale was preferred over the Likert scale because we believe it will provide us with better-informed answers as respondents will be able to relate more with the specific options provided, such as unenjoyable – enjoyable, rather than having to agree/disagree to a certain statement as in the Likert scale. Moreover, in Likert scales, "measurement of an attitude's affective aspects is stressed, though cognitive qualities are often intermingled with the affective judgement", while the "semantic differential [scale] allows these aspects to be separated" (Burns & Burns, 2008, p.477). Consequently, we will be using the semantic scale to measure attitude, and the Likert scale for all other variables.

4.5.5 Pre-testing of Questionnaire

Before the distribution of the actual survey, we deemed it necessary to pre-test our survey to provide further insights about the questions, structure, and measures, and highlight any possible errors. This also helps to rectify any flaws or ambiguities that negatively affect the respondents' experience or lead to misleading or 'incorrect' answers. According to Malhotra (2010), pre-testing a questionnaire is essential to any kind of research and is an easy way of eliminating potential problems that may affect the quality of the collected data and subsequent analysis.

Malhotra (2010) suggests that pre-testing should be done on a small sample varying from 15-20 people. Additionally, various researchers have also established that the sample for the pre-testing of the questionnaire should be as similar as possible to the target group of the actual study (Malhotra, 2010; Burns & Burns 2008). Consequently, for the pre-testing of our questionnaire, we took a sample of 15 respondents that consisted of 8 females and 7 males. In order to carry out the pre-testing process in a structured way, we decided to use a set of established questions discussed by Grimm (2010) that aim to minimize errors associated with a survey – this list of questions can be found in *Appendix B*. The responses were then analyzed to check their relevance and adequacy with respect to our problem definition which ensured that the data collected from our survey will result in the necessary and required information to answer our research question. Based on this analysis and feedback from the pre-test sample, we altered the phrasing of two statements that were found to be a little difficult to interpret, while one formatting error was also corrected. Apart from these minor recommended changes, the pre-test sample feedback was very positive, and the data revealed that our questionnaire fulfilled the requirements of our study; hence, we could proceed with the final survey distribution for data collection.

4.5.6 Questionnaire Distribution

The questionnaire was distributed through different online channels, such as internet forums and social media platforms. According to Malhotra (2010), the internet is a useful source for collecting primary data needed in conclusive research. Physical distribution of paper surveys was avoided due to environmental concerns, and as a precautionary measure for COVID-19. We aimed to obtain a large and diverse research sample in order to reduce the risks associated with convenience sampling. According to Burns and Burns (2008), major issues with convenience sampling are that it usually entails a bias through the selection of the sample, leading to unreliable information which cannot be generalized to the target population. To mitigate these risks, we distributed the survey through various channels (both personal and non-personal) to avoid bias.

Firstly, the questionnaire was distributed using our own personal network through Facebook and professional network via LinkedIn. Secondly, the survey was posted on randomly selected Facebook groups that focused on ethical/sustainable fashion and SHC, along with a variety of survey panel groups for students and researchers. We were not familiar with the members of these groups and access had to be requested before we could join these groups. Thirdly, we shared the survey on two Reddit groups – r/SampleSize (a survey panel forum) and r/ethicalfashion (a forum for discussion on ethical/sustainable fashion). Moreover, we also utilized an online survey panel platform called SurveySwap. Lastly, respondents were requested to distribute the survey further through their own personal networks (if they were willing to do so), which led to an element of snowball sampling as well. A detailed frequency distribution of the respondents based on the distribution channels can be found in Appendix A, Table A1. In conclusion, our survey was distributed through multiple channels and was administered from 2nd April 2021 to 17th April 2021; thus, the data were collected for 15 days.

4.6 Data Analysis

4.6.1 Data Preparation

The responses were automatically collected by the LamaPoll platform, which allowed for direct import into a CSV file – this limited the risk of human errors (Bell, Bryman & Harley 2019). The data was uploaded to the IBM SPSS Statistics 27 software which was used for initial statistical analysis (descriptive statistics and correlation analysis), where the variables were renamed and recoded based on the requirements of our research before proceeding for data analysis. Despite the automated import, the data was still screened to check for any possible input errors, outliers, missing values, or possible falsified responses, while a histogram, box-plot and stem and leaf plot were obtained to ensure a valid data set. Based on this, it was found that 4 responses contained possible erroneous or falsified answers (for instance, 2 responses showed a selection of 7 – strongly agree – on every statement/question), which were hence deleted from the data set. However, there were no non-response errors as all questions were mandatory, nor any non-serious answers as there were no open-ended questions. In conclusion, the usable responses from our data collection were 665.

4.6.2 Descriptive Statistics

It is vital to first get an overview and understanding of the final sample for data analysis (Sekaran & Bougie, 2016). According to Burns & Burns (2008), this is done through descriptive statistics which “involves the collection, presentation, summarization and description of data so the data can be more easily comprehended” (p.8). Consequently, we will start by discussing basic descriptive statistics – frequency distributions of demographics (gender, age and nationality), and measures of central tendency and variability for the eight variables– to get an overview of the data. Furthermore, the obtained graphical representation of the data (histogram, box-plot and stem and leaf plot) were also a useful departure point for an overview of the collected data.

4.6.3 Correlation Analysis

A frequently used technique in marketing research to measure the strength of linear relationship between variables is correlation analysis, which is defined as “the degree of correspondence between variables” (Burns & Burns, p.342). As the collected data is fundamentally ordinal (based on Likert scales), hence non-parametric tests of correlation are generally recommended (Burns & Burns, 2008). However, as discussed earlier, in marketing research the Likert scale can be considered as a form of index which supports its interpretation as an interval scale (Malhotra, 2010). Consequently, we will use parametric tests of correlation, i.e., Pearson’s Correlation for analyzing our data. These were calculated for each path in our research model to test our hypotheses, and then analyzed to determine the strength of relationships between the various variables.

4.6.4 PLS-SEM Analysis

For our primary analysis, we will use partial least-squares structural equation modelling (PLS-SEM) to test our hypotheses and the relationship between the chosen variables using the SmartPLS software. PLS-SEM is a causal modelling approach (Hair, Ringle & Sarstedt, 2011) and is well-known for multivariate analysis, and is especially useful to analyze multiple relationships simultaneously (Ramli, Latan & Nartea, 2018), hence allowing for a more global approach to the analysis and providing path coefficients to test relationships identified by each hypothesis in the model. Additionally, PLS-SEM is used to determine the extent to which the hypothesised model is supported by the collected data (Schumacker & Lomax, 2004) and to maximise the explained variance in the dependent variable (Hair, Ringle & Sarstedt, 2011). Hence, we will use PLS-SEM to test our research model.

4.7 Research Quality

4.7.1 Reliability

Reliability refers to “the consistency and stability of findings” (Burns & Burns, p.410), and is concerned with whether “the results of a study are repeatable” (Bryman & Bell, 2011, p.41). According to Bryman and Bell (2011), there are three key elements in evaluating the reliability of the variables and measurement items: stability, internal reliability and inter-observer consistency. Firstly, *stability* refers to the study’s ability to ensure that there is little to no variation in the results when the research is conducted (or retested) over time (Bryman & Bell, 2011). In order to measure the variables of our research, we have used the same measurement items and scales as suggested by the authors of the TPB, while simultaneously ensuring that those items and scales have also been validated by other researchers in their studies. This allows our findings to be comparable and consistent with existing research that uses the TPB as a theoretical framework, which naturally also allows our research to be replicable. Secondly, *internal reliability* refers to the consistency of multiple-item measurements (Bryman & Bell, 2011) – because we have taken measurement items from prior well-established research with high Cronbach’s Alphas, our measures are already internally reliable. However, as discussed earlier, to further confirm the internal reliability of our data, we also conduct reliability tests on our data. Thirdly, *inter-observer consistency* relates to consistency of researchers’ subjective judgement during data collection and analysis; this may be weakened through difference in judgement in activities such as “recording of observations or translation of data into categories where more than one ‘observer’ [researcher] is involved” (Bryman & Bell, 2011, p.158). We have ensured that inter-observer consistency is maintained through the questionnaire format (only closed questions, hence no subjective interpretation was required).

4.7.2 Validity

Validity relates to the integrity of conclusions obtained from a research (Bryman & Bell, 2011), and the extent to which the research method actually measures what it is supposed to measure (Burns & Burns, 2008). In a survey-based research, validity is obtained if the questions measure the intended variables (Saunders, Lewis & Thornhill, 2019). Our questionnaire was carefully designed in consideration of existing literature on environmentally-relevant values and the TPB, which has ensured validity. Further, validity can be divided into internal and external validity (Bryman & Bell, 2011; Burns & Burns, 2008).

4.7.2.1 Internal Validity

Internal validity is described as the extent to which conditions in the study are controlled, so that the relationship(s) can be attributed to the independent variable(s) as opposed to other factors (Burns & Burns, 2008). We have ensured that the questions were designed so that they strictly measure the relationship between the independent and dependent variables, based on the measurement items validated and defined by existing research. Furthermore, the use of Likert scale produces more homogeneous scales and increases the probability that the same variable is being measured which increases internal validity and reliability (Burns & Burns, 2008). We have therefore primarily used Likert scales in our survey – however, a semantic scale was preferred for measuring attitude based on Ajzen’s (2013) recommendation as it tends to produce more accurate results.

4.7.2.2 External Validity / Generalizability

External validity refers to whether the results are generalizable to a particular population or context (Bryman & Bell, 2011; Burns & Burns, 2008). External validity can be further divided into two different types: population validity and ecological validity (Burns & Burns, 2008). Population validity refers to the extent to which the sample is an accurate representation of the target population, while ecological validity evaluates whether the results and findings of a study can be generalized to other environmental contexts (Burns & Burns, 2008).

Due to resource and situational (COVID-19) constraints, the collected data is based on a non-probability sample, which could violate population validity because of sampling bias and error (Malhotra, 2010). However, because of our large sample size, and high reliability and strong internal validity, the results can still be argued to hold relevance to discussion and provide a solid foundation for future research. On the other hand, we believe that our research findings will have strong ecological validity as the study was not conducted under any specific laboratory conditions. Instead, it was carried out under normal conditions where respondents were not subject to any particular controlled environments. Nevertheless, it has to be noted that this research was done during the COVID-19 pandemic, which can be considered as an abnormal environmental context. Hence, there is a possibility that our findings may deviate from those that result from post-pandemic studies.

4.8 Limitations

There are a few limitations that need to be taken into consideration regarding our methodological approach to this study. First and foremost, the primary data were collected through convenience sampling. As discussed earlier, this non-probability sampling technique contains certain inherent biases because of which the sample and collected data may not be entirely representative of the target population. This in turn means that the results and findings of our research cannot be generalized to the population with any certainty because it is impossible to measure how representative such a sample actually is as the factors involved in determining inclusion in a non-probability sample are very complex and dynamic (Etikan, Musa & Alkassim, 2016). Consequently, this limitation has to be considered when statistical analysis is carried out, and in the interpretation of the results.

Secondly, there are also certain inherent limitations with survey-based data collection, particularly with self-completion online questionnaires. For instance, respondents may not always give true responses to certain questions in order to present a more positive outlook of themselves. There are also sampling issues because of bias as there is no way to know how non-respondents differ from respondents (Burns & Burns, 2008). Furthermore, there may also be a possibility of misinterpretation of questions or difference in understanding by respondents (Burns & Burns, 2008). Moreover, data collection is limited to the questions already set with no opportunity to obtain additional information or follow-up data/observations that could be valuable for the study (Burns & Burns, 2008). However, we believe that this method is sufficient to achieve our research objectives in consideration of resource and time constraints; future research should use alternative methods to delve deeper into our research question.

4.9 Ethical Considerations

Ethics are described as the moral principles and ethical standards that guide our behavior (Burns & Burns, 2008). With regards to our data collection method, participants' rights, as described by Burns and Burns (2008) are of particular importance. Consequently, we have made the best efforts and taken certain actions to ensure that all steps in our research were performed ethically.

Firstly, we conducted a pre-test of our questionnaire; according to Malhotra, Birks and Wills (2010), this makes the research more ethical by highlighting issues with understanding and offensiveness of questions while also ensuring that all necessary information is included. Moreover, our survey was structured such that participation was completely voluntary, as recommended by Burns and Burns (2008), and respondents could choose to withdraw at any stage while completing the questionnaire without having their responses recorded. Indeed, unless respondents voluntarily clicked the 'Finish' button, no responses were stored in the LamaPoll platform. We also made sure that our questions were unbiased and not misleading, to obtain actual and true responses, instead of the responses that we would like to obtain.

Furthermore, using the guidelines of Easterby-Smith, Thorpe and Jackson (2015), we maintained full transparency and avoided any sort of deception by honestly and clearly informing respondents about the purpose of our study and the reason for gathering their responses. Additionally, no personal information or data, such as names or emails, was required (Saunders, Lewis & Thornhill, 2019), and all participants were assured of confidentiality and anonymity with regards to the usage of their responses and informed that all data will be strictly used for academic purposes only. Moreover, because LamaPoll is GDPR-compliant, this further ensured and protected participants' privacy. Lastly, all of our results were presented truthfully and without any data manipulation (Easterby-Smith, Thorpe & Jackson, 2015). Consequently, our study was transparent and without deception, and all participants were fully informed about the study, ensured privacy, and given the freedom of option to withdraw.

5 Analysis

5.1 Demographics

In order to obtain an overview of the demographic characteristics of our sample, SPSS was used to construct frequency tables for gender, age groups, and nationality. Additionally, nationality was further categorized into regions and/or continents to obtain a more understandable and reasonable classification. Please note that the frequency distribution tables for each of the four aforementioned demographic categories can be found in Appendix C (Tables C1 – C4). In this subsection, we seek to provide a brief summary of these statistics.

Firstly, gender distribution showed that at 83% of total respondents, our sample consisted of female respondents; in comparison, males represented a relatively lower proportion at 14.6%. However, because our sample size was relatively large (665 respondents), even this low percentage equated to 97 male respondents, which can be deemed sufficient for the purpose of our research where a gender-based analysis is not the focus. Secondly, a perusal of statistics for *age groups* reveals that approximately half of the total respondents (46.3%) belonged to the 18-25 age group, while the 26-45 age groups represented almost 30%. The remaining 23.4% were distributed among the older age groups. Finally, frequency tables for *nationality* disclose that our sample encompassed 71 different countries. A categorization into continents portrays that approximately 90% of the sample is represented by Europe and North America – the frequency count shows both continents to be almost equally represented. In conclusion, apart from gender, our sample is well-represented and diversified, which should enable us to obtain a well-defined, holistic understanding of the research topic.

5.2 Descriptive Statistics

Descriptive statistics – mean and standard deviation – for the eight variables in our research were also analyzed. As discussed earlier, all variables other than attitude were measured on a 7-point Likert scale from *strongly disagree* to *strongly agree* (strongly disagree – disagree – somewhat disagree – neutral – somewhat agree – agree – strongly agree). Attitude, on the other hand, was measured using a 7-point semantic scale, ranging from negative to positive attitudes (bad – good; unpleasant – pleasant; worthless – valuable; and boring – interesting).

In order to analyze the results of the specific variables as a whole rather than individually, it is first necessary to transform the multiple-item measures into total mean scores (Burns & Burns, 2008). Consequently, mean index scores (average score for all items that measured a particular variable) were derived for each of the 8 variables, which were used as a basis for descriptive statistics and correlations. As displayed in Table 4, the results show that on average,

respondents scored high on biospheric, altruistic and hedonic values, meaning that they highly agreed with the statements that reflected these values. Similarly, respondents also displayed positive attitude towards, and showed high levels of agreement with statements for perceived behavioral control over, and intention towards purchase of SHC. However, the results for egoistic values and subjective norms portrayed relatively neutral opinions.

Table 4: Descriptive Statistics

Variable	Mean	Standard Deviation
Biospheric Values	6.1714	0.94901
Altruistic Values	6.1058	0.95217
Egoistic Values	4.5594	1.15145
Hedonic Values	6.0536	0.91852
Attitude	5.9756	1.20618
Subjective Norms	4.1462	1.27437
Perceived Behavioral Control	6.2201	0.87268
Purchase Intention	6.2607	1.40313

Standard deviation – which denotes the extent to which a value deviates from the mean (Burns & Burns, 2008) – signifies how consistent respondents were in answering the given statements. Higher standard deviation is indicative of greater dispersion and variation in responses, showing a lack of consistency, while lower values signify more coherent answers (Burns & Burns, 2008). Using Table 4, the highest standard deviation is 1.40 for purchase intention, while standard deviation for all variables has an average of around 1, which seems to be reasonable given the mean responses; for example, given the standard deviation and mean value for biospheric values, we can expect the answers to range from 5 to 7 (approximately), all of which show that respondents *agree* with the statements. Hence, these values can be argued as quite consistent.

5.3 Correlation Analysis

As a precursor to our primary analysis through PLS-SEM, we deemed it relevant to study the strength of relationships between the different variables as identified in our theoretical model using a correlation analysis, the results of which are presented in Table 5. The direction (positive, negative, or random) and strength of the correlations were analyzed, along with the significance of the results. This allows us to better understand how the different variables are related to each other, and could be indicative of the results that we obtain from PLS-SEM. For interpretation of the results, we will be following Burns and Burns’ (2008) interpretation of correlation size, which has been included as Table C5 in Appendix C.

As observed in Table 5, both biospheric and altruistic values have low positive correlation, while egoistic and hedonic values have slightly negative and slightly positive correlations, respectively, with attitude towards the purchase of SHC. Hence, biospheric and altruistic values

have a weak linear relationship with attitude towards purchase of SHC, whereas egoistic and hedonic values have an even weaker, small and random linear relationship. On the other hand, attitude towards the purchase of SHC had a high positive correlation with the intention to purchase SHC, which signifies a substantial positive relationship between the two variables. In addition, subjective norms and perceived behavioral control displayed moderate positive correlations, and hence moderate relationships with purchase intention towards SHC. All correlations between the hypothesized relationships were significant at the 0.01 level of significance, which meant that there was sufficient evidence to suggest that none of the correlations were equal to zero, reflecting that there was some form of linear relationship between the variables.

Table 5: Correlation Analysis

Correlations									
		Biospheric Values	Altruistic Values	Egoistic Values	Hedonic Values	Attitude	Subjective Norms	Perceived Behavioral Control	Purchase Intention
Biospheric Values	Correlation	1							
	P-value								
Altruistic Values	Correlation	.620**	1						
	P-value	< 0.001							
Egoistic Values	Correlation	.102**	.169**	1					
	P-value	0.008	< 0.001						
Hedonic Values	Correlation	.296**	.321**	.408**	1				
	P-value	< 0.001	< 0.001	< 0.001					
Attitude	Correlation	.271**	.212**	-.130**	.126**	1			
	P-value	< 0.001	< 0.001	0.001	0.001				
Subjective Norms	Correlation	.202**	.190**	- 0.011	0.073	.474**	1		
	P-value	< 0.001	< 0.001	0.785	0.059	< 0.001			
Perceived Behavioral Control	Correlation	.151**	.150**	-.096*	.168**	.586**	.366**	1	
	P-value	< 0.001	< 0.001	0.013	< 0.001	< 0.001	< 0.001		
Purchase Intention	Correlation	.227**	.210**	-.225**	0.012	.789**	.469**	.544**	1
	P-value	< 0.001	< 0.001	< 0.001	0.750	< 0.001	< 0.001	< 0.001	
** . Correlation is significant at the 0.01 level (2-tailed). * . Correlation is significant at the 0.05 level (2-tailed). Bold values represent correlations between variables of hypothesized relationships.									

5.4 PLS-SEM

To conduct a thorough analysis of our research model using PLS-SEM, we used the SmartPLS software. In order to first build the model, it was necessary to identify whether our variables and model were reflective or formative, which define how the measurement items are related

to the latent variables. All of the variables in our model can be described as reflective – the measurement items *reflect* the latent variables, meaning that the latent variables cause the measurement items and the arrows in the PLS-SEM model point from the latent variables towards the measurement items, as defined by Hair Jr. et al. (2019). Consequently, after our model was constructed, we used the PLS Algorithm and Bootstrapping calculation methods in SmartPLS to obtain results for our model. We then proceeded to conduct a confirmatory factor analysis (CFA) using the results. In addition, we also assessed the collinearity statistics for the variables, along with the model fit. Finally, after the aforementioned steps were completed, we analyzed the results for path coefficients as solved for by PLS-SEM to answer our hypotheses.

5.4.1 Confirmatory Factor Analysis (CFA)

According to Hair Jr. et al. (2019), CFA is defined as a method to test “how well a prespecified measurement theory composed of measured variables fits reality as captured by data” (p.660). In some ways, CFA can be seen as an opposite to EFA (exploratory factor analysis) because in CFA, statistical analysis does not assign measurement items to different factors, rather the researcher does so himself/herself *before* the results are computed – ideally, this assignment should be such that all measurement items load only on a single factor (Hair Jr. et al. 2019). Consequently, in order to ensure good measurement principles, we have taken measurement items for all of the variables from past research which have been well-established and validated. The following subsections proceed to describe the results of the CFA in the manner proposed by Hair Jr., Hult, Ringle & Sarstedt (2017) for PLS-SEM using internal consistency reliability, convergent validity and discriminant validity. The results for internal consistency reliability and convergent validity have been displayed in Table 6.

Table 6: Internal Consistency Reliability and Convergent Validity Statistics

Variable	Measurement Item	Factor Loadings	Cronbach's Alpha	Composite Reliability	Average Variance Extracted
	<i>It is important for me...</i>				
Biospheric Values	... to prevent environmental pollution	0.908	0.870	0.921	0.795
	... to protect the environment	0.934			
	... to respect nature	0.829			
Altruistic Values	... that every person has equal opportunities	0.680	0.754	0.853	0.663
	... to take care of those who are worse-off	0.891			
	... to be helpful towards others	0.856			
Egoistic Values	... to be influential	0.583	0.614	0.758	0.522
	... to have money and possessions	0.925			
	... to work hard and be ambitious	0.609			

Hedonic Values	... to have fun	0.898	0.831	0.897	0.744
	... to do things that I enjoy	0.852			
	... to enjoy the pleasures of life	0.837			
Attitude	<i>For me, buying SHCs is.....</i>				
	Bad — Good	0.868	0.901	0.931	0.771
	Unpleasant — Pleasant	0.894			
	Worthless — Valuable	0.892			
	Boring — Interesting	0.858			
Subjective Norms	Most of the people with whom I am acquainted buy SHCs.	0.802	0.756	0.841	0.576
	Most people whose opinions I value would approve of my purchase of SHCs.	0.792			
	Most people who are important to me think that I should buy SHC.	0.855			
	It is expected of me that I buy SHC.	0.551			
Perceived Behavioral Control	I am confident that if I wanted to, I could buy SHCs.	0.846	0.667	0.857	0.750
	For me, buying SHCs is easy.	0.885			
Purchase Intention	I am willing to buy SHCs in the future.	0.961	0.972	0.981	0.946
	I plan to buy SHCs in the future.	0.977			
	I will buy SHCs in the future.	0.980			

5.4.1.1 Internal Consistency Reliability

The first criterion to be evaluated is internal consistency reliability, which is a reflection of whether the measurement items are measuring the same variable – this is determined through Cronbach’s alpha and Composite Reliability (Hair Jr. et al. 2017).

Cronbach’s Alpha

Cronbach’s alpha is described as an “estimate of the reliability based on the intercorrelations of the observed indicator variables” (Hair Jr. et al. 2017, p.136), and is used for multiple-item measures – where more than one item is used to measure a single variable (Bryman & Bell, 2011). This is a useful tool in developing attitude scales and questionnaires and indicates if all items are measuring the same variable (Burns & Burns, 2008; Tavakol & Dennick, 2011). It has been established that Cronbach’s alpha must have a minimum value of 0.7 in order to ensure that the variables are internally reliable and consistent (Bryman & Bell, 2011; Burns & Burns, 2008). Using this criterion, we can see in Table 6 that all variables show acceptable levels of

Cronbach's alpha apart from egoistic values and perceived behavioral control which are slightly below the threshold value of 0.7. However, Hair Jr. et al. (2017) suggests that Cronbach's alpha is a conservative measure of reliability because of which it is necessary to study the results for composite reliability as well.

Composite Reliability (CR)

As discussed by Hair Jr. et al. (2019), composite reliability (CR) is an alternative statistical measure of reliability and internal consistency of the measurement items that represent a latent variable. CR is defined as the "total amount of true score variance in relation to the total score variance" (Malhotra, 2010, p.693). Due to Cronbach's alpha's limitations, CR is generally considered as a more appropriate measure for internal consistency reliability in a PLS-SEM context (Hair Jr. et al. 2017), and researchers have described the threshold for CR as 0.7 or higher to indicate adequate levels of internal consistency and reliability (Hair Jr. et al. 2019). Resultantly, we can observe in Table 6 that all of the variables have a CR value that exceeds 0.7. Hence, it can be said that all of our variables are internally consistent and reliable, and that the measurement items were a reflection of the same variable.

5.4.1.2 Convergent Validity

Hair Jr. et al. (2017) describe convergent validity as the second step for CFA in PLS-SEM, and define it as the "extent to which a measure correlates positively with alternative measures of the same variable" (p.137). For reflective variables, the measurement items should share a high proportion of variance and be considered as alternative measures for the same variable (Hair Jr. et al. 2017). For the purpose of evaluating convergent validity, Hair Jr. et al. (2017) posit that two statistical measures need to be considered – factor loadings of the measurement items on the latent variables, and the average variance extracted (AVE).

Factor Loadings

A factor loading can be defined as the correlation between a measurement item and a factor (the latent variable) that has been extracted from the data (Burns & Burns, 2008). High factor loadings for each measurement item on a particular latent variable indicates that those items are explaining the same factor (Hair Jr. et al. 2017). According to Hair Jr. et al. (2019), factor loadings should be at least 0.5 or higher, and ideally 0.7 or above to indicate convergent validity. The results showed that all of the measurement items fulfilled the minimum threshold of 0.5, apart from one measurement item for perceived behavioral control: '*Whether or not I buy SHC is completely up to me.*' which had a factor loading of 0.382. Consequently, based on Hair Jr. et al.'s (2017) recommendation that items with factor loadings lower than 0.4 should always be eliminated from the variable, this item was removed from the model and the PLS-SEM was re-run to obtain the updated results (please note that all PLS-SEM output tables in our analysis are reflective of the revised model). As observed in Table 6, the revised model resulted in factor loadings above 0.5 for all measurement items; 21 out of the 25 items crossed the ideal threshold of 0.7 or higher.

Average Variance Extracted (AVE)

The second statistic to measure convergent validity is AVE, which is the “average percentage of variation explained (variance extracted) among the items of variable” (Hair Jr. et al. 2019, p.659). According to Hair Jr. et al. (2019), AVE should be at least 0.5 to be indicative of a satisfactory level of convergent validity. This is because an AVE value of 0.5 or higher would signify that more than half of the variance of the measurement items is explained by the variable (Hair Jr. et al. 2017). Our results show that the AVE is greater than 0.5 for all eight variables, as displayed in Table 6. As a result, our model shows a high level of convergent validity based on the evaluation of both factor loadings and AVE.

5.4.1.3 Discriminant Validity

Discriminant validity reflects the extent to which a particular variable is actually different from the other variables in the model (Hair Jr. et al. 2019). The purpose of testing for discriminant validity is to ensure that each variable is “unique and captures phenomena not represented by other variables in the model” (Hair Jr. et al. 2017, p.138). Discriminant validity can be evaluated through three ways: an analysis of cross-loadings (factor loadings of measurement items on *other* variables), the Fornell-Larcker Criterion, and the Heterotrait-Monotrait (HTMT) Ratio (Hair Jr. et al. 2017; Hair Jr. et al. 2019), which have been discussed below.

Cross Loadings

Hair Jr. et al. (2017) postulate that cross loadings are usually the first step to assess discriminant validity. A measurement item’s factor loading with its respective variable should be greater than any of its cross loadings with other factors (Hair Jr. et al. 2017). An overview of cross loadings revealed that measurement items for attitude show a relatively high loading on perceived behavioral control and purchase intention, and vice versa. Furthermore, measurement items for purchase intention also showed relatively high cross loadings with perceived behavioral control. Lastly, there was an indication that measurement items for altruistic and biospheric values also have high cross loadings with biospheric values and altruistic values respectively (please refer to Table C6 in Appendix C). However, although some measurement items have high cross loadings with other variables, as discussed previously, none of the cross loadings exceed the measurement items’ factor loadings with their associated variables which would suggest a discriminant validity problem, as discussed by Hair Jr. et al. (2017). Hence, analysis of cross loadings suggests that our model satisfies the discriminant validity condition.

Fornell-Larcker Criterion

Another approach to evaluate discriminant validity is the Fornell-Larcker Criterion. According to Hair Jr. et al. (2019), the Fornell-Larcker Criterion “compares the shared variance within the variables to the shared variance between the variables” (p.761). In other words, it “compares the square root of the AVE values with the latent variable correlations” (Hair Jr. et al. 2017, p. 139). Using this criterion to analyze discriminant validity, the shared variance within the variables should be greater than the shared variance between variables (Hair Jr. et al. 2019). Put

differently, the square root of each variables' AVE should be greater than its highest correlation with any other variable (Hair Jr. et al. 2017). The logic behind this method is that a particular variable should share greater variance with its associated measurement items (within) as compared to with any other variables (between). The results displayed in Table 7 fulfill these criteria for each variable because the square root of AVE for all variables are greater than their respective correlations with other variables. Therefore, the Fornell-Larcker criterion also establishes discriminant validity for our research model and variables.

Table 7: Fornell-Larcker Criterion

Fornell-Larcker Criterion								
Variable	Altruistic Values	Attitude	Biospheric Values	Egoistic Values	Hedonic Values	Perceived Behavioral Control	Purchase Intention	Subjective Norms
Altruistic Values	0.814							
Attitude	0.221	0.878						
Biospheric Values	0.61	0.275	0.892					
Egoistic Values	0.083	-0.172	0.034	0.723				
Hedonic Values	0.316	0.126	0.294	0.368	0.863			
Perceived Behavioral Control	0.161	0.63	0.181	-0.124	0.15	0.866		
Purchase Intention	0.22	0.794	0.227	-0.255	0.014	0.592	0.973	
Subjective Norms	0.216	0.507	0.215	-0.104	0.083	0.427	0.505	0.759

The bold upper diagonal represents the square root of AVE for the respective variables

Heterotrait-Monotrait (HTMT) Ratio

According to Hair Jr. et al. (2017), recent research has been critical of both the cross loadings method and Fornell-Larcker Criterion as reliable measures to detect discriminant validity issues. Consequently, an alternative to the Fornell-Larcker Criterion, which countered the limitations of the former, was proposed by Henseler, Ringle & Sarstedt (2015): the Heterotrait-Monotrait (HTMT) Ratio of correlations. HTMT can be described as the ratio of the between-trait correlations to the within-trait correlations (Hair Jr. et al. 2017). Explained otherwise, HTMT “estimates the true correlation between two variables if they were perfectly measured (i.e., if they were perfectly reliable)” (Hair Jr. et al. 2019, p.761). According to Henseler, Ringle & Sarstedt (2015), the threshold value of HTMT is suggested as 0.90 for models where variables are conceptually very similar, while a more conservative value of 0.85 is recommended for models where the variables are conceptually more distinct. In other words, HTMT values above 0.90 (or 0.85) would indicate a violation of discriminant validity. Because our model contains variables that could be argued as conceptually dissimilar, especially when comparing personal values with the TPB variables, we have decided to evaluate HTMT based on the 0.85 threshold. As displayed in Table 8, all HTMT ratios are below 0.85, hence we can posit that our model and variables fulfill the discriminant validity criterion.

Table 8: Heterotrait-Monotrait (HTMT) Ratio

Heterotrait-Monotrait (HTMT) Ratio								
Variable	Altruistic Values	Attitude	Biospheric Values	Egoistic Values	Hedonic Values	Perceived Behavioral Control	Purchase Intention	Subjective Norms
Altruistic Values								
Attitude	0.253							
Biospheric Values	0.772	0.31						
Egoistic Values	0.274	0.184	0.194					
Hedonic Values	0.415	0.142	0.354	0.572				
Perceived Behavioral Control	0.224	0.805	0.244	0.163	0.205			
Purchase Intention	0.24	0.847	0.245	0.297	0.017	0.732		
Subjective Norms	0.253	0.585	0.254	0.2	0.094	0.565	0.557	

5.4.1.4 Collinearity Statistics (VIF)

We also deemed it relevant to evaluate the collinearity statistics for our model in addition to the internal consistency reliability, convergent validity and discriminant validity, as also recommended by Hair Jr. et al. (2017). According to Burns & Burns (2008), multicollinearity (or collinearity) refers to very high correlations between the independent variables in a model, which should be avoided – high multicollinearity implies that two or more variables are measuring the same variance, which will over-inflate the R^2 value. A measure of multicollinearity is the Variance Inflation Factor (VIF), which measures the “impact of collinearity among the IVs in a multiple regression model on the precision of estimation” (Burns & Burns, 2008). While the typical threshold value to evaluate VIF is 10.0 – values above 10.0 would indicate high levels of multicollinearity (Burns & Burns, 2010; Hair Jr. et al. 2019), several researchers posit that a more conservative value is recommended. The results in Table 9 show that all VIF values are below even 2, thus we can postulate that our model does not have any collinearity problems.

Table 9: Collinearity Statistics (VIF)

Variable	VIF	
	Attitude	Purchase Intention
Biospheric Values	1.630	
Altruistic Values	1.645	
Egoistic Values	1.164	
Hedonic Values	1.307	
Attitude		1.871
Subjective Norms		1.381
Perceived Behavioral Control		1.701

5.4.2 Model Fit

The concept of model fit in PLS-SEM is currently unclear and under development, and caution has been recommended in using model fit measures for PLS-SEM (Hair Jr. et al. 2017). This is because PLS-SEM is based on variances rather than covariances to solve for the optimal solution meaning that the covariance-based goodness-of-fit measures may not be reliable for PLS-SEM (Hair Jr. et al. 2017). While a few researchers have presented some measures that could be used for model fit in the case of PLS-SEM, such as the *standardized root mean square residual (SRMR)* (Henseler, Dijkstra, Sarstedt, Ringle, Diamantopoulos, Straub, Ketchen, Hair Jr., Hult & Calantone, 2014), these are still in the early stages of research (for instance, critical threshold values have not yet been identified for PLS-SEM) and their usefulness is questionable (Hair Jr. et al. 2017). Consequently, Hair Jr. et al. (2017) propose that instead of assessing model fit or goodness-of-fit for PLS-SEM, the structural model should be evaluated on the basis of how well it predicts the endogenous variables. More specifically, Hair Jr. et al. (2017) argue that the most important evaluation criteria for a structural model in the PLS-SEM context are R^2 (explained variance), Q^2 (predictive relevance), and the size, statistical significance and effect size (f^2) of the structural path coefficients. For model fit purposes, we will analyze explained variance and predictive relevance, along with a brief elaboration on SRMR. A detailed analysis of path coefficients is carried out in the following subsection.

Table 10: Explained Variance and Predictive Relevance

Variable	R^2	R^2 Adjusted	Q^2
Attitude	0.128	0.123	0.095
Purchase Intention	0.654	0.653	0.613

Explained Variance (R^2)

Simply defined, R^2 , or the coefficient of determination, denotes the percentage of variation in a dependent variable that is explained by the variation in the independent variable(s) (Burns & Burns, 2008). However, it is recommended that the coefficient of multiple determination (adjusted R^2) be used when a model has multiple independent variables to explain the dependent variable because it gives a “more realistic estimate for generalization to the population” (Burns & Burns, 2008, p.389), as is the case for our model. Hence, as Table 10 illustrates, 12.3% of the variation in attitude towards the purchase of SHC can be explained by environmentally-relevant personal values: biospheric, altruistic, egoistic and hedonic. On the other hand, a much higher value is observed for purchase intention where 65.3% in its variation can be explained by the variation in attitude towards, subjective norms related to, and perceived behavioral control over the purchase of SHC. It can also be noted that these values are very close to the unadjusted R^2 .

Predictive Relevance (Q^2)

According to Hair Jr. et al. (2017), it is vital to also examine predictive relevance through Stone-Geisser's Q^2 value in addition to the explained variance. In a PLS-SEM context, predictive relevance helps to predict data that is not used in the model estimation – Q^2 values greater than zero for a specific endogenous variable indicate predictive relevance and suggest that the predictive accuracy is acceptable for the particular variable (Hair Jr. et al. 2017; Hair Jr. et al. 2019). For this purpose, the Blindfolding calculation method in SmartPLS was used with the omission distance D set as 6 (ensuring that the number of observations divided by D were not an integer, which is a requirement for blindfolding). Furthermore, we also followed Hair Jr. et al.'s (2017) recommendation of using the cross-validated redundancy as a measure of Q^2 because it “includes the structural model, [which is] the key element of the path model, to predict eliminated data points” (p.214). These have been reported in Table 10 – as observed, Q^2 values for both attitude towards the purchase of SHC and intention to purchase SHC are greater than zero, hence the predictive relevance criterion is met.

Standardized Root Mean Square Residual (SRMR)

SRMR is defined as the “root mean square discrepancy between the observed correlations and the model-implied correlations” (Hair Jr. et al. 2017, p.321), and was first studied in a PLS-SEM context by Henseler et al. (2014), who suggest that SRMR could be used to avoid model misspecification in PLS-SEM. An SRMR value of zero is indicative of a perfect fit because SRMR is an absolute measure of fit (Hair Jr. et al. 2017). According to Hu and Bentler (1998), a value less than 0.08 is considered to be a good fit. However, as discussed earlier, this may not be applicable to PLS-SEM, where this threshold may be too low – indeed, no threshold value has yet been determined for SRMR in a PLS-SEM context (Hair Jr. et al. 2017). Consequently, while researchers often discuss SRMR when analyzing the results of PLS-SEM, it does not hold any useful meaning so far because there is no specific threshold value to compare with. At most, one can use the normal threshold value, 0.08, which may or may not be a good benchmark, as discussed by Hair Jr. et al. (2017). For our model, SRMR was calculated at 0.124, which is higher than 0.08 and could suggest a bad model fit. However, this result holds little significance because of lack of confirmatory evidence in previous research about SRMR's relevance in PLS-SEM, and determination of a particular threshold value in a PLS-SEM context. Instead, greater reliance should be placed on explained variance and predictive relevance, as highlighted by Hair Jr. et al. (2017), which both show a good ‘model fit’.

5.4.3 Path Coefficients: Hypotheses Results

We now proceed to evaluate the results of our hypotheses using the path coefficients (β) generated through PLS-SEM. Furthermore, we will assess the significance of the path coefficients using p-values along with confidence intervals as confirmatory evidence, and analyze effect size (f^2). For a thorough analysis, we will not only evaluate the direct effects (our hypotheses), but also include a brief discussion about the indirect effects of environmentally-relevant personal values on purchase intention. The results have been summarized in Table 11.

Table 11: Hypotheses Testing & Path Coefficients

Variable Relationships	Path Coefficients	T-Statistics	P-Values	Confidence Interval		Effect Size f ²	Hypotheses Decision
				Lower	Upper		
<i>Direct effects (Hypotheses) *</i>							
H1: Biospheric Values → Attitude	0.195**	3.754	< 0.001	0.091	0.299	0.027	Accepted
H2: Altruistic Values → Attitude	0.081	1.619	0.106	- 0.013	0.182	0.005	Rejected
H3: Egoistic Values → Attitude	- 0.233**	5.447	< 0.001	- 0.320	- 0.150	0.054	Rejected
H4: Hedonic Values → Attitude	0.129**	3.106	0.002	0.051	0.214	0.015	Accepted
H5: Attitude → Purchase Intention	0.651**	17.643	< 0.001	0.575	0.720	0.655	Accepted
H6: Subjective Norms → Purchase Intention	0.119**	4.426	< 0.001	0.067	0.173	0.030	Accepted
H7: Perceived Behavioral Control → Purchase Intention	0.131**	3.334	0.001	0.056	0.213	0.029	Accepted
<i>Indirect effects</i>							
Biospheric Values → Attitude → Purchase Intention	0.127**	3.590	< 0.001	0.058	0.199		
Altruistic Values → Attitude → Purchase Intention	0.052	1.617	0.106	- 0.009	0.119		
Egoistic Values → Attitude → Purchase Intention	- 0.152**	5.073	< 0.001	- 0.213	-0.096		
Hedonic Values → Attitude → Purchase Intention	0.084**	3.088	0.002	0.033	0.138		
* All hypothesized relationships were positive.							
** Path coefficients are significant at the 0.05 level of significance (2-tailed).							
Note: SmartPLS does not provide f-square calculations for indirect effects, hence they are not included in this table.							

5.4.3.1 Direct Effects: Evaluation of Hypotheses

According to Hair Jr. et al. (2017), path coefficients are standardized values which represent the hypothesized relationships between the variables and are approximately ranged between -1 and +1. In essence, the more positive the path coefficient, the more positive the hypothesized relationship, and vice versa. Further, to test the significance of the path coefficients, if the p-value is less than the level of significance (0.05), and the confidence intervals do not contain

the value zero (both lower and upper intervals are either negative or positive), then the hypothesized relationship is statistically significant (Burns & Burns, 2008; Hair Jr. et al. 2019).

First, we analyze the relationship of environmentally-relevant personal values with the attitude towards purchase of SHC. As observed in Table 11, attitudes towards the purchase of SHC are positively and significantly influenced by biospheric values ($\beta = 0.195$, $p < 0.001$) and hedonic values ($\beta = 0.129$, $p = 0.002$). Thus, both H1 and H4 were accepted, and support was provided for the hypothesized relationships. However, egoistic values had a negative and statistically significant relationship with attitude towards the purchase of SHC ($\beta = -0.233$, $p < 0.001$). Therefore, although the relationship was significant, H3 was rejected because our hypothesis was testing for a positive relationship between egoistic values and attitude. Another interesting result was obtained where there was an indication that altruistic values positively impact attitude towards the purchase of SHC, but the result was not statistically significant ($\beta = 0.081$, $p = 0.106$), because of which H2 was rejected.

Next, we evaluate the TPB part of our model: how attitude towards, subjective norms about, and perceived behavioral control over purchase of SHC affects the purchase intention. Table 11 shows that all three variables – attitude ($\beta = 0.651$, $p < 0.001$), subjective norms ($\beta = 0.119$, $p < 0.001$), and perceived behavioral control ($\beta = 0.131$, $p = 0.001$) – positively and significantly impact the intention to purchase SHC. Therefore, H5, H6 and H7 were all accepted.

Finally, we also assessed the effect size (f^2) which is a measure to interpret how significant a result actually is, and is “calculated to determine if removing a predictor variable from the structural model has a substantive impact on the endogenous variables” (Hair Jr. et al. 2019, p.780). To analyze effect size (f^2), we will use Cohen’s (1988) guidelines: small, medium, and large effects are represented by 0.02, 0.15, and 0.35 respectively; values below 0.02 signify no effect. Using this criterion, most relationships are observed to have a low effect size; the relationship of altruistic and hedonic values with attitude towards SHC had negligible effect size, while the relationship of attitude with intention to purchase SHC had a large effect size.

5.4.3.2 Indirect Effects

The indirect effects in our model constituted the impact of environmentally-relevant personal values (biospheric, altruistic, egoistic and hedonic values) directly on the intention to purchase SHC. As shown in Table 11, the results were similar to the relationship between values and attitude: biospheric ($\beta = 0.127$, $p < 0.001$) and hedonic ($\beta = 0.084$, $p = 0.002$) values were positively and significantly related to purchase intention, while egoistic values ($\beta = -0.152$, $p < 0.001$) had a negative and significant relationship. Likewise, while the indirect path coefficient result for the impact of altruistic values on intention to purchase SHC ($\beta = 0.052$, $p = 0.106$) indicated a positive relationship, the result was not statistically significant.

6 Discussion

As established in our theoretical framework, personal values have been shown to play a vital role in understanding consumer behavior. Indeed, past research has indicated that four personal values (biospheric, altruistic, egoistic and hedonic values) are an important determinant of pro-environmental behavior (Abrahamse & Steg, 2013; Nordlund & Garvill, 2002; Schultz & Zelezny, 1999; Schultz et al. 2005; Steg et al. 2014). Our research results have also shown that environmentally-relevant personal values are a significant contributor to understanding SHC consumption. Furthermore, we argue that these four values would become increasingly important determinants of SHC consumption as awareness about its environmental benefits increases. Nevertheless, the results do reflect that other factors need to be considered to completely understand consumer attitude towards the purchase of SHC because the four aforementioned personal values explain only a portion of this phenomenon. However, our purpose was to study the role of environmentally-relevant values in SHC purchase intention, and in line with existing research, we have also been able to successfully prove the significance of personal values in understanding a pro-environmental behavior: SHC consumption.

A reviewal of the results of our hypotheses show that biospheric values have a positive effect on attitude towards and intention to purchase SHC, which is supported by existing research on the impact of values on pro-environmental behavior (for e.g., de Groot & Steg, 2008, 2010; Fritzsche & Oz, 2007; Honkanen & Verplanken, 2004; Nilsson, von Borgstede, & Biel, 2004; Nordlund & Garvill, 2002, 2003; Schultz et al. 2005; Schultz & Zelezny, 1998, 1999; Steg et al. 2011; Stern, 2000; Stern et al., 1995, 1999; Thøgersen & Ölander, 2002). As expected, consumers with high levels of biospheric values and concern for the environment have more positive attitudes towards, and a greater inclination to purchase SHC, which can directly be related to SHC's pro-environmental and sustainable attributes.

However, while past research has concluded a similar positive relationship for altruistic values, we were unable to find such evidence in the case of SHC consumption. This was a surprising result and signifies that the well-being of other people is not an important determinant of SHC purchase intention. In our opinion, this could be because consumers do not associate altruistic values with SHC in the same manner as they do with biospheric values. Nevertheless, we argue that by consuming SHC, individuals indirectly contribute positively towards the well-being of other human beings – as SHC is more sustainable and environmentally-friendly, it has a beneficial impact on the ecosystem, which in turn allows humans to live a better and healthier life. Similarly, SHC consumption permits individuals to allocate valuable resources to improving the lives of others and themselves through donations, for instance. Indeed, the SHC market could be a valuable source of income for those who are not well-off, while simultaneously providing them with access to clothing that would previously have been unaffordable. Hence, we contend that there could be a possible strong but indirect link between altruistic values and SHC consumption. To explain our results, however, we believe that this indirect link between SHC consumption and human welfare is not currently as evident to

consumers, which is why we have observed altruistic values to have an insignificant impact on SHC purchase intention.

Another result that was supported by existing research was the negative relationship between egoistic values and attitude towards purchase of SHC (de Groot & Steg, 2008; Honkanen & Verplanken, 2004; Nordlund & Garvill, 2002; Schultz & Zelezny, 1998; Steg, Dreijerink, & Abrahamse, 2005; Stern et al., 1995). However, we attempted to test whether a positive relationship could be observed with regards to SHC consumption based on some recent studies which suggest that egoistic values might actually lead to pro-environmental behavior in certain circumstances (Schultz & Zelezny, 2003; Schultz et al. 2005; Stern, Dietz, & Kalof, 1993; Stern et al., 1995; de Groot & Steg, 2009). As argued for during our development of hypotheses, we believed that SHC consumption could be an instance where such a situation could have been observed. Nonetheless, we have been unable to prove that such a claim is correct or provide any evidence for the hypothesized relationship. Consequently, based on our research we can say that egoistic values indeed have a significantly negative relationship with pro-environmental behavior, as has been argued for in existing research.

Regarding hedonic values, our results show a positive relationship with attitude towards SHC as we had hypothesized, which is in contrast with previous studies that have shown hedonic values to be negatively related to pro-environmental beliefs, attitudes, and behavior (Steg et al. 2014). We posit that the reason for this result is that the hedonic aspects pertaining to SHC consumption, such as the concept of treasure hunting, appeal to individuals who endorse hedonic values. This can also be related to Lindenberg and Steg's (2007) goal framing theory, where individuals with certain value traits would seek to fulfill goals that relate to those particular values. Consequently, our result provides evidence for a positive relationship between hedonic values and pro-environmental behavior. Considering that past research has repeatedly found hedonic values to be negatively related to pro-environmental behavior, it can be argued that such a positive relationship might only hold for certain types of pro-environmental behaviors. In our opinion, these specific types of pro-environmental behaviors would be those that allow consumers with high levels of hedonic values to engage in activities that allow a fulfillment of these values. We have proven that such a relationship is possible by showing SHC consumption to be an example of such a behavior, and it is probable that a similar relationship may be observed in other cases. For example, the purchase of environmentally-friendly electric cars such as Tesla and the newly launched Audi e-tron GT could also be driven by hedonic values.

Finally, the results for the TPB section of our model are reflective of the theory's robustness in understanding purchase intention. All three variables, attitude, subjective norms and perceived behavioral control, were shown to have a significant impact on the intention to purchase SHC. As widely established in current literature, our results also reveal that attitude towards the purchase of SHC is the most important determining factor in understanding the intention to purchase SHC. Previous research on sustainable fashion and SHC that use the TPB also suggest a similar relationship (Maloney et al. 2014; Saricam & Okur, 2019; Seo & Kim, 2019). However, Seo and Kim's (2019) research revealed that perceived behavioral control did not have a significant effect on purchase intention. Our results suggest otherwise: all three variables (attitudes, subjective norms and perceived behavioral control) are significant in understanding SHC purchase intention. We believe that a stronger ability to purchase SHC, such as greater

availability in the form of online stores and platforms in the past 2 years could be a reason why our research concludes that perceived behavioral control is also a significant contributor to understanding the intention to purchase SHC.

To summarize, our study has resulted in several interesting conclusions. Firstly, we were able to find out that there are indeed certain personal values that encourage the purchase intention towards SHC more than others. It was observed that consumers who positively endorse biospheric and hedonic values are more likely to engage in SHC consumption. On the other hand, those with high levels of egoistic values would be deterred from purchasing SHC, while altruistic values were found to be insignificant in determining the purchase intention towards SHC. Hence, our study has provided evidence that out of the four, only three values (biospheric, egoistic and hedonic) are relevant for understanding environmentally-related beliefs, attitudes, preferences, and behaviors pertaining to SHC. More specifically, only biospheric and hedonic values were found to lead to pro-environmental behavior, i.e. SHC purchase intention. Unlike previous research, we did not find any evidence that altruistic values are also an important determinant of pro-environmental behavior. Furthermore, we have also proven a positive relationship between hedonic values and SHC purchase intention through attitudes towards SHC, in contrast to current literature which argues for a negative relationship between hedonic values and pro-environmental behavior. Hence, we believe that we have contributed to research on consumer behavior within the fields of SHC, environmentally-relevant values and pro-environmental behavior by not only catering to a gap in existing literature but also presenting new insights that are contradictory to existing research, thus stimulating interest and curiosity around our study and opening up a new research path for future scholars.

7 Conclusion

7.1 Theoretical Contribution

Despite extensive academic research on SHC, the effect of environmentally-relevant personal values on the purchase intention of SHC remained unstudied. Consequently, we aimed to address this research gap and subsequently contribute to the field with our study. Indeed, the findings of our paper provide valuable theoretical contributions to the academic field.

Firstly, our study has been the first to identify the role of environmentally-relevant personal values in SHC purchase intention. We have not only tested the role of biospheric, altruistic and egoistic values, which have been well-established as important determinants in environmentally-related behavior, but also hedonic values (which were recently shown by Steg et al. (2014) to be of importance as well) to understand SHC consumption. While biospheric, altruistic and egoistic values have been widely studied in a variety of environmental contexts, their importance was yet to be examined in relation to SHC. Moreover, to our knowledge, there have been very few studies so far that have actually tested the role of hedonic values in pro-environmental behavior, and none pertaining to SHC. Consequently, our research provides evidence to support Steg et al.'s (2014) argument that hedonic values are also of significance in measuring environmentally-relevant attitudes and behavior. To summarize, our research can be used as a foundation to understand the role of environmentally-relevant personal values in SHC purchase intention.

Secondly, because we have identified SHC consumption as pro-environmental behavior, a major contribution of our research to this field is that hedonic values can play a positive role in pro-environmental behavior. This is in contradiction with existing research which suggests that hedonic values are actually a hindrance to pro environmental behavior. In other words, we have found contradictory evidence to existing research, and this opens up a new research stream for future studies. Consequently, we believe that further research should be carried out to better understand this contradiction. Furthermore, because our results have importantly shown that hedonic values are significant in understanding pro-environmental beliefs, attitudes, intentions and behaviors, as initially indicated by Steg et al. (2014), we suggest that models based on environmental values should also include hedonic values as a fourth value. For example, currently the Value-Belief-Norm (VBN) model only includes biospheric, altruistic and egoistic values (Stern, Dietz, Abel, Guagnano & Kalof, 1999; Stern, 2000).

Thirdly, another surprising finding is that our study did not find evidence that altruistic values lead to pro-environmental behavior. This finding was quite unexpected and contradicts past research where studies have found evidence for a significantly positive relationship between altruistic values and pro-environmental behavior. To understand this result, we conducted an in-depth perusal of our measures and data. Based on this, we found that the items used to

measure altruistic values are not directly linked to SHC consumption, which could be a major reason for the insignificant result. Therefore, we suggest that alternative items for altruistic values need to be established, and should be used to measure altruistic values such that they directly relate to SHC consumption to see if they lead to different results. Additionally, this result may also be an indication of certain pro-environmental behaviors where altruistic values do not play an important role; further research needs to be done to provide evidence for this.

Another argument could be that altruistic values may have an indirect relationship with pro-environmental behavior via biospheric values. For example, a different result may be obtained if the research model is structured such that the effect of altruistic values is measured through biospheric values: by caring for the environment, you care for the people living in that environment. In other words, setting altruistic values as a mediating variable between biospheric values and attitude towards SHC. Consequently, if we consider this argument, we can say that for some forms of pro-environmental behavior such as SHC consumption, altruistic values may not be significant *directly*, and thus should be researched as an indirect effect rather than a direct effect.

Fourth, it is also important to discuss the relationship between egoistic values and pro-environmental behavior. Although we were not able to find evidence for a positive relationship between egoistic values and pro-environmental behavior, as tentatively suggested by recent research (Schultz et al. 2005), it could be due to the way egoistic values are measured. A detailed analysis of the items used to measure egoistic values show that they are not compatible with each other and can be argued to measure different things. For example, a person may want to work hard and be ambitious, but he/she may not want to be influential or give much importance to owning money and possessions. In addition to being incompatible with each other, we also believe that not all of these measures are egoistic. For example, in our opinion there is nothing egoistic about working hard and being ambitious; indeed, one may work hard and be ambitious to provide a better life for his/her family. Instead, items that actually measure a person's egoistic desires should be developed; examples could be: 'it is important for me to be perceived well in society' or 'it is important for me to look good'. Consequently, we believe that it is necessary to revise and update the measurement items for environmentally-relevant values in the E-PVQ as presented by Bouman, Steg and Kiers (2018), especially for egoistic values which were observed to be relatively unreliable in our analysis.

Finally, our study also contributes to the theoretical relevance of the TPB, which was proven to be a strong theoretical framework to measure purchase intention in a pro-environmental context. However, our results and analysis reveal that certain improvements need to be made in the measurement items for the TPB variables as recommended in the questionnaire guidelines set by Ajzen (2013) and Fishbein and Ajzen (2010). More specifically, the measurement items for perceived behavioral control require revision and further research. Indeed, one measurement item had to be deleted ('Whether or not I buy SHC is completely up to me.') because statistical analysis deemed it to be unreliable (not measuring the same variable, i.e., perceived behavioral control), while the overall reliability measure for this variable was also relatively low.

As a result, our research has made valuable contributions to theory. Not only have we identified certain contradictions with existing research pertaining to environmentally-relevant personal values and pro-environmental behavior, we have also highlighted issues with measuring both

environmentally-relevant personal values and the TPB variables. Our study is also the first to test the role of these values in a SHC context, while also being one of the few papers to examine the relevance of hedonic values in pro-environmental behavior.

7.2 Managerial Implications

In addition to theoretical insights, our study also provides some practical recommendations for marketing managers. First and foremost, because our findings disclose that attitudes towards SHC play a major role in the SHC purchase intention, marketing managers should focus on highlighting the positive aspects of SHC so as to improve its perception among consumers and cater to those customers that are still hesitant to adopt SHC. Indeed, our results show that the more positive the attitude towards SHC, the higher the purchase intention will be. Furthermore, although the marketing should mainly be targeted towards highlighting the positive aspects of SHC, bringing in other factors such as societal expectations to purchase sustainable clothing (such as SHC), or providing consumers with better and easier access to SHC through online platforms or physical stores, for example, could also be a positive strategy. This is because subjective norms and perceived behavioral control have also been found to positively influence purchase intention.

Secondly, because our research found that consumers who had high hedonic and biospheric values were likely to have positive SHC purchase intentions, managers of SHC retailers can devise marketing campaigns that appeal to people possessing these values and show how and why they should opt to purchase SHC. Additionally, advertisements can be focused on reflecting personal identities by positively relating certain identity types (derived from hedonic and biospheric values) to SHC consumption. For example, a fun-loving person or a person concerned about the environment can be shown to purchase SHC, and thereby have the ability to fulfill one's desire to enjoy life or positively impact the environment, respectively. This in turn will reiterate what the consumers feel and instigate them to purchase SHC as they will be able to relate themselves with what they see in the advertisement; in other words, they will see that SHC consumption could be a valuable form of identity construction, both for people driven by biospheric and/or hedonic values.

Moreover, although our study was not able to find a significant positive effect of altruistic values on the purchase intention of SHC we believe that marketing managers should show people holding altruistic values and purchasing SHC in their marketing campaigns. This is because we believe that even if it does not bring any benefit, it will not adversely affect sales because showing a link with altruism is not something that will offend consumers. Furthermore, it can also be argued that by showing the link between altruism and SHC, as we argued for earlier, such marketing campaigns can create awareness among consumers and attract new customers, particularly those that heavily endorse altruistic values. On the other hand, managers should ensure that there are no egoistic connotations attached with SHC because it will not appeal to individuals with egoistic values. In fact, highlighting egoistic attributes of SHC may even deter other consumers. For example, it should not be shown that a person buys SHC so as to be perceived better by people, nor should it be associated with money and personal benefit.

Furthermore, our results show that the attitude towards SHC is positive on average and the intention to buy SHC is quite high, meaning that consumers perceive it quite positively and either buy or want to buy SHC in the future. Consequently, this has major implications for regular fashion retailers because the SHC segment can be seen as a rising competitor as it is quickly and firmly establishing itself in the fashion industry. As our study indicates, consumers today are more than ever open to the idea of purchasing SHC. As a result, marketing managers at fast fashion brands and luxury brands also need to take this shift in the fashion industry seriously and consider creating a niche category where they also sell SHC, from their own brand, for instance. Several brands and platforms, such as H&M (Sellpy) and Zalando are already doing this, but it is recommended that more companies in the fashion industry start a SHC line as it could be a win-win-win situation for all. The company gets the profits, consumers that want to purchase SHC are happy because they get to buy what they want and have greater variety and accessibility, and this circular flow of clothing consumption is simultaneously also environmentally-friendly. Moreover, any stock lots or faulty products of these brands can also be sold under the SHC section instead of throwing these clothes in landfills or burning them and polluting the Earth (as many luxury fashion brands have been guilty of doing). Additionally, sustainable clothing brands can also start a SHC section to further support the circular consumption model and contribute to making the fashion industry even more sustainable.

7.3 Limitations and Suggestions for Future Research

Firstly, a major limitation of our research is that our sample was collected through convenience sampling – a non-probability sampling technique – which may not be entirely representative of the population. Thus, it is recommended that future research should be carried out using random sampling to get more accurate and representative results that can be generalized to the target population. Although we tried our best to diversify our sample as much as possible, the use of convenience sampling may have led to a constrained and unequal sample by the underrepresentation of certain age groups, genders and/or nationalities in our target population. For example, another limitation of our research is that our data is skewed towards females (83% of total respondents were females). This may have affected the findings of our study as previous research has shown differences between the genders when it comes to pro-environmental behavior and sustainable consumption (for e.g., Pinto, Nique, Herter & Borges, 2016; Milfont & Sibley, 2016; Zelezny, Chua & Aldrich, 2000). Consequently, it is recommended that future research should be conducted based on an equal sample of both males and females to conduct a gender-based analysis.

Furthermore, we suggest that future researchers should conduct a specific study targeting certain age groups such as Generation Z, Generation Y and millennials, or perform an experimental study in which different groups are categorized by age to explore differences based on age. It is also recommended to carry out an experimental study in which the results of two groups – current second-hand shoppers and non-second-hand shoppers (potential consumers) – are compared to investigate differences – between the two types of consumers and to understand the effect of these values on the purchase intention of SHC between these two

groups. Moreover, an income-based analysis is also recommended to understand differences in values and intentions between the social classes.

Moreover, due to time constraints, we conducted a single cross-sectional study during a certain time period and were not able to analyse behavior in addition to purchase intention. Consequently, it is recommended that future research should be conducted based on a longitudinal study so that the actual behavior of the sample respondents can also be observed. This is particularly important because there is oftentimes a gap between purchase intention and behavior i.e., consumers say one thing but do another at the time of the actual purchase. Conducting a longitudinal study based on our research topic will enable researchers to find out whether the intention of SHC consumers is actually aligned with their behavior. For example, research should be conducted to find out whether consumers who state that they will buy SHC in the future actually do so or not. Moreover, it can also be studied which personal values are more likely to result in the execution of intention to behavior. For example, do consumers that rank high on biospheric values have a greater tendency to act as they say?

Moreover, we did not limit our research to any particular country or region, and thus intentionally ignored the effect of culture. As a result, future research should be conducted based on specific countries or even ethnicities to investigate the role of culture on the purchase intention of SHC and how the values differ when conducting a cultural analysis. This is because there are several countries that could display higher levels of biospheric values such as the Scandinavian countries, where there is a greater emphasis on caring for the environment. In contrast, some countries could rank high on egoistic and hedonic values while low on altruistic and biospheric values. Furthermore, although our research sample was quite global, it cannot be generalized to a specific nationality and the effect of each individual country cannot be deduced based on our research sample. As a result, a study based on a specific country or ethnicity may result in different results than those highlighted in our research.

Closely related is the effect of different personality types on our research topic. It has been widely established in literature that values and personality are closely linked (for e.g., Parks-Leduc, Feldman & Bardi, 2014). Consequently, an interesting study would be to carry out a research based on different personality traits of consumers and finding out any links between personality traits, environmentally-relevant personal values and SHC purchase intention. Furthermore, future research can also be conducted based on a consumer culture perspective, using Consumer Culture Theory (CCT) to present a new viewpoint on the topic.

Additionally, our study did not differentiate between online stores, consignment stores and thrift stores. Future studies can be focused on a specific platform or a comparison analysis based on all three, in a manner similar to Zaman et al. (2019), to understand differences between values and purchase intentions of consumers towards the three different types of SHC stores. Similarly, we have not distinguished between different categories of SHC, such as vintage or luxury, and it is recommended that specific research into different SHC types should be conducted. In addition, future research can also specifically compare the effect of environmentally-relevant personal values on the purchase intention of new sustainable clothing vs SHC.

Furthermore, our study was conducted during COVID-19 when there is already a heightened focus on environment and sustainability. Consequently, future research on this topic should also be conducted post COVID-19. It would be interesting to analyze whether the same results are observed in a different situation once the pandemic is over. In addition to replicating the findings and model from this research, it would be pertinent to conduct the same research using other theoretical models/frameworks to study SHC consumer behavior. Moreover, understanding the effect of values that play an important part in pro-environmental behavior (biospheric, altruistic, egoistic and hedonic) can also be used to study consumer purchase intention and behavior towards other second-hand products in the fashion industry such as shoes, accessories, bags, etc. or even other mature industries with strong second-hand markets.

Our research has also put forth a major contribution to theory by finding out that hedonic values also lead to pro-environmental behavior. However, the purpose of our research was not to find out the underlying reasons. As a result, it is recommended that future researchers replicate this study to find out whether these results hold in different context. Moreover, future studies should also investigate under what conditions hedonic values lead to pro-environmental behavior and when (and if) these values discourage pro-environmental behavior. Furthermore, future researchers should also study the relevance of altruistic values in determining SHC consumption because we were not able to find evidence for that. If our results hold for future research as well, then SHC consumption could be a unique form of pro-environmental behavior where altruistic values are irrelevant. If such a case is indeed observed, this should be further studied in order to gain an understanding of the underlying reasons.

Finally, as highlighted in our methodological limitations, we believe that alternative approaches should be used to study this research problem to counter the drawbacks of a survey-based research. For example, we recommend that a qualitative research method should be applied to delve deeper into our findings. In-depth interviews with potential and existing SHC consumers should be carried out to consolidate the results from our research.

7.4 Concluding Remarks

Our study has been an attempt to contribute to the burgeoning field of SHC consumption by providing a novel perspective to understand SHC purchase intention through a values-based approach. We believe that we have successfully achieved our objectives and answered our research question. Indeed, we have not only provided a foundation for future research within this field, but also made valuable theoretical contributions to both the TPB and environmentally-relevant personal values, while also presenting important managerial implications for SHC retailers and fashion companies in general.

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Appendix A

Appendix A consists of a single section which includes the table for our sample overview. This table presents a bifurcation of the number of respondents based on the different distribution channels that we utilized.

A1 Sample Overview

Table A 1: Sample Overview


Primary Source	Details	Frequency
Personal Connections	Facebook	104
	LinkedIn	
	Personal emails/messages	
Online Survey Panels	SurveySwap	100
Reddit	r/SampleSize	295
	r/ethicalfashion	
Facebook	Survey panel groups	170
	Facebook groups based on sustainable/ethical fashion and SHC	
Total Responses		669
Discarded Responses		4
Valid Responses		665

Appendix B

Appendix B is related to the questionnaire and comprises of 2 sections. The first, section B1, presents screenshots of our final survey that was distributed to the respondents. The second section, B2, lists the questions that were used for the pre-testing of our questionnaire.

B1 Questionnaire

Cover Page



LUND
UNIVERSITY

**SCHOOL OF
ECONOMICS AND
MANAGEMENT**

17% (1/6)

Hello and Welcome to our Survey!

This survey is being conducted by two Master's students in International Marketing and Brand Management at Lund University for our thesis (degree project). We would like to thank you for taking out your valuable time to participate in our survey about second-hand clothing consumption.

Please note that you **do not** need to be a buyer of second-hand clothes to participate in the survey.

Participation in the survey is voluntary and takes approximately 5-7 minutes to complete. Furthermore, all data is treated anonymously and with confidentiality. LamaPoll is fully GDPR-compliant and we ensure that all answers are anonymized and will be strictly used for academic purposes only.

Note: You must be **18 years or older** to participate in the survey.

If you have any questions about the survey or this study, please feel free to contact us at:
sa4655as-s@student.lu.se
mo0412as-s@student.lu.se

Hope you enjoy the survey!

Next >

Section 1: Values



SCHOOL OF
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MANAGEMENT

33% (2/6)

Survey: Section 1

★ Please rate the following statements from 1 = *strongly disagree* to 7 = *strongly agree*

1 = Strongly disagree, 2 = Disagree, 3 = Somewhat disagree, 4 = Neutral, 5 = Somewhat agree, 6 = Agree, 7 = Strongly agree.

It is important to me.....


	1	2	3	4	5	6	7
... to prevent environmental pollution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... that every person has equal opportunities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... to have fun	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... to be influential	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... to protect the environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... to take care of those who are worse-off	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... to do things that I enjoy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... to have money and possessions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... to respect nature	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... to be helpful towards others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... to enjoy the pleasures of life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... to work hard and be ambitious	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Section 2: Attitude



**SCHOOL OF
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MANAGEMENT**

50% (3/6)

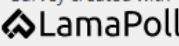
Survey: Section 2

★ In this section, we would like you to express how you feel about second hand clothing.


For me, buying second-hand clothes is.....

Bad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Good
Unpleasant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Pleasant
Worthless	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Valuable
Boring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Interesting

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Section 3: Subjective Norms, Perceived Behavioral Control and Purchase Intention



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MANAGEMENT

67% (4/6)

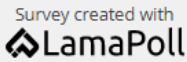
Survey: Section 3

★ Please rate the following statements from 1 = *strongly disagree* to 7 = *strongly agree*


1 = Strongly disagree, 2 = Disagree, 3 = Somewhat disagree, 4 = Neutral, 5 = Somewhat agree, 6 = Agree, 7 = Strongly agree.

	1	2	3	4	5	6	7
Whether or not I buy second-hand clothing is completely up to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to buy second-hand clothes in the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most of the people with whom I am acquainted buy second-hand clothes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most people whose opinions I value would approve of my purchase of second-hand clothes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident that if I wanted to, I could buy second-hand clothes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I plan to buy second-hand clothes in the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
For me, buying second-hand clothes is easy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will buy second-hand clothes in the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most people who are important to me think that I should buy second-hand clothing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is expected of me that I buy second-hand clothing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Section 4: General Information (Demographics)



SCHOOL OF ECONOMICS AND MANAGEMENT

83% (5/6)

General information

★ Please specify your gender:

- Male
- Female
- Non-binary
- Other
- Do not wish to specify

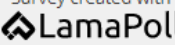
★ Please select your relevant age group:

Click here to select ▾

★ Please state your nationality:

Click here to select ▾

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Final Page



SCHOOL OF
ECONOMICS AND
MANAGEMENT

100% (6/6)

Thank You!

Thank you for participating in our survey!

In case you have any further questions, feel free to contact us at:

sa4655as-s@student.lu.se

mo0412as-s@student.lu.se

To complete the survey, please click "Finish".

We hope that you have a wonderful day!

Finish >

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B2 Questions for Pre-testing

The questions asked during the pre-test of the questionnaire were based on the established set of questions proposed by Grimm (2010) which aim to minimise the errors associated with a survey. The questions are as follows:

1. Were you able to clearly understand all questions? Or were there any difficulties with the wording or formulation of questions?
2. While answering the questions, did you miss any answer options?
3. Were you willing to answer all questions, or did anything offend you personally?
4. Did you think the instructions were clear enough?
5. Did you think that any questions were already indicating a preferred answer? / was the formulation of questions biased by us?
6. How did you like the flow of the questionnaire, was it logical?
7. Did the time to conduct the questionnaire seem reasonable?
8. In general, what do you think about the questionnaire? Or do you have additional comments or remarks?

Appendix C

Appendix C is concerned with data analysis and is divided into 3 sections. Section C1 consists of the frequency tables for our demographics data (gender, age group, nationality). Section C2 includes a table about interpretation of correlation size, while Section C3 contains the table for cross loadings.

C1 Demographics

Gender

Table C 1: Gender

Gender	Frequency	Percent	Cumulative Percent
Female	552	83.0	83.2
Male	97	14.6	97.6
Non-binary	8	1.2	98.8
Do not wish to specify	8	1.2	100.0
Total	665	100.0	

Age Group

Table C 2: Age Group

Age Group	Frequency	Percent	Cumulative Percent
18-25	308	46.3	46.3
26-30	121	18.2	64.5
31-35	72	10.8	75.3
36-40	32	4.8	80.2
41-45	30	4.5	84.7
46-50	22	3.3	88.0
51-55	19	2.9	90.8
56-60	24	3.6	94.4
61-65	21	3.2	97.6
66-70	11	1.7	99.2
71 or above	5	0.8	100.0
Total	665	100.0	

Nationality (Country)

Table C 3: Nationality (Country)

Nationality (Country)	Frequency	Percent	Cumulative Percent	Nationality (Country)	Frequency	Percent	Cumulative Percent
Albania	1	0.2	0.2	Jordan	1	0.2	25.4
American Samoa	2	0.3	0.5	Latvia	1	0.2	25.6
Antarctica	1	0.2	0.6	Lithuania	1	0.2	25.7
Argentina	1	0.2	0.8	Luxembourg	1	0.2	25.9
Armenia	2	0.3	1.1	Malaysia	4	0.6	26.5
Australia	18	2.7	3.8	Mexico	5	0.8	27.2
Austria	5	0.8	4.5	Moldova	1	0.2	27.4
Bahamas	1	0.2	4.7	Netherlands	21	3.2	30.5
Belgium	4	0.6	5.3	New Zealand	4	0.6	31.1
Bosnia and Herzegovina	1	0.2	5.4	Nigeria	1	0.2	31.3
Brazil	1	0.2	5.6	Norway	4	0.6	31.9
Bulgaria	1	0.2	5.7	Pakistan	3	0.5	32.3
Canada	33	5.0	10.7	Panama	1	0.2	32.5
Chile	1	0.2	10.8	Philippines	1	0.2	32.6
China	3	0.5	11.3	Poland	3	0.5	33.1
Colombia	1	0.2	11.4	Portugal	4	0.6	33.7
Czech Republic	2	0.3	11.7	Reunion	1	0.2	33.8
Denmark	3	0.5	12.2	Romania	3	0.5	34.3
Dominican Republic	1	0.2	12.3	Russia	6	0.9	35.2
Egypt	1	0.2	12.5	Saudi Arabia	1	0.2	35.3
Estonia	3	0.5	12.9	Singapore	3	0.5	35.8
Falkland Islands (Islas Malvinas)	1	0.2	13.1	Slovakia	3	0.5	36.2
Finland	6	0.9	14.0	Slovenia	1	0.2	36.4
France	11	1.7	15.6	South Africa	3	0.5	36.8
Germany	27	4.1	19.7	Spain	3	0.5	37.3
Gibraltar	1	0.2	19.8	Sri Lanka	3	0.5	37.7
Greece	6	0.9	20.8	Sweden	77	11.6	49.3
Hong Kong	2	0.3	21.1	Switzerland	2	0.3	49.6
Hungary	6	0.9	22.0	Syria	1	0.2	49.8
Iceland	1	0.2	22.1	Thailand	2	0.3	50.1
India	3	0.5	22.6	Turkey	3	0.5	50.5
Indonesia	2	0.3	22.9	Ukraine	4	0.6	51.1
Ireland	9	1.4	24.2	United Kingdom	78	11.7	62.9
Israel	1	0.2	24.4	United States	246	37.0	99.8
Italy	5	0.8	25.1	Venezuela	1	0.2	100.0
Japan	1	0.2	25.3				
Total					665	100.0	

Nationality (Region/Continent)

Table C 4: Nationality (Region/Continent)

Nationality (Region/Continent)	Frequency	Percent	Cumulative Percent
Africa	5	0.8	0.8
Antarctica	1	0.2	0.9
Asia	34	5.1	6.0
Europe	307	46.2	52.2
North America	286	43.0	95.2
Oceania	25	3.8	98.9
South and Central America	7	1.1	100.0
Total	665	100.0	

C2 Correlation Size Interpretation

Table C 5: Interpreting Correlation Size – adapted from Burns and Burns (2008)

Correlation Coefficient	Correlation Size	Relationship Strength
0.90 – 1.00	Very high correlation	Very strong relationship
0.70 – 0.90	High correlation	Substantial relationship
0.40 – 0.70	Moderate correlation	Moderate relationship
0.20 – 0.40	Low correlation	Weak relationship
0.00 – 0.20	Slight correlation	Relationship so small as to be random

C3 Cross Loadings

Note: For key (detailed list of items corresponding to labels in Table C6), please refer to Table C7

Table C 6: Cross Loadings

Cross Loadings								
Item Labels	Altruistic Values	Attitude	Biospheric Values	Egoistic Values	Hedonic Values	Perceived Behavioral Control	Purchase Intention	Subjective Norms
Alt-1	0.680	0.101	0.510	0.077	0.268	0.085	0.100	0.098
Alt-2	0.891	0.219	0.494	0.033	0.214	0.138	0.237	0.228
Alt-3	0.856	0.190	0.527	0.108	0.319	0.158	0.166	0.170
Att-1	0.153	0.868	0.238	-0.178	0.071	0.575	0.747	0.460
Att-2	0.204	0.894	0.220	-0.140	0.129	0.600	0.710	0.461
Att-3	0.228	0.892	0.293	-0.165	0.132	0.511	0.670	0.453
Att-4	0.194	0.858	0.212	-0.120	0.115	0.524	0.656	0.402
Bio-1	0.527	0.256	0.908	-0.007	0.228	0.153	0.226	0.225
Bio-2	0.571	0.251	0.934	0.017	0.239	0.166	0.220	0.185
Bio-3	0.534	0.227	0.829	0.087	0.327	0.166	0.156	0.163
Ego-1	0.216	-0.055	0.135	0.583	0.309	-0.043	-0.124	0.072
Ego-2	-0.019	-0.187	-0.044	0.925	0.269	-0.125	-0.247	-0.138
Ego-3	0.180	-0.068	0.135	0.609	0.342	-0.072	-0.145	-0.055
Hed-1	0.262	0.133	0.235	0.308	0.898	0.136	0.023	0.096
Hed-2	0.287	0.096	0.265	0.326	0.852	0.126	0.007	0.045
Hed-3	0.277	0.089	0.273	0.328	0.837	0.126	-0.001	0.065
PBC-2	0.186	0.483	0.221	-0.062	0.173	0.846	0.477	0.326
PBC-3	0.100	0.601	0.100	-0.147	0.093	0.885	0.545	0.409
PI-1	0.203	0.763	0.224	-0.259	0.008	0.551	0.961	0.459
PI-2	0.221	0.769	0.220	-0.240	0.025	0.581	0.977	0.510
PI-3	0.217	0.785	0.217	-0.246	0.007	0.595	0.980	0.503
SN-1	0.152	0.363	0.144	-0.042	0.073	0.330	0.361	0.802
SN-2	0.220	0.464	0.238	-0.167	0.102	0.392	0.473	0.792
SN-3	0.161	0.428	0.136	-0.074	0.032	0.349	0.426	0.855
SN-4	0.090	0.216	0.111	0.044	0.032	0.161	0.190	0.551

Green = factor loadings of measurement items on respective factors
 Red = high* factor loadings of measurement items with other factors (cross-loadings)
 * Greater than 0.5. However, all high cross loadings are lower than factor loadings with respective factors.

Table C 7: Key for Item Labels

Variable	Label	Item
<i>Altruistic Values</i>	Alt-1	<i>It is important for me...</i> ... that every person has equal opportunities
	Alt-2	... to take care of those who are worse-off
	Alt-3	... to be helpful towards others
<i>Attitude</i>	Att-1	<i>For me, buying SHCs is...</i> Bad — Good
	Att-2	Unpleasant — Pleasant
	Att-3	Worthless — Valuable
	Att-4	Boring — Interesting
<i>Biospheric Values</i>	Bio-1	<i>It is important for me...</i> ... to prevent environmental pollution
	Bio-2	... to protect the environment
	Bio-3	... to respect nature
<i>Egoistic Values</i>	Ego-1	<i>It is important for me...</i> ... to be influential
	Ego-2	... to have money and possessions
	Ego-3	... to work hard and be ambitious
<i>Hedonic Values</i>	Hed-1	<i>It is important for me...</i> ... to have fun
	Hed-2	... to do things that I enjoy
	Hed-3	... to enjoy the pleasures of life
<i>Perceived Behavioral Control</i>	PBC-2	I am confident that if I wanted to, I could buy SHCs.
	PBC-3	For me, buying SHCs is easy.
<i>Purchase Intention</i>	PI-1	I am willing to buy SHCs in the future.
	PI-2	I plan to buy SHCs in the future.
	PI-3	I will buy SHCs in the future.
<i>Subjective Norms</i>	SN-1	Most of the people with whom I am acquainted buy SHCs.
	SN-2	Most people whose opinions I value would approve of my purchase of SHCs.
	SN-3	Most people who are important to me think that I should buy SHC.
	SN-4	It is expected of me that I buy SHC.