

Accumulative vs. Appreciative Materialism: Implications for Sustainable Apparel

Consumption

by

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A thesis submitted to the Graduate Faculty of
Auburn University
in the partial fulfillment of the
requirements for the Degree of
Master of Science in Consumer and Design Science

Auburn, Alabama
May 4, 2024

Keywords: Accumulative and Appreciative Materialism, Self Esteem, Sustainable Apparel
Consumption, Symbolic Self-Completion Theory

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Abstract

This study explores the relationship between appreciative and accumulative materialism and sustainable apparel consumption. Through the lens of the symbolic self-completion theory, self-esteem was assessed as a possible moderator. Usable data from 216 Auburn University students was collected by questionnaire via Qualtrics. The study used quantitative data analysis employing multiple linear regressions. Results found that appreciative materialism positively influences responsible disposal of apparel, intention to purchase sustainable apparel, and collaborative consumption for apparel. Accumulative materialism negatively influences responsible disposal of apparel and intention to purchase sustainable apparel, whereas it positively influences impulse buying of apparel. Self-esteem was not found to be a moderator, but instead is a predictor of accumulative materialism. Additionally, environmental concern was found to be a predictor of appreciative materialism. Based on these results appreciative and accumulative materialism are viable constructs that should further be explored in the context of sustainable consumer behavior.

Acknowledgements

This thesis has been an exciting journey that has taught me more than I could have imagined. From SPSS to grammar to patience, I have learned to be a detailed and persistent researcher. I have learned the importance of every word and the deep thought behind every sentence. I am so thankful to have had the opportunity to develop this thesis.

First, I would like to thank my major professor, Dr. Veena Chattaraman. After meeting with you on my tour of Auburn, I knew this was the place for me. You hold yourself and your students to high standards that push us to be better every day. I am so lucky to call you my major professor and to have had the privilege to grow under your guidance. You have gone above and beyond your job description when advising me. Your support and guidance have pushed me to be a better writer, student, researcher, and person. You are a wonderful mentor, and I hope this is just the start of our relationship. I also would like to thank my committee members Dr. Amrut Sadachar and Dr. Dawn Michaelson, for their expertise, kindness, patience, and support throughout this entire process. This thesis would not have been possible without you. Additionally, I would like to thank Dr. Lee and Dr. Kwon for answering any question I may have and providing me to endless support. I sincerely hope that I will continue to do research with Auburn and one day come back for my PhD. Thank you!

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CHAPTER I. INTRODUCTION

The fashion industry is the third largest polluter in the world, behind the fuel industry and agriculture (Heatable, 2023). It uses 2% of the world's energy, emits 10% of global carbon emissions, and is responsible for 20% of global wastewater (Cho, 2021; Heatable, 2023; The Conscious Challenge, 2019). With these numbers growing each year, sustainability has been a growing topic among apparel companies and consumers (Rosmarin, 2020). As the consumer gains knowledge of harmful social and environmental practices occurring within the industry, their sustainability concerns rise (Rosmarin, 2020). Apparel companies have answered this concern by developing greater transparency in their manufacturing processes by sourcing and developing eco-fashion, which is apparel designed and/or manufactured with sustainable resources (Lee, 2011; Scaturro, 2008). While this is a step in the right direction, apparel consumption is still at an all-time high globally. With rapid trend cycles and low prices encouraging purchasing, the average consumer buys 60% more than they did in 2000 and uses the item for half as long (Cho, 2021). Apparel consumption continues to be on the rise with the United States standing as the largest apparel market (McNeill et al., 2020; Papahristou & Bilalis, 2017; Smith, 2022). It is estimated that 93 million tons of clothing will be purchased annually in 2030 (Beall, 2020). This is of concern considering 85% of textile products end up in landfills (Environmental Protection Agency, 2022). To combat this environmental problem, researchers advocate for lower levels of consumption (Ertekin & Atik, 2015).

Sustainable consumption is a possible solution to sustainability concerns in apparel. It is defined as using products and services that have lower environmental impacts in order to preserve resources for future generations (Tascioglu et al., 2019). Within the apparel industry, it includes purchasing a more sustainable product and participating in collaborative consumption

practices such as thrifting, renting, and swapping clothing (Botsman & Rogers, 2010). Companies such as Rent the Runway, Armoire, and Nuuly focus on renting fashion forward apparel and Thred Up, Poshmark, and the Real Real allow people to buy, sell, and/or trade secondhand clothing with ease (Cho, 2021). Recognizing the social and environmental concerns of the fashion industry, many consumers use these platforms yet Shein, a worldwide fast fashion brand, continues to thrive. According to Times Magazine, Shein is the world's most popular fashion brand (Rajvanshi, 2023). It is known for promoting 'haul' videos, where social media influencers try on piles of clothing that they purchased at very low prices (Rajvanshi, 2023). In 2022, Shein made \$23 billion in revenue and is projecting 40% growth by the end of 2023 (Yang, 2023). Consumers drive the market, so why does there continue to be a such a large gap between consumers who participate in sustainable consumption and those who do not?

Joung and Park-Poaps (2013) attempted to answer this question by examining influences of clothing disposal. They found that motivational factors, such as environment, economy, generosity, and convenience, play a significant role in why respondents resold, donated, reused, and/or discarded their clothing. Family and peers have also been found to play a role in the decision-making process of individuals regarding apparel consumption and responsible disposal of apparel (Lachance et al., 2003; Garrison & Gutter, 2010). Their research leads to questions about the underlying psychological factors, such as self-esteem, that could possibly play a role in influencing sustainable apparel consumption habits. Self-esteem has been a long-time associate of materialism and can be used to determine one's consumption habits. In past literature, it has been found that self-esteem and materialism are negatively related (Chan, 2013; De Rezende Pinto et al., 2017; Nagpaul & Pang, 2017; Park & John, 2011; Zhao, 2019). High self-esteem allows an individual to not be as influenced by outside forces, such as family, friends, and

society (De Rezende Pinto et al., 2017; Nagpaul & Pang, 2017). This translates to greater confidence in purchases and therefore less excessive consumption (Zhao, 2019). Additionally, previous research indicates materialism as a determinant of consumer behavior, stating that greater materialism leads to excessive consumption and a decrease in the overall well-being of the consumer (Fournier & Richins, 1991). Materialistic consumers use apparel to transform other's perception of themselves (Richins, 1994), as a status symbol (O'Cass & Siahtiri, 2013), and/or to seek happiness (Browne & Kaldenberg, 1997). Kramarczyk and Oliver (2022) redefine materialism by splitting it into accumulative and appreciative materialism. As per these authors, accumulative materialism places greater emphasis on quantity of goods an individual possesses, while appreciative materialism suggests that individuals place value on the meaningfulness of the goods. Further, appreciative materialism allows individuals to obtain and value possessions in a more sustainable manner, because instead of mass consumption they are focused on the symbolism of the possession.

Guided by Kramarczyk and Oliver's (2022) new definitions of materialism, the present study proposes that appreciative and accumulative materialism have opposite relationships with sustainable apparel consumption and the relationships are moderated by self-esteem. Specifically, the proposed study expects that appreciative materialism will have a positive relationship with sustainable apparel consumption because individuals place greater value in what and how they acquire possessions rather than how much they possess, lowering consumption levels. In contrast, accumulative materialism will have a negative relationship with sustainable apparel consumption because it leads to excessive consumption habits.

Statement of Problem

There is no published study using Kramarczyk and Oliver's (2022) conceptualization of appreciative and accumulative materialism in relation to apparel consumption. Previous literature has discussed Kramarczyk and Oliver's conceptualization of appreciative and accumulative materialism in association with sustainability, stating that appreciative materialism is a sustainable alternative to accumulative materialism (Kramarczyk & Oliver, 2022). While studies have looked at the relationship between self-esteem and materialism (Chan, 2013; De Rezende Pinto et al., 2017; Nagpaul & Pang, 2017; Park & John, 2011; Zhao, 2019), no previous studies have examined the moderating role of self-esteem regarding appreciative and accumulative materialism. Previous research states that individuals with low self-esteem attempt to find self-completeness (Wicklund & Gollwitzer, 1981), and this can be through material possessions (Braun & Wicklund, 1989; Lalot et al., 2019). A gap in literature then arises in relation to Kramarczyk and Oliver's (2022) conceptualization of appreciative and accumulative materialism and self-esteem.

It is possible that within this study, low self-esteem will serve to strengthen both relationships due to an individual using either appreciative or accumulative materialism to find self-completeness. Understanding how appreciative and accumulative materialism influences consumption allows for greater understanding of the sustainable consumer and the implications of sustainable brands in the marketplace. To encourage the development of greater sustainable apparel consumption habits, we need to re-examine the conceptualization of materialism and determine how it influences consumption habits. Kramarczyk and Oliver's (2022) new definition of materialism opens an opportunity to reinvestigate the predictors and derivatives of the relationship of materialism on consumption behaviors. Thus, it is necessary to explore the

relationship between materialism and sustainable apparel consumption moderated by self-esteem, to gain a better understanding of sustainable consumer behavior.

Statement of Purpose

Therefore, the purpose of this study is to explore the influence of appreciative and accumulative materialism on sustainable apparel consumption and examine the moderating role of self-esteem in the above relationship. The present study uses a theoretical framework based on Wicklund and Gollwitzer's (1981) Symbolic Self-Completion Theory which will serve as a basis for the proposed conceptual model. The Symbolic Self-Completion Theory states that an individual will continue to be motivated to work toward self-defining or identity goals until fulfillment is reached. Within this study, self-esteem is used as an indicator of self-incompleteness and therefore individuals with low self-esteem will attempt to find completeness through materialism. This can be either appreciative or accumulative materialism depending on the ideals of the individual. Thus, the specific objectives of this study are:

1. To explore the influence of appreciative materialism on sustainable apparel consumption.
2. To explore the influence of accumulative materialism on sustainable apparel consumption.
3. To explore the moderating role of self-esteem in the relationship between (appreciative and accumulative) materialism and sustainable apparel consumption.

Significance

While promoting sustainability, this study adds a positive resolution to materialism through the application of appreciative and accumulative materialism. It also develops a psychological reasoning (self-esteem) for why consumers may or may not practice sustainable techniques. This brings new insight on the possibilities for retailers and brands to market to ‘appreciative’ materialists rather than ‘accumulative’ materialists. Instead of offering discounts that promote accumulation of goods such as “buy 3, get one free”, retailers could promote sustainable behaviors such as “give us an old pair of jeans to recycle, and get a new pair discounted”. While both strategies move merchandise through the retailer at a discounted rate, the second strategy incentivizes a sustainable behavior. When purchasing single occasion wear items, brands can also engage their appreciative materialist consumer by promoting trading of clothing through prosocial organizations, such as Poshmark. In a capitalist society, brands must continue to sell products, but through appreciative materialism, consumers can choose the right product that they need, rather than focusing on trends or fads in the marketplace. Since humans are also naturally materialistic, this study respects human instinct and directs it to a more sustainable practice, rather than disregarding it. The results will quantify the influences of sustainable consumption and inform researchers on how the consumer is changing. Additionally, this study adds to the current literature on consumer behavior regarding sustainability and introduces self-esteem as a moderation for why consumers may behave more or less sustainably.

Definition of Key Terms

Accumulative materialism: The value and importance people hold of physical possessions (Belk, 1985) specifically placing high importance on the quantity of goods acquired (Kramarczyk & Oliver, 2022). It is operationalized through the measure of perceived importance individuals place on quantity and trendiness of possessions.

Appreciative materialism: The value and importance people hold of physical possessions (Belk, 1985) but through “the voluntary non-possession and/or non-accumulation” of objects and “a caring ethics that extends to non-humans” (Kramarczyk & Oliver, 2022, p.701). Appreciative materialism is operationalized through the measure of perceived value individuals place on the symbolism and meaningfulness of their possession life cycle.

Collaborative consumption of apparel: A type of sustainable consumption practice that multiple consumers gain further use of underutilized apparel garments, with a focus on longevity and multi-ownership of the product (Botsman & Rogers, 2010). The construct is operationalized in the present study as participants practice of renting, thrifting, and/or swapping clothing items to extend their lifespan (Lang et al., 2019).

Intention to purchase sustainable apparel: The possibility of a consumer planning and deciding to purchase an apparel product that is advertised as sustainable or previously used (Dodds et al., 1991; Hsu, 1987).

Materialism: The value and importance people place on their physical possessions (Belk, 1985).

Responsible disposal of apparel: A type of sustainability practice that involves discarding, donating, reusing, trading, or selling apparel in environmentally conscious manners (Joung & Park-Poaps, 2013; Solomon & Rabolt, 2009). This construct is operationalized

in the present study as participants thrift, reuse, and sell apparel instead of throwing it away.

Self-esteem: An individual's perceived and evaluated self-worth by viewing one's complete self as an object (Noguti & Bokeyar, 2014; Rosenberg, 1979). It is a measure of one's relationship with themselves (Mruk, 1999). It is operationalized through the use of the Rosenberg Self-Esteem Scale (Rosenberg, 1965), which consists of a self-reporting rating scale.

Sustainable apparel consumption: The behavior intention, acquisition, and disposal of apparel goods and services that fulfill human needs and wants while not compromising the needs of future generations (Tascioglu et al., 2019). In this study, sustainable consumption is operationalized by measuring responsible disposal of apparel, collaborative consumption of apparel, and intention to purchase sustainable apparel.

Symbolic Self-completion Theory: Wicklund and Gollwitzer's (1981) theory stating that an individual will continue to be motivated to work toward self-defining or identity goals until fulfillment is reached. The theory is applied through measuring self-esteem as an indicator of a sense of self incompleteness.

CHAPTER II. LITERATURE REVIEW

The following review of literature will first explore the key concept of materialism and Kramarczyk and Oliver's (2022) conceptualization of appreciative and accumulative materialism. This is followed by the introduction of Wicklund and Gollwitzer's (1981) symbolic self-completion theory and its connection to accumulative and appreciative materialism and sustainable apparel consumption behaviors. The review will also provide context and justification for placing self-esteem as a moderator in the relationship between materialism and sustainable apparel consumption.

Materialism

Belk (1985) first defined materialism as the importance people place on their physical possessions. Inglehart (1990) added to this definition by stating that materialism is a lasting focus on basic needs over more advanced needs. Inglehart defines basic needs as physiological safety and comfort, and advanced needs as love, acceptance, self-worth, and self-actualization. Richins and Dawson (1992) conceptualize materialism as a consumer value and developed a values-oriented materialism scale organized into three components: happiness, centrality, and success. This scale validated the connection between materialism and individuals' well-being (Richins & Dawson, 1992).

Over the last decade, materialism has been seen to have negative effects on the well-being of consumers, such as increased unhappiness (Fournier & Richins, 1991), increased compulsive buying (Dittmar, 2005; Noguti & Bokeyar, 2014), increased personal debt (Richins & Rudmin, 1994), and reduced overall concern about the environment and others (Richins & Rudmin, 1994). Contrary to the previous studies, Jasper et al. (2023) used a three-wave

longitudinal study and found that materialism does not always negatively impact life satisfaction in a unilateral manner. Clarifying that materialism does not affect all individuals in the same way, Jasper et al.'s (2023) study took individual associations into account to better determine the directionality of materialism's influence. This resulted in a non-significant relationship between materialism and life satisfaction for intra-individuals (changes that occur within an individual). The results confound with previous studies that state materialism has a negative relationship with life satisfaction (Fournier & Richins, 1991). This adds speculation to the current phenomenon of materialism and how it is defined and operationalized within the literature.

Recent studies have begun to develop the idea of “new materialism”, which views inanimate objects and humans together rather than in opposition (Dolphijn & van der Tuin, 2012). It stated that matter is ever-changing and has a life of its own within society apart from human intervention (Dolphijn & van der Tuin, 2012; Kissmann & van Loon, 2019). New materialism is a decentering of human beings within society, so that items can also have an existence and history without human involvement. Kramarczyk and Oliver (2022) conceptualized the term *appreciative* materialism to describe a more sustainable aspect of materialism that focuses on appreciating possessions rather than excessive accumulation. This idea has been largely ignored in the literature thus far, which consistently depicts materialism in a negative light. Through a two-year ethnography in Poland, Kramarczyk and Oliver (2022) observed and interviewed individuals who defined themselves as ‘simplifiers’, referring to their simplistic lifestyle but continue to remain a participant in the marketplace.

Kramarczyk and Oliver (2022) then redefine Belk's (1985) definition of materialism as *accumulative* materialism due to its association with quantity of possessions an individual has. While Belk's original definition does not indicate excessive accumulation of possessions,

throughout the decade, materialism has been closely tied with accumulation indicating a redefinition is necessary. Accumulative materialism is also generally accepted as having negative impacts on individual's well-being and on the environment (Kasser, 2003; Kilbourne & Pickett, 2008; Kotler, 2011; Richins & Dawson, 1992). By developing the definition for appreciative materialism, Kramarczyk and Oliver (2022) bring attention to a more sustainable way society can view their belongings.

It is important to note that Inglehart (1977) calls forth the phenomenon of post-materialism. This placed importance on social goals such as community, freedom of speech, and self-expression. Inglehart (1977) found that people's materialistic tendencies change based on levels of economic and physical safety, implying that greater economic insecurity and physical safety in one's life leads to higher materialistic tendencies. While the theory is well supported, post-materialism is not widely used and therefore does not have strong literary backing (Elgin, 1981; Rudmin & Kilbourne, 1996). This is due to its understanding that post-materialism occurs in a stage 'after' materialism ends, which is difficult to identify. Therefore, this study will follow Kramarczyk and Oliver's (2022) *appreciative* materialism and *accumulative* materialism.

Symbolic Self-completion Theory

Symbolic self-completion theory states that an individual will continue to be motivated to work toward self-defining or identity goals until fulfilment is reached (Wicklund & Gollwitzer, 1981). People are constantly searching to fill a void to achieve a sense of self-completeness. Literature shows once an identity-defining goal is fulfilled, self-symbolizing efforts will slow (Gollwitzer et al., 2009; Longoni et al., 2014). Through this framework, it has been found that individuals who feel incomplete in their own identity will have a greater desire to seek

possessions that symbolize a sense of completeness, such as status symbols (Braun & Wicklund, 1989).

The symbolic self-completion theory has previously been used to describe the influence behind individuals' decision to shop sustainably (Kim et al., 2017; Lalot et al., 2019). Lalot et al. (2019) used the symbolic self-completion theory as an overall framework for their study. In line with the symbolic self-completion theory, Lalot et al. (2019) proposed that the self-identity of pro-environmentalism would serve as a predictor for actions taken to the extent that one perceives themselves as incomplete. Actions included shopping and consuming sustainable goods. Lalot et al. (2019) used the symbolic-self completion theory to explain how sustainable goods symbolically complete individuals' self-identity of being pro-environmental (Lalot et al., 2019). In another example, Kim et al. (2017) incorporated the symbolic self-completion theory as one of the possible rationales for why individuals pay more for eco-friendly apartments. The study found that tangible and symbolic features played a role in the tenants' decision to pay a higher price for an eco-friendly building, suggesting that tenants' personal values and social expectations drove their purchase intent. Therefore, pro-environmentally inclined individuals use sustainable purchases to find a greater sense of self-completeness (Kim et al., 2017).

Additionally, Gallimore et al. (2000) adds that the consumer must believe that the returns from the symbolic value are greater than the price. Therefore, as long as sustainable options provide a greater social value than price paid, people may be willing to purchase the higher prices because they gain symbolic value through the acquisition and use of the eco-friendly goods in society.

The symbolic self-completion theory is used as a framework for this study to explain the moderating role of self-esteem in the relationship between materialism and sustainable

consumption behavior. This theory leads to the prediction that individuals with low self-esteem perceive themselves as incomplete and are motivated to remedy this. Therefore, the individual's behavior will reflect their need to find fulfillment. In this study, self-esteem acts as an indicator of whether the individual feels complete or incomplete, affecting whether the individual attempts to purchase possessions in order to find a sense of fulfillment leading to differing sustainable consumption behaviors.

Sustainable Apparel Consumption

Sustainability refers to fulfilling current needs without jeopardizing future needs (United Nations Conference on Environment and Development, 1992). Therefore, sustainable consumption refers to the acquisition of goods and services that fulfill human needs and wants while not compromising the needs of future generations. As consumers gain awareness of the social and environmental effects overconsumption and mass production have on the world, they have begun to form new consumption habits. According to Brough et al. (2016), green purchase behavior, eco-friendly consumption, and sustainable consumption are all growing trends for new consumers. Through these consumption behaviors consumers strive to preserve the natural environment and enhance quality of life around the world (Niinimäki & Hassi, 2011; Seyfang, 2005). Within the apparel industry, sustainable consumption can be seen through purchasing from sustainable brands (Caniato, 2012; Kang, 2013) and collaborative consumption of apparel which includes thrifting, renting, or swapping clothing (Hedegård et al., 2020; Lang et al., 2019; Xu et al., 2014). Collaborative consumption of apparel gives garments additional uses before being sent to landfills, thereby extending their lifespan. Younger consumers are increasingly adopting collaborative sustainable consumption practices due to their increased awareness of the effects of fast-fashion and the current trend of dressing sustainably (Bly et al., 2015; Lang et al.,

2019; Ruppert-Stroescu et al., 2015; Xu et al., 2014). Bianchi and Gonzalez's (2021) research identified four drivers of sustainable apparel with Chilean women. They include concern for impacts of the fashion industry, bettering the world, authenticity of sustainable fashion and supporting small businesses. According to Gupta et al. (2019), sustainable fashion should continue to have high visual appeal, but also help consumers create deeper connections with their clothing. This parallels Kramarczyk and Oliver (2022) conceptualization of appreciative materialism, which focuses on the value placed on the lasting meaningfulness of the possession rather than the quantity of possessions.

An additional important concept is 'slow fashion.' Ertekin and Atik (2015) use the term 'slow fashion' to push for a decrease in quantity and speed of apparel consumption. They then encouraged people to purchase higher quality and more durable garments that can have a longer lifespan. Their goal was to promote sustainable apparel consumption by slowing down the volume of garments produced and purchased. Gupta et al. (2019) adds that 'slow fashion' is about looking for garments that are timeless and produced with care. In Gupta et al.'s (2019) study promoting style rather than fashion among consumers proved to be a potential way to attain 'slow fashion'. Instead of consumers wanting to stay trendy with fashion-orientated consumption, Gupta et al. (2019) emphasizes the need for consumers to develop their own personal style. This leads to less frequent purchases and greater appreciation of one's belongings. The study further examined how hedonism, the pleasure found when shopping (Gupta et al., 2019), and materialism play a role in sustainable apparel behaviors. Results showed that materialistic values are more closely related to fashion-oriented consumers than style-oriented consumers, suggesting that fashion-oriented consumers value the number of possessions they have. Based on Kramarczyk and Oliver's (2022) observations, fashion-oriented consumers may

identify as accumulative materialist, while style-oriented consumers may identify as appreciative materialists.

Materialism and Sustainable Consumption

Materialism and sustainable consumption are competing forces that are both present in our consumerist society. Granskog et al. (2020) found that consumers are increasingly looking to have more sustainable lifestyles but are not ready to consume less (Alexander & Ussher, 2012; Pretty et al., 2007). Kramarczyk and Oliver's (2022) conceptualization of accumulative and appreciative materialism opens an opportunity for considering the linkage with sustainability. Recent increases in business models featuring collaborative consumption indicate that the market will adapt to consumers' behavior (Dolbec & Fischer, 2015; Humphreys, 2010; Martin & Schouten, 2014). In 2016, it was noted that various sustainable forms of materialism were already present in the marketplace, within the food industry, manufacturing, and renewable energy (Scholosberg & Coles, 2016). Scholosberg and Coles (2016) examined sustainable materialism through a shift to collective practices, modes of power associated with possessions, and awareness of non-human natural systems.

Kramarczyk and Oliver (2022) call for the importance of care within ethical consumption. Appreciative materialism dictates greater care for one's belonging allowing for greater sustainable consumption in the marketplace. While businesses are facing hardships on the ways to be sustainable but also achieve high profits, it can be argued that appreciative materialists will still have a role in the marketplace (Kramarczyk & Oliver, 2022). Appreciative materialists may look for assurance that products have a positive impact on the planet and practice collaborative consumption.

Various internal factors have been found to influence sustainable consumption, such as level of environmental concern, perceived trust in brand, availability, and demographic characteristics (Harris et al., 2016; McNeill & Moore, 2015). Each of these factors are linked to the level of knowledge the consumer has about the environmental consequences of their purchases. Once knowledge is gained, consumers begin to seek more sustainable products to combat the negative consequences of the industry (Kunze, 2019). Past studies conclude that consumers' level of knowledge regarding sustainability and environmental issues positively relates to their tendency to consume sustainably, except when increased prices are present (Crane, 2016; Tascioglu et al., 2019; Wiederhold & Martinez, 2018). However, these studies only evaluate new products that are made sustainably, rather than sustainable consumption behaviors, and they do not account for the social symbolic value the sustainable good could provide.

Current literature does not explore the relationship of Kramarczyk and Oliver's (2022) appreciative and accumulative materialism on apparel consumption behaviors. With the new definition, it is important to revisit the established negative relationship of Belk's (1985) materialism and sustainable consumption. Accumulative materialism focuses on the quantity of goods obtained (Kramarczyk & Oliver, 2022), therefore opposing sustainable apparel consumption which encourages long-life cycles of apparel and collaborative consumption (Lang et al., 2019). In the present study, the consumer's type of materialism serves as a predictor of their sustainable apparel consumption habits. Thus, greater sustainable apparel consumption indicates higher tendencies to consume less apparel, consume sustainable brands, and participate in collaborative consumption of the products. Therefore:

H1: An individual's level of accumulative materialism will have a negative influence on their sustainable apparel consumption inclusive of a) responsible disposal of apparel, b) collaborative consumption of apparel, and c) intention to purchase sustainable apparel.

H2: An individual's level of appreciative materialism will have a positive influence on their sustainable apparel consumption inclusive of a) responsible disposal of apparel, b) collaborative consumption of apparel, and c) intention to purchase sustainable apparel.

Moderating Role of Self-Esteem

Consumption behaviors are influenced by external and internal factors. When looking at the level of consumption of goods, it has been found that psychological distress can cause individuals to develop excessive buying habits (Dittmar, 2005). Lins et al. (2021) found that throughout the COVID-19 pandemic individual's stress, depression, and anxiety increased. This led to excessive buying as a coping strategy to relieve and/or treat these new mental distresses. Kyrios et al. (2020) developed a scale to rate the severity of excessive buying. They found age and gender to be significant predictors of excessive buying, but not depression. However, when using the Compulsive Buying Scale and Excessive Buying Rating Scale, self-ambivalence was found to be an influencer of excessive buying severity (Kyrios et al., 2020). This study supports the findings of Dittmar et al. (1996), which determined that women have a greater tendency to develop impulsive buying habits. This is heightened when high self-discrepancies or high materialism are present. Using the symbolic self-completion theory, Dittmar et al. (1996) continues to make contributions to research suggesting that buying is affected by negative moods which further impact one's self-evaluation (Dittmar, 2005). Through the development of a two-factor model of compulsive buying, it is argued that low-self-esteem and low subjective well-

being are related to materialistic values, therefore influencing purchasing behavior (Dittmar, 2005; Dittmar et al., 2014; Kasser & Ryan, 1993).

Richins (2017) developed the materialism reinforcement model that is used to describe the perpetual nature of materialism and how it is reinforced through a cycle. The model illustrates that the concepts, vulnerability to daily threats and unpleasant psychological state, lead to the purchase (Richins, 2017, Figure 3). This means that materialists believe that the purchase will fulfill their unstable self-concept, but instead the psychological restoration is only temporary leading to greater vulnerabilities prior to another purchase (Richins, 2017). Therefore, the cycle reinforces itself and deteriorates one's self-concept. Additionally, Richins (2017) uses self-esteem as a key determining factor of one's psychological state. Previous literature indicates that self-esteem is related to consumption behaviors, with greater psychological distresses resulting in greater quantities of items purchased.

In current literature, self-esteem has been found to have a negative relationship with accumulative materialism (Chan, 2013; De Rezende Pinto et al., 2017; Nagpaul & Pang, 2017; Park & John, 2011; Zhao, 2019). Further, induced high self-esteem caused lower accumulative materialism (Jiang et al., 2015; Liang et al., 2016) and induced low self-esteem through self-doubt led to high accumulative materialism (Chang & Arkin, 2002). Park and John (2011) examined explicit and implicit self-esteem and their joint influence on materialism. Explicit self-esteem is the conscious evaluation of self, and implicit self-esteem is unconscious evaluation of self (Park & John, 2011). Park and John (2011) specifically proposed that materialism is impacted by the discrepancies between implicit and explicit self-esteem and confirmed this link through one's desire to self-enhance through material possessions.

Materialism is additionally associated with self-concept (Noguti & Bokeyar, 2014), a multifaceted view of one's complete self as an object (Rosenberg, 1979), which encompasses self-esteem. Defined as an individual's perceived and evaluated self-worth, self-esteem is a measure of one's relationship with self (Mruk, 1990). Chaplin and John (2010) found that higher levels of self-esteem among adolescents resulted in lower levels of accumulative materialism. Like adults, adolescents also attempt to acquire more positive self-perceptions through material possessions (Chaplin & John, 2010). This is true for both genders, but Noguti and Bokeyar (2014) did find a stronger correlation for women than men. Individuals feel the desire to impress others through physical possessions especially when social self-esteem is challenged. This results in greater materialistic behaviors (Levy et al., 2011). Further, Noguti and Bokeyar (2014) found that to reduce individuals' feelings of self-doubt, physical possessions can be used to symbolize self-worth. These individuals also have a greater tendency to purchase objects that are seen as a status symbol, such as vehicles and apparel (Jiang et al., 2015; Lee & Shrum, 2012). It can even be claimed that materialism is a way for individuals with low self-esteem to cope (Gasiorowska et al., 2018; Jiang et al., 2015), congruent with the symbolic self-completion theory. This is because consumers are attempting to develop their self-image through their possessions (Graeff, 1996). By placing one's self worth and self-esteem in material possessions, individuals are turning their focus from lasting gratification found in personal growth, affiliation, and community feelings and instead are placing greater importance on goals resulting in instant rewards (Kasser & Ryan, 1993).

However, literature has mixed results on if materialists always have a lower self-esteem. While some literature supports the negative relationship, five studies found no significant relationship between materialism and self-esteem (Chang & Arkin, 2002; Flouri, 2007; Grougiou

& Moschis, 2015; Kim, et al., 2016; Mick, 1996; Noguti & Bokeyar, 2014; Park & John, 2011; Reeves et al., 2012; Richins & Dawson, 1992; Ruvio, et al., 2014). It is possible that this discrepancy is due to appreciative materialism not being taken into account.

Based on review of literature, it can be believed that appreciative and accumulative materialisms behave in different ways and will therefore produce different moderating roles of self-esteem. Research repeatedly shows that self-esteem has a negative relationship with Belk's (1984) materialism (Chan, 2013; De Rezende Pinto et al., 2017; Nagpaul & Pang, 2017; Park & John, 2011; Zhao, 2019), suggesting that low self-esteem drives individuals to consume more resulting in accumulative materialism. This is reinforced by the symbolic self-completion theory, because low self-esteem indicates an incomplete self-concept pushing the individual to behave in a way to alleviate the discrepancy (Wicklund & Gollwitzer, 1981). Therefore, an accumulative materialist with high self-esteem will not feel the need to fill an emotional void with material possessions resulting in a more sustainable behavior than an accumulative materialist with low self-esteem.

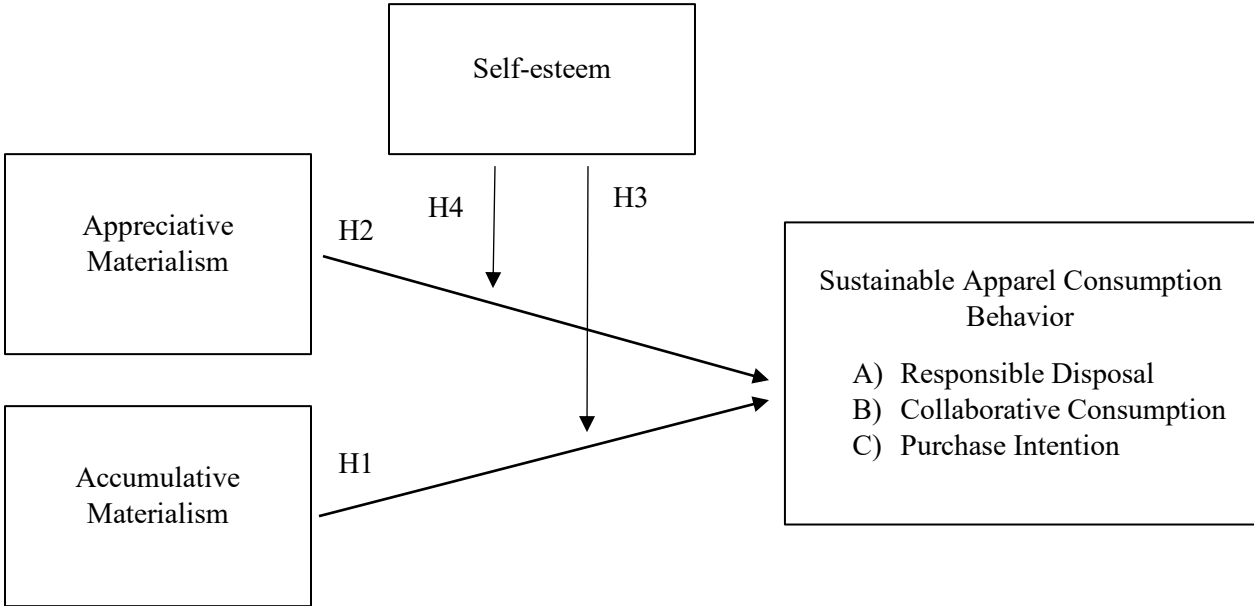
Appreciative materialism places greater value on the symbolism of the possession rather than quantity and emphasizes non-possessiveness (Kramarczyk & Oliver, 2022), reflecting the opposite of accumulative materialism. With a basis in symbolic self-completion theory, individuals with low self-esteem who value sustainability will use appreciative materialism to find a sense of fulfillment (Wicklund & Gollwitzer, 1981). Appreciative materialists are attempting to complete oneself by serving sustainability rather than fast-fashion or excessive consumption. This can be seen through the use of rental or thrifted clothing. When sustainable consumption behaviors provide individuals with social or symbolic values, they could be a means of temporarily completing one's self-concept. Therefore, appreciative materialists with

low self-esteem would participate in greater amounts of sustainable consumption behavior in the attempt to find their identity through sustainability. Their sustainable purchases are a symbol they are using to try and complete their identity. On the other hand, accumulative materialists with low self-esteem would participate in sustainable consumption behaviors at a lower rate than those with high self-esteem. This is due to their lack of desire to use the purchase as a social gain, rather they personally appreciate the item not the status it may give them. As illustrated in Figure 1, low self-esteem strengthens the relative relationship between materialism and sustainable consumption. Thus:

H3: The negative influence of accumulative materialism on sustainable apparel consumption, inclusive of a) responsible disposal of apparel, b) collaborative consumption of apparel, and c) intention to purchase sustainable apparel, will be greater for those with low (vs. high) self-esteem.

H4: The positive influence of appreciative materialism on sustainable apparel consumption, inclusive of a) responsible disposal of apparel, b) collaborative consumption of apparel, and c) intention to purchase sustainable apparel, will be greater for those with low (vs. high) self-esteem.

Figure 1. Proposed Study Model



CHAPTER III. METHODS

Research Design

This study used an online survey methodology administered to collect data to test the proposed hypotheses. The four key variables in the research model, self-esteem, appreciative materialism, accumulative materialism, and sustainable apparel consumption behavior, were measured through the self-administered survey. Appreciative and accumulative materialism served as the independent variable in this study, and sustainable apparel consumption behavior served as the dependent variable. Additionally, self-esteem was viewed as the moderator between the independent and dependent variables. Relationships were investigated through the lens of the symbolic self-completion theory.

Sample and Sampling Procedure

The sample for this study consisted of 245 Gen Z students at Auburn University. The required sample size was estimated to ensure an adequate number of responses are collected for each line item in each scale. This allowed for a desired alpha level, accounting for the number of independent variables. The sampling frame chosen was consumers, age 19 - 26. This population is the future dominant consumer and is gaining greater purchasing power each year (Kim et al., 2020). This sampling frame follows the upper half of Gen Z age range. Convenience sampling took place by requesting course professors to circulate the survey to large classes at Auburn University for extra credit.

This sample was deemed appropriate for this study for several reasons. First, Kramarczyk and Oliver's (2022) new proposal of *appreciative* materialism was conducted through interview questions. Therefore, this study is the first quantitative study using Kramarczyk and Oliver's (2022) research as a basis. Second, Kramarczyk and Oliver's (2022) study used a middle age

sample (between ages of 26 - 45) of males and females in Poland. This study used a younger age sample (19 – 26) to explore the possibilities of appreciative materialism in a different generation. Lastly, it is important to know how the Gen Z consumer will react due to their high interest with sustainability and high involvement in apparel trends (Pandey & Yadav, 2023). This age range allows for ease in collecting data because individuals 19 and older can provide consent for themselves. Gen Z begins with individuals born in 1995, therefore 26 was chosen as the maximum age used in the sample.

Instruments

Self-esteem. Self-esteem is the perceived and evaluated self-worth an individual places on themselves through viewing one's complete self as an object (Noguti & Bokeyar, 2014; Rosenberg, 1979). To measure self-esteem, this study used Rosenberg's (1965) Self-esteem Scale. It is widely used and provides high internal consistency with a Cronbach's alpha of 0.77 and a test-retest reliability coefficient of 0.90 (Rosenberg, 1965). This scale was not modified, and therefore consisted of ten items (see Table 1). These statements ask about both positive and negative feelings of the respondent's relationship to themselves and use a four-point Likert-type scale (1 = Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree) to indicate their level of agreement with the statement.

Materialism. Currently, no scale has been tested for measuring appreciative and accumulative materialism together. Kramarczyk and Oliver (2022)'s research explored the concepts through interview questions then developed a list of nine items that would measure appreciative materialism. Therefore, this study modified the Materialism Value scale to measure accumulative materialism and apply Kramarczyk and Oliver (2022)'s new items to measure appreciative materialism.

The Materialism Value Scale was developed by Richins and Dawson (1992). The original scale measures materialism and provides a high internal consistency with a Cronbach's alpha of 0.8 and a test-retest reliability coefficient of 0.87 (Richins & Dawson, 1992). It used 18 statements that ask the participants to indicate their level of agreement using a five-point Likert-type scale (1= Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree). Kramarczyk and Oliver (2022) questioned the validity of the Materialism Value Scale, because it does not account for appreciative materialism and instead considers appreciative materialism to be the same as low materialism. Based on their research, Kramarczyk and Oliver (2022) proposed new scale items that included statements about caring related to proximity, attachment, commitment, and respect. As suggested, nine additional items were added to the scale to measure appreciative materialism (see Table 1). Additionally, items in both scales were modified to ask about apparel rather than general materialism. These better tailor the responses to the objectives of the study.

Sustainable apparel consumption behavior. Sustainable apparel consumption behavior includes three dimensions: responsible disposal of apparel, collaborative consumption of apparel, and intention to purchase sustainable apparel in a manner that fulfills human wants and desires but does not compromise the needs of future generations (Tascioglu et al., 2019). It was measured by using a combination of scales to address all aspects of its definition (see Table 1). First to address responsible disposal of apparel, five items measured resale, donation, discarding, and reuse of apparel products based on Joung and Park-Poaps (2013) study on clothing disposal behavior. To address intention to purchase sustainable apparel, Kang et al.'s (2013) three item scale based on Shaw et al.'s (2000) scale was used and modified to address sustainable apparel products. Within Kang et al.'s (2013) scale, behavioral intention provided high internal

consistency with a Cronbach’s alpha of 0.87 and discriminate validity of 0.69. Additionally, to measure collaborative consumption, Xu et al.’s (2014) four item scale was adopted. Respondents indicated their level of agreement using a five-point (1= Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree). Xu et al. (2014) reported that all Cronbach’s alpha scores were above or close to 0.7, indicating good reliability. Each of these scales proved to be valid and reliable based on a high Cronbach alpha score within their respective study; however, they have never been combined. To ensure validity, this scale was reviewed by scholars in the discipline.

Table 1

Main Study along with Measurements

Step	Goal	Variable	Measures	<i>a</i>
Main Study (<i>n</i> =490)	Independent variable	Accumulative materialism	1. I admire people who own expensive clothes. 2. Some of the most important achievements in life include acquiring material possessions. 3. I don’t place much emphasis on the amount of clothing people own as a sign of success. (Reverse coded) 4. The clothing I own says a lot about how well I’m doing in life. 5. I like to own clothing that impresses people. 6. I don’t pay much attention to the clothing other people own. (Reverse coded) 7. I usually buy only the clothes I need. (Reverse coded) 8. I try to keep my life simple, as far as clothing is concerned. (Reverse coded) 9. The clothes I own aren’t all that important to me. (Reverse coded) 10. I enjoy spending money on clothes that aren’t practical. 11. Buying things gives me a lot of pleasure. 12. I like a lot of luxury in my life. 13. I put less emphasis on the clothing I wear than most people I know. (Reverse coded)	.80

-
- 14. I have all the things I really need to enjoy life. (Reverse coded)
 - 15. My life would be better if I owned clothing I don't have.
 - 16. I wouldn't be any happier if I owned nicer clothes. (Reverse coded)
 - 17. I'd be happier if I could afford to buy more clothing.
 - 18. It sometimes bothers me quite a bit that I can't afford to buy all the clothes I'd like.

(Scale: Strongly disagree – Disagree – Neutral – Agree – Strongly agree)

- | | | |
|--------------------------|--|---|
| Appreciative materialism | <ul style="list-style-type: none"> 19. I sometimes feel connected to my clothing. 20. I know where and how most of my clothing has been made. 21. My wardrobe occupies a special place in my life. 22. I always learn how to use a product correctly before using it to make the most out of it. 23. I always try to mend my clothing or give it another function before throwing it away. 24. I never buy something that I don't really like. 25. I have respect for my clothing in general. 26. I like the idea that clothing I don't use anymore will have a second life with someone else. 27. It is not because clothing is outdated that they should be replaced. <p>(Scale: Strongly disagree – Disagree – Neutral – Agree – Strongly agree)</p> | - |
|--------------------------|--|---|

Dependent variable	Sustainable apparel consumption	Responsible disposal of apparel:	<0.7
		<ul style="list-style-type: none"> 1. I sell my old clothes to second-hand stores. 2. I always donate my old clothes to charity. 	

3. I never throw away my old clothing.
4. Clothing I do not wear, I throw away.
(Reverse coded)
5. I reuse my old clothing for other purposes.

Intention to purchase sustainable apparel:

6. If I see a sustainable apparel product, I intend to purchase or consider purchasing it.
7. If I see a sustainable apparel brand, I intend to view their products.
8. When I find an apparel product that fits my needs, the possibility of my purchasing it will increase if it is sustainably made.

Collaborative consumption of apparel:

9. I like to shop for second-hand clothing at thrift stores.
10. I like to purchase second-hand clothing online.
11. I like to adopt second-hand clothing from friends and/family members.
12. I like owning fewer clothing items rather than buying second-hand clothing.
(Scale: Strongly disagree – Disagree – Neutral – Agree – Strongly agree)

Moderator	Self-esteem	<ol style="list-style-type: none"> 1. On the whole, I am satisfied with myself. 2. At times I think I am no good at all. (Reverse coded) 3. I feel that I have a number of good qualities. 4. I am able to do things as well as most other people. 5. I feel I do not have much to be proud of. (Reverse coded) 6. I certainly feel useless at times. (Reverse coded) 7. I feel that I'm a person of worth, at least on an equal plane with others. 8. I wish I could have more respect for myself. (Reverse coded) 9. All in all, I am inclined to feel that I am a failure. (Reverse coded) 10. I take a positive attitude toward myself. (Scale: Strongly disagree – Disagree – Agree – Strongly agree) 	0.77
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Data Collection

For the main survey, participants were invited through professors at Auburn University who teach large classes. Extra credit was provided and the amount was at the discretion of the professor. Participants consented to the survey through reading an information letter. Through the information letter, participants were told that this survey is about sustainable apparel and given clear instructions on how to complete the survey. Data were collected online via Qualtrics administered one time to participants and accessible to participants wherever they are located. The survey was anonymous.

First, the participants were informed in the information letter that they must be between the ages 19-26 and Auburn University students to take the survey. When they proceeded to the survey, sustainable apparel consumption behavior was measured through combining three developed scales measuring three dimensions: intention to purchase sustainable apparel, collaborative consumption of apparel, and responsible disposal of apparel. The twelve items were placed on a five-point Likert-type scale. Following this, the Materialism Value Scale with twenty-seven items was given to measure appreciative and accumulative materialism (Richins & Dawson, 1992; Kramarczyk & Oliver, 2022). Participants were not aware which statements related to accumulative or appreciative materialism. The items were provided using a five-point Likert-type scale. Following the materialism scale, participants were given Rosenberg's (1965) Self-esteem Scale, which included 10 items using a four-point Likert-type scale. A four-point Likert-type scale was chosen to follow the intended format to match Rosenberg's (1965) study. Two additional scales were included in the survey to explore additional variables: environmental concern (Straughan & Roberts, 1999) and impulse buying (Jones & Beatty, 1998).

Finally, participants answered select demographic and exploratory questions including, age, gender, ethnicity, occupation status, annual household income, hometown, frequency shopping, and favorite brands. Participants were given an unlimited amount of time to complete the questionnaire to facilitate thoughtful responses. After completion of the questionnaire, participants were thanked for their participation and informed that their responses had been recorded. They were advised to close the browser to exit the survey. Compensation was given through extra credit in select classes.

Data Analysis

Measurement Validity and Reliability

Prior to running hypothesis tests, each variable's convergent validity was checked using exploratory factor analysis (EFA). Factor scores were computed by averaging scores of scale items. For example, all ten items measuring self-esteem were averaged into a single item score for each participant, producing one factor score and ten item scores. The factors were generated through SPSS with items loading above 0.60. To check for discriminant validity, correlations were run between each pair of factors. A low correlation value ensured that the factors are discriminant from each other. The Cronbach's alpha value was used to measure the internal consistency reliability of the scale. This process took place for each variable: self-esteem, appreciative materialism, accumulative materialism, and sustainable apparel consumption behavior.

Hypothesis Tests

To test the hypotheses, first, the number of factors for the variables were determined then analysis took place through SPSS. For H1, accumulative materialism has one factor based on Richins and Dawson's (1992) scale, and sustainable apparel consumption behavior has three

factors. Appreciative materialism had one factor (caring) according to Kramarczyk and Oliver (2022). Therefore, H1 and H2 were analyzed using multiple regression analysis to test the possible relationship between accumulative materialism and appreciative materialism on sustainable apparel consumption behavior, a) responsible disposal of apparel, b) collaborative consumption of apparel, and c) intention to purchase sustainable apparel.

Self-esteem was recoded into two categories (high vs. low) using the median split method and coded accordingly. Once the median value of self-esteem was computed, “high” was any average score greater than the median, and “low” was any average score lower than the median. Scores equal to the median were equally split amongst the two groups at random. In H3 and H4, self-esteem moderates the relationship between the single factor IV and three factor DV. Therefore, a series of simple regression analyses took place where an interaction variable was created between materialism and self-esteem. If the interaction variable was found to be significant, moderation is supported.

CHAPTER IV. RESULTS

In this chapter, the sample characteristics are described. The results from the self-administered online survey testing four hypotheses are presented.

Sample Characteristics

The online survey received 249 responses and had a response rate of 58.59%. Of these responses 216 were more than 90% complete and deemed usable. The useable sample of 216 Auburn University students was collected through 10 classes in the College of Human Sciences and one class in the College of Nursing. This was less than the sample size requirement of 245 but was deemed acceptable due to item number in the survey. Additionally, to avoid duplicate respondents, students were asked to list all classes they were currently taking that were offering extra credit on the survey. As a result, students did not take the survey multiple times to earn extra credit in multiple classes that they were simultaneously enrolled in.

Using SPSS, descriptive statistics were calculated on demographic items (see Table 2). The sample consisted of 204 female (94.4%) and 12 male (5.6%) students. The average age was 20.67 (SD = 1.35) years with respondents ranging from 19 to 30 years old. A majority of respondents were Non-Hispanic White (83.8%), followed by other (6.9%). All other ethnic groups were less than 5% of respondents. Of the respondents, 141 majored in Apparel Merchandising, Design, and Production Management. Due to recruitment taking place at Auburn University, a majority of respondents' permanent residence in the United States is in the Southeast (79.2%), followed by the Northeast (6.9%), the West (5.1%), the Mid-west (4.6%), and the Southwest (4.2%). Annual household income reported a mode of 30.6% of the respondents reporting more than \$150,000. Additionally, 18.1% of the respondents reported not applicable, and 17.6% of the respondents preferred not to say.

Table 2*Sample Characteristics*

Variables and Characteristics	<i>f</i>	<i>%</i>	<i>M</i>	<i>SD</i>
Gender (<i>n</i> = 216)				
Male	12	5.6%		
Female	204	94.4%		
Prefer not to answer	0	0%		
Age (<i>n</i> = 215)			20.67	1.353
19	33	15.3%		
20	78	36.1%		
21	60	27.8%		
22	31	14.4%		
23	6	2.8%		
24	5	2.3%		
26	1	.5%		
30	1	.5%		
Geographic region of residence (<i>n</i> = 216)				
Mid-west	10	4.6%		
Northeast	15	6.9%		
Southeast	171	79.2%		
Southwest	9	4.2%		
West	11	5.1%		
Ethnicity (<i>n</i> = 216)				
Asian/Pacific Islander	7	3.2%		
Non-Hispanic Black	1	.5%		
Non-Hispanic White	181	83.8%		
American Indian/ Alaskan Native	3	1.4%		
Hispanic	8	3.7%		

Other	15	6.9%
Prefer not to say	1	.5%
Annual Household Income (<i>n</i> = 216)		
Less than \$25,001	11	5.1%
\$25,001 to \$50,000	5	2.3%
\$50,001 to \$75,000	6	2.8%
\$75,001 to \$100,000	21	9.7%
\$100,001 to \$125,000	15	6.9%
\$125,001 to \$150,000	15	6.9%
More than \$150,001	66	30.6%
Not applicable (if unemployed)	39	18.1%
Prefer not to say	38	17.6%
Major at Auburn University (<i>n</i> = 216)		
Apparel Merchandising, Design...	141	65.3%
Interior Design	60	27.8%
Other	15	6.9%

Measurement Validity and Reliability

Scale validity and reliability were assessed using SPSS. Through exploratory factor analysis (EFA), ambiguous items were deleted for each scale. This confirmed a unidimensional factor on a principal component matrix. In Rosenberg's (1965) Self-esteem Scale item 3 (I feel that I have a number of good qualities) and item 4 (I am able to do things as well as most other people) were deleted due to high cross loadings. After the elimination of item 3 and 4, all factor loadings were higher than .623 and uni-dimensionality was confirmed. This suggests adequate scale validity (see Table 3). Further, the Cronbach's α was .873, confirming reliability of Rosenberg's (1965) Self-esteem Scale.

The Sustainable Apparel Consumption Scale was also assessed using a similar method. Item 1 (I sell my old clothes to second-hand stores), item 5 (I reuse my old clothing for other purposes.), and item 12 (I like owning fewer clothing items rather than buying second-hand clothing) were removed due to high loading on two factors. After removal of items 1, 5, and 12, a three-factor structure emerged with all factors loading above .542. Factor 1 accounts for ‘responsible disposal of apparel’ and has a Cronbach’s α of .472. Factor 2 accounts for ‘purchase intention for sustainable apparel’ and has a Cronbach’s α of .867. Factor 3 accounts for ‘collaborative consumption of apparel’ and has a Cronbach’s α of .738.

The Materialism Value scale was explored using an exploratory factor analysis (EFA). This confirmed the separation between items loading as Appreciative vs Accumulative. Richins and Dawson’s (1992) Materialism Value Scale was used for items 1 through 18. EFA confirmed that items 1 through 18 had the highest factor loadings for accumulative materialism. However items 3, 7, 13, and 14 additionally had significant loadings on other factors and therefore were deemed ambiguous factors (Table 5). Items 3, 7, 13, and 14 were removed resulting in a Cronbach’s α of .858, and confirming reliability of the Accumulative Materialism scale. Appreciative Materialism was not measured using a developed scale, rather the items were derived from Kramarczyk and Oliver’s (2022) conceptualization of this construct. Through EFA, appreciative materialism loaded with a multi-dimensional factor structure. After close review from experts, the scale was deemed to have good face validity despite the multi-dimensional factor structure, therefore all items were retained in the scale. Additionally, the Cronbach’s α of .664, although less than .7 (Nunnally & Bernstein, 1994), was deemed adequate because there were no previously published scales to measure appreciative materialism.

Additionally, correlation analysis was run to statistically distinguish appreciative materialism from accumulative materialism. Within this sample, a statistically significant correlation of $r = .147$, $p = .031$ was found (see Table 9). The low r value signifies a weak correlation (LaMoerte, 2021). Therefore, appreciative and accumulative materialism have a weak correlation, suggesting that the constructs are testing different aspects of materialism.

Table 3

Factor Loadings for Rosenberg's (1965) Self-esteem Scale

Item	Factor Loading	Cronbach's α	Eigenvalue	Variance Explained
Rosenberg's (1965) Self-esteem Scale		.873	4.267	53.342
2. I take a positive attitude toward myself.	.801			
3. At times I think I am no good at all.	.797			
5. I wish I could have more respect for myself.	.753			
6. I certainly feel useless at times.	.734			
8. All in all, I am inclined to feel that I am a failure.	.734			
9. I feel I do not have much to be proud of.	.732			
10. On the whole, I am satisfied with myself.	.659			
11. I feel that I'm a person of worth, at least on an equal plane with others.	.623			

Table 4

Factor Loadings for Sustainable Apparel Consumption Scale

Item	Factor Loading	Cronbach's α
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	1	2	3	
Sustainable Apparel Consumption				.472
2. I always donate my old clothes to charity.	.542			
3. I never throw away my old clothing.	.758			
4. Clothing I do not wear, I throw away.	.720			
				.867
6. If I see a sustainable apparel product, I intend to purchase or consider purchasing it.		.863		
7. If I see a sustainable apparel brand, I intend to view their products.		.891		
8. When I find an apparel product that fits my needs, the possibility of my purchasing it will increase if it is sustainably made.		.796		
				.738
9. I like to shop for second-hand clothing at thrift stores.			.817	
10. I like to purchase second-hand clothing online.			.768	
11. I like to adopt second-hand clothing from friends and/family members.			.747	

Table 5

Factor Loadings for Appreciative and Accumulative Materialism Scale

Item	Factor Loading			Cronbach's α
	1	2	3	
Accumulative Materialism				.858
1 I admire people who own expensive clothes.	.642			

2. Some of the most important achievements in life include acquiring material possessions.	.478	
4. The clothing I own says a lot about how well I'm doing in life.	.537	
5. I like to own clothing that impresses people.	.648	
6. I don't pay much attention to the clothing other people own.	.510	
8. I try to keep my life simple, as far as clothing is concerned.	.555	
9. The clothes I own aren't all that important to me.	.548	
10. I enjoy spending money on clothes that aren't practical.	.521	
11. Buying things gives me a lot of pleasure.	.610	
12. I like a lot of luxury in my life.	.628	
15. My life would be better if I owned clothing I don't have.	.640	
16. I wouldn't be any happier if I owned nicer clothes.	.554	
17. I'd be happier if I could afford to buy more clothing.	.653	
18. It sometimes bothers me quite a bit that I can't afford to buy all the clothes I'd like.	.609	
Appreciative Materialism		.664
19. I sometimes feel connected to my clothing.	.464	.416
20. I know where and how most of my clothing has been made.		.358
21. My wardrobe occupies a special place in my life.	.575	.461
22. I always learn how to use a product correctly before using it to make the most out of it.		.581

23. I always try to mend my clothing or give it another function before throwing it away.	.609	
24. I never buy something that I don't really like.	.333	.553
25. I have respect for my clothing in general.	.660	.453
26. I like the idea that clothing I don't use anymore will have a second life with someone else.	.585	
27. It is not because clothing is outdated that they should be replaced.	.407	

Hypothesis Testing

Multiple regression analysis was used to examine the relationships among appreciative and accumulative materialism on sustainable apparel consumption. The multiple regression was run to account for accumulative and appreciative materialisms possible overlapping variance. In testing hypothesis 1 which proposed that an individual's level of accumulative materialism negatively influences their sustainable apparel consumption and hypothesis 2 which proposed that an individual's level of appreciative materialism positively influences their sustainable apparel consumption, multiple regression analysis was run for each factor of sustainable apparel consumption. Responsible disposal of apparel, resulted in a statistically significant model $F(2,212) = 18.622, p < .001, R^2 = .149$ (see table 6). Accumulative materialism was found to negatively influence responsible disposal of apparel ($B = -.240, t = -3.225, p = .001$), whereas appreciative materialism was found to positively influence responsible disposal of apparel ($B = .547, t = 5.599, p = <.001$), supporting H1a and H2a. Intention to purchase sustainable apparel also resulted in a statistically significant model $F(2,212) = 18.783, p < .001, R^2 = .151$. As

predicted in H1b and H2b, accumulative materialism was found to negatively influence intention to purchase sustainable apparel ($B = -.173, t = -2.094, p = .037$), whereas, appreciative materialism was found to positively influence intention to purchase sustainable apparel ($B = .652, t = 6.006, p = <.001$). Lastly, collaborative consumption of apparel, also resulted in a statistically significant model $F(2,212) = 12.752, p < .001, R^2 = .107$. Accumulative materialism was not found to statistically predict collaborative consumption of apparel ($B = -.107, t = -1.115, p = .266$), however, appreciative materialism was found to positively influence collaborative consumption of apparel ($B = .635, t = 5.036, p = <.001$). Therefore, H1c not supported, whereas, H2c was supported.

Hypothesis 3 proposed that the negative influence of accumulative materialism on sustainable apparel consumption will be greater for those with low than high self-esteem. In order to convert the continuous variable self-esteem into a categorical variable, the median split method was used. An interaction effect was then computed by taking the product of the standardized independent and the standardized moderation variable. The interaction effect was then tested through a linear regression analysis, seen in Table 7. Results of the analysis revealed that an interaction was found to be statistically insignificant for all three factors of sustainable apparel consumption with respect to the interaction of accumulative materialism and self-esteem on a) responsible disposal of apparel goods ($B = .030, t = .585, p = .559$), b) intention to purchase sustainable apparel ($B = .037, t = .650, p = .516$), and c) collaborative consumption of apparel ($B = .117, t = 1.827, p = .069$). Therefore, H3a,b,c were not supported.

Hypothesis 4 similarly proposed that the positive influence of appreciative materialism on sustainable apparel consumption will be greater for those with low than high self-esteem. To

test H4, a linear regression with the two independent variables (appreciative materialism and the interaction between appreciative materialism and self-esteem) was conducted, seen in Table 8.

Results of the analysis revealed that an interaction variable was found to be statistically insignificant for all three factors of sustainable apparel consumption: the interaction of appreciative materialism and self-esteem on responsible disposal of apparel goods ($B = -.031, t = -.656, p = .512$), on intention to purchase sustainable apparel ($B = .031, t = .608, p = .544$), and on collaborative consumption of apparel ($B = .029, t = .480, p = .632$). Therefore, H4 is not supported.

Table 6

Regressing Appreciative and Accumulative Materialism on Sustainable Apparel Consumption

Dependent Variable	Independent Variable	Beta	SE	β	t	p
Disposal	(Constant)	2.583	.405		6.384	<.001
	Accumulative Materialism	-.240	.075	-.207	-3.225	.001
	Appreciative Materialism	.547	.098	.359	5.599	<.001
Purchase Intention	(Constant)	1.792	.449		3.990	<.001
	Accumulative Materialism	-.173	.083	-.134	-2.094	.037
Collaborative Consumption	Appreciative Materialism	.652	.108	.384	6.006	<.001
	(Constant)	1.658	.522		3.176	.002
	Accumulative Materialism	-.107	.096	-.073	-1.115	.266
	Appreciative Materialism	.635	.126	.330	5.036	<.001

Table 7*Moderation of Self-esteem for Accumulative Materialism and Sustainable Apparel Consumption*

Dependent Variable	Independent Variable	Beta	SE	β	<i>t</i>	<i>p</i>
Disposal	Accumulative Materialism	-.186	.080	-.159	-2.327	.021
	Accumulative Materialism and Self-esteem Interaction	.030	.051	.040	.585	.559
	Purchase Intention					
Purchase Intention	Accumulative Materialism	-.108	.089	-.084	-1.212	.227
	Accumulative Materialism and Self-esteem Interaction	.037	.057	.045	.650	.516
	Collaborative Consumption					
Collaborative Consumption	Accumulative Materialism	-.061	.101	-.042	-.609	.543
	Accumulative Materialism and Self-esteem Interaction	.117	.064	.126	1.827	.069

Table 8

Moderation of Self-esteem for Appreciative Materialism and Sustainable Apparel Consumption

Dependent Variable	Independent Variable	Beta	SE	β	t	p
Disposal	Appreciative Materialism	.493	.098	.324	5.009	<.001
	Appreciative Materialism and Self-esteem	-.031	.047	-.043	-.656	.512
	Interaction					
Purchase Intention	Appreciative Materialism	.612	.108	.362	5.665	<.001
	Appreciative Materialism and Self-esteem	.031	.052	.039	.608	.544
	Interaction					
Collaborative Consumption	Appreciative Materialism	.604	.125	.315	4.840	<.001
	Appreciative Materialism and Self-esteem	.029	.060	.031	.480	.632
	Interaction					

Table 9

Correlation Matrix of Variables

	1	2	3	4	5	6	7
1. Accumulative Materialism							

2.Appreciative Materialism	.147*						
3.Disposal of Apparel	-.154*	.326**					
4.Purchase Intention of Sustainable Apparel	-.078	.361**	.267**				
5.Collaborative Consumption of Apparel	-.025	.314**	.188**	.462**			
6.Self-Esteem	-.197**	.128	.161*	.045	-.078		
7.Environmental Concern	.614	.274**	.143*	.291**	.187**	-.079	
8.Impulse Buying of Apparel	.502**	.005	.034	-.022	-.028	-.030	.044

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

Results of Additional Analysis

In addition to the conceptualized variables, the questionnaire also measured impulse buying tendencies as a possible additional dependent variable for examining the influence of appreciative and accumulative materialism. Developed by Jones & Beatty (1998), the five item Liker-type scale for impulse buying tendencies has a Cronbach's α of .839 and loads as a single factor. Multiple regression analysis ($F(2,212) = 36.80, p < .001, R^2 = .258$) with appreciative and accumulative materialism as IVs and impulse buying tendencies as DV resulted in a statistically significant influence for accumulative materialism on impulse buying tendencies, $B = .641, t = 8.579, p = <.001$. However, the influence of appreciative materialism on impulse buying tendencies was not statistically significant, $B = -.119, t = -1.219, p = .224$. These results further clarify that appreciative and accumulative materialism behave in varying ways and therefore should be measured as two separate variables.

Since H3 and H4 revealed that self-esteem is not a significant moderator of the influence of accumulative and appreciative materialism on sustainable apparel consumption, self-esteem

was assessed as a possible predictor of the two types of materialism. Self-esteem was found to be a statistically significant predictor of accumulative materialism ($B = -.257, t = -3.13, p = .002$), but not appreciative materialism ($B = .116, t = 1.845, p = .066$). Additionally, the questionnaire measured environmental concern and it was examined as a possible predictor of accumulative and appreciative materialism. This scale was developed by Straughan and Roberts (1999) and is a twelve item scale. After the removal of items 1, 11, and 12, environmental concern loaded as a single factor with a Cronbach's α of .874. Environmental concern was found to be a significant predictor of appreciative materialism ($B = .217, t = 4.257, p = <.001$) but not accumulative materialism ($B = .081, t = 1.149, p = .252$).

Summary

This chapter presents the findings of the proposed hypotheses, including descriptive statistics, exploratory factor analysis, and regression analysis. One out of four of the proposed hypotheses was fully supported. The findings imply that accumulative and appreciative materialism behave in separate ways with respect to their influence on sustainable apparel consumption. Appreciative materialism was found to positively influence all three factors of sustainable apparel consumption, but accumulative materialism was found to negatively influence only two factors, responsible disposal of apparel and intention to purchase sustainable apparel. Accumulative materialism was found to be a predictor of impulse buying, while appreciative materialism was not. Additionally, self-esteem did not emerge as a moderator of the relationship between accumulative and appreciative materialism and sustainable apparel consumption. Self-esteem did emerge as a statistically significant predictor of accumulative materialism, but not appreciative materialism. These results are further discussed in Chapter 5.

CHAPTER V. DISCUSSION AND IMPLICATIONS

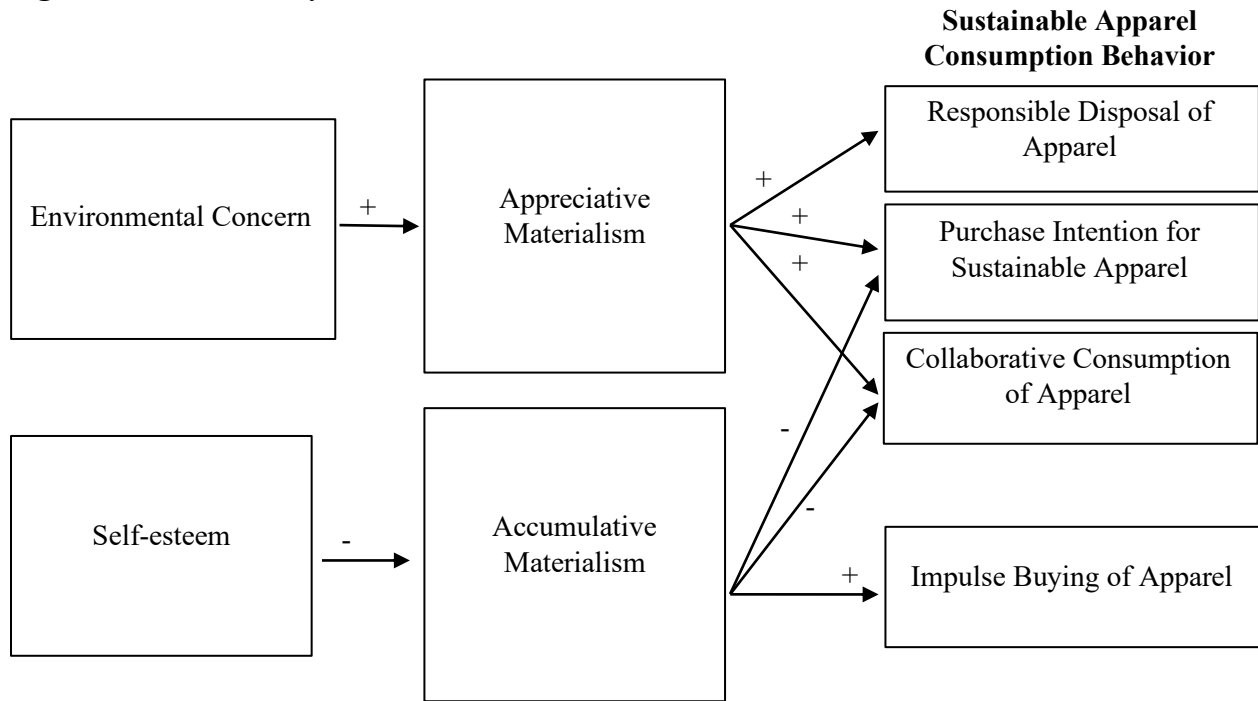
This chapter will discuss the exploratory findings of the study in relation to the previously reviewed literature. This study investigates the influence of appreciative and accumulative materialism on sustainable apparel consumption and explains the possible moderating role of self-esteem. This chapter discusses the results and reasons why findings to the hypotheses were supported or not supported. This discussion is followed by theoretical and practical implications for the study in addition to limitations and recommendations for future research.

Discussion

This research study explored the influence of accumulative and appreciative materialism on sustainable apparel consumption and the moderation of self-esteem in the relationship. Aligned with Kramarczyk and Oliver (2022), the results showed accumulative and appreciative materialism are distinct concepts with differing influences. As predicted in Hypothesis 2, appreciative materialism was found to have a positive influence on all three factors of sustainable apparel consumption. Individuals with higher levels of appreciative materialism are more likely to seek out and purchase sustainable apparel, dispose of their clothing in more sustainable ways, and participate in collaborative consumption practices. Previous research on sustainability concludes that consumers with higher levels of knowledge about sustainability and environmental issues have the tendency to consume more sustainably (Crane, 2016; Tascioglu et al., 2019; Wiederhold & Martinez, 2018). An appreciative materialist who has greater respect and connection for their goods and who attempts to mend and not throw away their goods will also consume more sustainably (Kramarczyk & Oliver, 2022). This aligns with the additional results of this study. It was found that environmental concern is a predictor of appreciative materialism. Linking the results, environmental concern was found to positively influence

appreciative materialism which was found to positively influence all three factors of sustainable apparel consumption (see Figure 2).

Figure 2. Revised Study Model



The results of Hypothesis 2 also quantifies and furthers what Kramarczyk and Oliver (2022) found in their qualitative interview survey in Poland. Kramarczyk and Oliver (2022) interviewed middle aged Polish individuals who identified as simplifiers to learn more about what materialism could potentially become. They defined an alternative expression of materialism, called “appreciative materialism”. Within the present study, appreciative materialism was used as the IV and found to be a predictor of sustainable apparel consumption for Gen Z individuals through a quantitative questionnaire. These results confirm and extend the applicability of Kramarczyk and Oliver (2022)’s findings to a sample of Gen Z consumers in the United States. Kramarczyk and Oliver’s (2022) study was exploratory and accounted for all types of goods. In the present study, the results of Hypothesis 2 show the ability of appreciative

materialism to be measured quantitatively and with a different demographic. This further proves that appreciative materialism is a viable concept and has a place in future research related to sustainable consumption practices.

In Hypothesis 1, the present study predicted that accumulative materialism has a negative influence on sustainable apparel consumption. The results showed that accumulative materialism negatively influences responsible disposal of apparel and intention to purchase sustainable apparel. However, accumulative materialism is not a significant predictor of collaborative consumption of apparel. Therefore, individuals with high levels of accumulative materialism do not intend to purchase sustainable apparel and dispose apparel in less sustainable manners. This differs from appreciative materialist who do intend to purchase greater levels of sustainable apparel and do dispose of apparel in sustainable ways. These results align with previous research that found that appreciative materialists behave in more sustainable ways (Kramarczyk & Oliver, 2022). Additionally, Joung and Park-Poaps (2013) examined influences of clothing disposal and found that environmental concerns positively influence resale and donation behaviors of apparel. This supports the revised study model that shows the connection between environmental concerns, appreciative materialism, and responsible disposal of apparel.

Multiple reasons could account for the lack of support for accumulative materialisms influence on collaborative consumption. First, the sample used in this study were comprised of 65.3% Apparel Merchandising, Design, and Production Management majors at Auburn University. This major teaches students about the environmental effects of the apparel industry and presents them with sustainable alternatives. Therefore, it can be assumed that the Apparel Merchandising, Design, and Production Management students have a high level of consumer knowledge about sustainability and collaborative consumption practices. This high level of

consumer knowledge about sustainability could have additionally influenced accumulative materialistic individuals to respond to the questionnaire in a socially desirable manner. Future research should use consumer knowledge about sustainability as a control within the study. Second, shopping at thrift stores is a new trend. Therefore, accumulative materialists may shop at thrift stores for trendy vintage clothing rather than for sustainability reasons. Third, the insignificant results may be due to lack of scale development on accumulative materialism. Kramarczyk and Oliver (2022) suggested possible items for appreciative materialism but did not provide clear direction for how accumulative materialism should be measured. Therefore, this study used Richins and Dawson's (1992) Materialism Value Scale to measure accumulative materialism. Further scale development may be needed in context to accumulative materialism to ensure adequate predictive validity.

It is important to note that a weak correlation between accumulative and appreciative materialism confirmed that these constructs can behave distinctly and are not dependent on each other, $r = .147$, $p = .031$. This confirms Kramarczyk and Oliver's (2022) conclusions that appreciative materialism is a viable construct that should be accounted for in theory on materialism. Additionally, in the additional analysis of the construct impulse buying, accumulative materialism was found to influence impulse buying tendencies on apparel purchases (see figure 2). Previous studies measuring materialism as single variable found that greater materialism promotes greater impulse buying (Pradhan et al.; 2018; Pupelis & Šeinauskienė; 2023). Appreciative materialism did not statistically influence impulse buying tendencies on apparel purchases and therefore behaved distinctively from accumulative materialism. This continues to confirm the necessity to measure appreciative and accumulative materialism as two separate constructs.

Hypothesis 3 and 4 investigated self-esteem as the moderator for the relationship between appreciative and accumulative materialism on sustainable apparel consumption. The results revealed that self-esteem does not moderate the influence of appreciative and accumulative materialism on sustainable apparel consumption. While past literature has suggested reasons to believe self-esteem and materialism were negatively related (Chan, 2013; De Rezende Pinto et al., 2017; Nagpaul & Pang, 2017; Park & John, 2011; Zhao, 2019), we expected that in addition to serving as an antecedent of materialism, self-esteem may moderate its influence on sustainable apparel consumption. Mao et al. (2020) state that self-esteem plays a role in promoting psychological sustainability, the cognitive insight of the connection between humans and their environment. However, little research has directly connected self-esteem to sustainable behaviors.

When placed as the IV, self-esteem significantly predicted accumulative materialism, but not appreciative materialism. This implies that an individual with lower self-esteem would have a greater tendency to be an accumulative materialist. These results follow previous literature that found a negative relationship when self-esteem is the IV and materialism is the DV (Chan, 2013; De Rezende Pinto et al., 2017; Nagpaul & Pang, 2017; Park & John, 2011; Zhao, 2019). Within the context of the symbolic self-completion theory, low self-esteem may be considered a sign of incompleteness. Therefore, an individual with low self-esteem is attempting to complete themselves through accumulative materialistic behaviors. Additionally, the results emerging from the test of Hypothesis 3 and 4 call for more research to be done to understand the relationship between accumulative and appreciative materialism and self-esteem with the lens of the symbolic self-completion theory. Further, self-esteem had a differing influence on

accumulative and appreciative materialism adding support to the claim that materialism is a bi-dimensional construct.

Future research on materialism should account for the constructs appreciative and accumulative materialism. Further exploration of scale development for both appreciative and accumulative materialism needs to be done to validate results from this study and from Kramarczyk and Oliver (2022). Questions also arise regarding the behavior of accumulative and appreciative materialism; Do individuals always act as either accumulative or appreciative materialists? Do different types of products influence individuals to have different types and levels of materialism? For example, an individual may like antique furniture and refurbish and cherish the furniture but purchase abundant amounts of shoes. Additionally, can individuals be both accumulative and appreciative materialists at the same time with the same type of products? For example, an individual may feel a connection to their clothing and know the origin of it but also want to have expensive things and impress people with their clothing. Future research should also focus on the relationship between self-esteem and sustainability. By knowing the influencers of sustainable behavior, better strategies can be developed to promote a sustainable lifestyle.

Practical Implications

While promoting sustainability, this study adds a positive resolution to materialism through the application and exploration of appreciative and accumulative materialism. This study reveals that appreciative materialists tend to shop for sustainable apparel and donate their clothing when they no longer use them. Additionally, appreciative materialists are more likely to rent clothing and use garments longer. Understanding appreciative materialists is important for

sustainable and unsustainable brands when marketing new products. Instead of offering discounts that promote accumulation of goods such as “buy 3, get one free”, retailers could promote sustainable behaviors such as “give us an old pair of jeans to recycle, and get a new pair discounted”. While both strategies move merchandise through the retailer at a discounted rate, the second strategy incentivizes a sustainable behavior that would appeal more to appreciative materialists. When purchasing single occasion wear items, brands can also engage their appreciative materialist consumer by promoting trading of clothing through prosocial organizations, such as Poshmark.

It is also important to promote appreciative materialistic lifestyles for the longevity of natural resources and the economy. Individuals do not need to stop purchasing items, instead they need to find the best item to buy. In a capitalist society, brands must continue to sell products, but through appreciative materialism, consumers can choose the right product that they need, rather than focusing on trends or fads in the marketplace. By changing individual’s mindsets, their behavior will follow. “New” is not always better and is at times unnecessary. By adopting an appreciative materialist mindset, the economy can continue to grow, while over consumption would decrease. Appreciative materialism respects human’s materialistic instinct and directs it to a more sustainable practice, rather than disregarding it. The results quantify the influence of appreciative materialism on sustainable consumption and, therefore, describes how consumer behavior has the potential to change.

Theoretical Implications

The present research contributes to the Symbolic Self-completion Theory by extending the applicability of the theory to sustainable apparel consumption. The theory states that an individual will continue to be motivated to work toward self-defining or identity goals until

fulfilment is reached (Wicklund & Gollwitzer, 1981), and that people are constantly searching to fill a void to achieve a sense of self-completeness. The present study used self-esteem as the indicator of individuals who feel incomplete. The results found self-esteem to not be a statistically significant moderator of accumulative and appreciative materialism relationship with sustainable apparel consumption. However, self-esteem was found to be a predictor of accumulative materialism which in turn predicted impulse buying, aligning with the theory. Individuals with lower self-esteem may accumulate products impulsively to fill a void while searching for self-completeness.

The results of this study justify a need for greater theory-building in relation to the nuanced construct of materialism. Different types of materialism influence different behaviors and therefore, theory should be developed to incorporate and solidify this finding (Kramarczyk & Oliver, 2022). Further, the different types of materialism have different predictor variables. Self-esteem predicted accumulative materialism, but not appreciative materialism. Further theorizing is needed to identify the predictors of appreciative materialism. It also validates Kramarczyk and Oliver's (2022) conceptualization of materialism as a multidimensional construct. Future research should focus on further developing theory surrounding appreciative and accumulative materialism and their influences on consumer behavior.

Limitations

Limitations of this study include the demographics of the sampling pool. It focuses on a southeastern population aged 19-26 predominately female. This limits the generalizability of the findings to other regions and the variation in age of respondents. Additionally, the self-administered survey also limits the validity of the study due to social desirability bias in responding particularly on issues related to sustainability and materialism (Miller, 2011).

Respondents answer questions based on their self-perceived habits, rather than on observed actions. Respondents' lack of self-objectivity also causes possible misinformation to be provided within the survey. Additionally, responsible disposal of apparel had a low Cronbach α score, resulting in low scale reliability. This could have been due to the low number of items in the scale and the possible poor inter-relatedness between the items. For example, participants may sometimes throw their clothing away and sometimes donate it, but the items stated “never throw away” and “always donate”.

Conceptual limitations involve additional influences on materialism and sustainable consumption, such as consumer knowledge, perceived personal relevance, and subjective norms (Kang et al., 2013). Self-esteem is not a moderator for an individual's relationship of materialism and sustainable consumption. Additional moderators such as self-perception, social perception, and attitude, as well as environmental factors such as ease of participation and economic limitations could impact one's decision to consume sustainably.

Categorization of consumers into either an appreciative or accumulative materialist is a simplification of the vast complexities of reality. Therefore, this study treats appreciative and accumulative materialism as two separate continuous variables. This allows for the possibility for an individual to be both a high accumulative materialist and a high appreciative materialist. Depending on the context, product, or surroundings, an individual might be more appreciative or accumulative in their thinking. For example, an individual may exhibit appreciative materialism when they rent their formal dress but be an accumulative materialist when socially shopping in a mall. Labeling individuals as only one, ‘appreciative’ or ‘accumulative’ would limit the validity of the results and not reflect behaviors seen in the marketplace.

Additionally, this study examined materialism and sustainable consumption within the domain of apparel. This limits the scope of the product impacted by these factors. Individuals who shop for sustainable apparel may or may not shop for organic foods or drive electric cars. Sustainable consumption and materialistic tendencies need to be examined in relation to other hedonic and utilitarian product categories in future studies.

References

- Alexander, S., & Ussher, S. (2012). The voluntary simplicity movement: A multi-national survey analysis in theoretical context. *Journal of Consumer Culture*, *12*(1), 66–86.
- Beall, A. (2020, July 12). *Why are clothes so hard to recycle?* BBC Future.
<https://www.bbc.com/future/article/20200710-why-clothes-are-so-hard-to-recycle>
- Belk, R. W. (1985). Materialism: Trait aspects of living in the material world. *Journal of Consumer Research*, *12*(3), 265–280. <https://doi.org/10.1086/208515>
- Bianchi, C., & Gonzalez, M. (2021). Exploring sustainable fashion consumption among eco-conscious women in Chile. *The International Review of Retail, Distribution and Consumer Research*, *31*(4), 375–392. <https://doi-org.spot.lib.auburn.edu/10.1080/09593969.2021.1903529>
- Bly, S., Gwozdz, W., & Reisch, L. A. (2015). Exit from the high street: An exploratory study of sustainable fashion consumption pioneers. *International Journal of Consumer Studies*, *39*(2), 125–135.
- Braun, O. L., & Wicklund, R. A. (1989). Psychological antecedents of conspicuous consumption. *Journal of Economic Psychology*, *10*(2), 161–187.
- Brough, A. R., Wilkie, J. E., Ma, J., Isaac, M. S., & Gal, D. (2016). Is eco-friendly unmanly? The green-feminine stereotype and its effect on sustainable consumption. *Journal of Consumer Research*, *43*(4), 567–582.
- Browne, B. A., & Kaldenberg, D. D. (1997). Conceptualizing self-monitoring: Links to materialism and product involvement. *Journal of Consumer Marketing*, *14*(1), 31–44.

- Botsman, R., & Rogers, R. (2010). *What's mine is yours: The rise of collaborative consumption*. Harper Business.
- Caniato, F., Caridi, M., Crippa, L., & Moretto, A. (2012). Environmental sustainability in fashion supply chains: An exploratory case based research. *International Journal of Production Economics*, 135(2), 659–670. <https://doi.org/10.1016/j.ijpe.2011.06.001>
- Chan, K. (2013). Development of materialistic values among children and adolescents. *Young Consumers*, 14(3), 244–257.
- Chang, L., and Arkin, R. M. (2002). Materialism as an attempt to cope with uncertainty. *Psychology & Marketing*, 19(5), 389–406.
- Chaplin, L. N., & John, D. R. (2010). Interpersonal influences on adolescent materialism: A new look at the role of parents and peers. *Journal of Consumer Psychology*, 20(2), 176–184.
- Cho, R. (2021, June 10). *Why fashion needs to be more sustainable*. Columbia Climate School: Climate, Earth, and Society. <https://news.climate.columbia.edu/2021/06/10/why-fashion-needs-to-be-more-sustainable/>
- Crane, D. (2016). The puzzle of the ethical fashion consumer: Implications for the future of the fashion system. *International Journal of Fashion Studies*, 3(2), 249–265.
- De Rezende Pinto, M., Mota, A. O., Leite, R. S., & Alves, R. C. (2017). Investigating the influencers of materialism in adolescence. *Tourism & Management Studies*, 13(1), 66–74.
- Dittmar, H. (2005). A new look at “Compulsive Buying”: Self-discrepancies and materialistic values as predictors of compulsive buying tendency. *Journal of Social and Clinical Psychology*, 24(6), 832–859.

- Dittmar, H., Beattie, J., & Friese, S. (1996). Objects, decision considerations and self-image in men's and women's impulse purchases. *Acta Psychologica*, 93(1), 187–206.
[https://doi.org/10.1016/0001-6918\(96\)00019-4](https://doi.org/10.1016/0001-6918(96)00019-4).
- Dittmar, H., Bond, R., Hurst, M., & Kasser, T. (2014). The relationship between materialism and personal well-being: A meta-analysis. *Journal of Personality and Social Psychology*, 107(5), 879–924. <http://dx.doi.org/10.1037/a0037409>
- Dodds, W. B., Monroe, K. B., & Grewal, D. (1991). Effects of price, brand, and store information on buyers' product evaluations. *Journal of Marketing Research*, 28(3), 307-319.
- Dolbec, P.-Y., & Fischer, E. (2015). Refashioning a field? Connected consumers and institutional dynamics in markets. *Journal of Consumer Research*, 41(April), 1447–1468.
- Dolphijn, R., & Van der Tuin, I. (2012). *New materialism: Interviews and cartographies*. Open Humanities Press.
- Elgin, D. (1981). *Voluntary simplicity: Toward a way of life that is outwardly simple, inwardly rich*. Morrow.
- Environmental Protection Agency. (2022, June 22). Textiles: Material – specific data.
<https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/textiles-material-specific-data>
- Ertekin, Z. O., & Atik, D. (2015). Sustainable markets motivating factors, barriers, and remedies for mobilization of slow fashion. *Journal of Macromarketing*, 35(1), 53–69.

- Flouri, E. (2007). An integrated model of consumer materialism: Can economic socialization and maternal values predict materialistic attitudes in adolescents? *The Journal of Socio-Economics*, 28(6), 707–724.
- Fournier, S., & Richins, M. (1991). Some theoretical and popular notions concerning materialism. *Journal of Social Behavior and Personality*, 6(6), 403–414.
- Gallimore, P., Gray, A., Hansz, J. A. (2000). *Sentiment in property investment decisions: A behavioral perspective*. Press.
- Garrison, S. & Gutter, M.S. (2010). Gender differences in financial socialization and willingness to take financial risks. *Journal of Financial Counseling and Planning*, 21, 6–72.
- Gasiorowska, A., Zaleskiwicz, T., & Kesebir, P. (2018). Money as an existential anxiety buffer: Exposure to money prevents mortality reminders from leading to increasing death thoughts. *Journal of Experimental Social Psychology*, 79, 394–409.
<https://doi.org/10.1016/j.jesp.2018.09.004>
- Gollwitzer, P.M., Sheeran, P., Michalski, V., & Seifert, A.E. (2009). When intentions go public: Does social reality widen the intention-behavior gap? *Psychological Science*, 20(5), 612–618. <https://doi-org.spot.lib.auburn.edu/10.1111/j.1467-9280.2009.02336.x>
- Graeff, T. R. (1996). Image congruence effects on product evaluations: The role of self-monitoring and public/private consumption. *Psychology & Marketing*, 13(5), 481–499.
- Granskog, A., Lee, L., Magnus, H. K., & Sawers, C. (2020). *Consumer sentiment on sustainability in fashion*. McKinsey & Company.

- Grougiou, V., and Moschis, G. P. (2015). Antecedents of young adults' materialistic values. *Journal of Consumer Behaviour*, 14(2), 115–126.
- Gupta, S., Gwozdz, W., & Gentry, J. (2019). The role of style versus fashion orientation on sustainable apparel consumption. *Journal of Macromarketing*, 39(2), 188–207.
- Harris, F., Helen, R., & Dibb, S. (2016). Sustainable clothing: Challenges, barriers and interventions for encouraging more sustainable consumer behaviour. *International Journal of Consumer Studies*, 40(3), 309–318.
- Heatable. (2023, June 29). Most polluting industries in 2023 revealed. <https://heatable.co.uk/boiler-advice/most-polluting-industries>
- Hedegård, L., Gustafsson, E., & Paras., M. K. (2020). Management of sustainable fashion retail based on reuse— A struggle with multiple logics. *The International Review of Retail, Distribution and Consumer Research*, 30(3), 311–330.
- Hsu, S. C. (1987). *English of management*. Tunghua Publishing.
- Humphreys, A. (2010). Megamarketing: The creation of markets as a social process. *Journal of Marketing*, 74(March), 1–19.
- Inglehart, R. (1977). *The silent revolution: Changing values and political styles among western publics*. Princeton University Press.
- Inglehart, R. (1990). *Culture shift in advanced industrial society*. Princeton University Press.
- Jaspers, E. D. T., Pandelaere, M. Pieters, R. G. M., & Shrum, L. J. (2023) Materialism and life satisfaction relations between and within people over time: Results of a three-wave longitudinal study. *Journal of Consumer Psychology*, 00, 1-11.

- Jiang, J., Zhang, Y., Ke, Y., Hawk, S. T., & Qiu, H. (2015). Can't buy me friendship? Peer rejection and adolescent materialism: Implicit self-esteem as a mediator. *Journal of Experimental Social Psychology, 58*, 48–55.
- Jones, M. A., & Beatty, S. E. (1998). Development and validation of the impulse buying tendency scale. *Psychological Reports, 82*, 1123 – 1133.
- Joung, H. M., & Park-Poaps, H. (2013). Factors motivating and influencing clothing disposal behaviours. *International Journal of Consumer Studies, 37*(1), 105–111.
- Kang, J., Liu, C., & Kim, S. H. (2013). Environmentally sustainable textile and apparel consumption: The role of consumer knowledge, perceived consumer effectiveness and perceived personal relevance. *International Journal of Consumer Studies, 37*(4), 442–452.
- Kasser, T. (2003). *The High Price of Materialism*. Cambridge, MA: The MIT Press.
- Kasser, T., & Ryan, R. M. (1993). A dark side of the American dream: Correlates of financial success as a central life aspiration. *Journal of Personality and Social Psychology, 65*(2), 410–422.
- Kilbourne, W., & Pickett, G. (2008). How materialism affects environmental beliefs, concern, and environmentally responsible behavior. *Journal of Business Research, 61*(September), 885–893.
- Kim, A., McInerney, P., Smith, T., & Yamakawa, N. (2020). What makes Asia-Pacific's Generation Z different?. McKinsey. Retrieved 25 May 2023, from <https://www.mckinsey.com/business-functions/marketing-and-sales/our-insights/what-makes-asia-pacifics-generation-z-different#>.

- Kim, H., Callan, M. J., Gheorghiu, W. J., and Matthews, W. J. (2016). Social comparison, personal relative deprivation, and materialism. *British Journal of Social Psychology*, 56(2), 373–392.
- Kim, S., Lim, B. T. H., & Kim, J. (2017). Tenants' decision to or not to lease green & non-green buildings: A conceptual framework. *Procedia Engineering*, 180, 1551 – 1557.
- Kissmann, U. T., & van Loon, J. (2019). *Discussing new materialism: Methodological implications for the study of materialities*. Wiesbaden: Springer VS.
<https://doi.org/10.1007/978-3-658-22300-7>
- Kotler, P. (2011). Reinventing marketing to manage the environmental imperative. *Journal of Marketing*, 75(July), 132–135.
- Kramarczyk, J., & Oliver, M. A. (2022). Accumulative vs. appreciative expressions of materialism: Revising materialism in light of polish simplifiers and new materialism. *Journal of Business Ethics*, 175(4), 701–719. <https://doi.org/10.1007/s10551-020-04628-9>
- Kunze, K. (2019). *Meet the 'conscious consumer', in top 10 global consumer trends 2019*.
<https://blog.euromonitor.com/tag/top-10-global-consumer-trends>
- Kyrios, M., Fassnacht, D. B., Ali, B., Maclean, B., & Moulding, R. (2020). Predicting the severity of excessive buying using the Excessive Buying Rating Scale and Compulsive Buying Scale. *Journal of Obsessive-Compulsive and Related Disorders*, 25, 1–8.
- Lalot, F., Quiamzade, A., Falomir-Pichastor, J. M., & Gollwitzer, P.M. (2019). When does self-identity predict intention to act green? A self-completion account relying on past

- behaviour and majority-minority support for pro-environmental values. *Journal of Environmental Psychology*, 61, 79–92.
- Lachance, M.L., Beaudoin, P., & Robitaille, J. (2003). Adolescents' brand sensitivity in apparel: Influence of three socialization agents. *International Journal of Consumer Studies*, 17, 47–57.
- LaMoerte, W. W. (2021, April 21). The correlation coefficient (r). Boston University School of Public Health. <https://sphweb.bumc.bu.edu/otlt/MPH-Modules/PH717-QuantCore/PH717-Module9-Correlation-Regression/PH717-Module9-Correlation-Regression4.html>
- Lang, C., Seo, S., & Liu, C. (2019). Motivations and obstacles for fashion renting: A cross-cultural comparison. *Journal of Fashion Marketing and Management: An International Journal*, 23(4), 519–536.
- Lee, J., & Shrum, L. J. (2012). Conspicuous consumption versus charitable behavior in response to social exclusion: A differential needs explanation. *Journal of Consumer Research*, 39(3), 530–544.
- Lee, S. (2011). Consumers' value, environmental consciousness, and willingness to pay more toward green-apparel products. *Journal of Global Fashion Marketing*, 2(3), 161–169.
- Ledgerwood, A., Liviatan, I., & Carnevale, P. J. (2007). Group-identity completion and symbolic value of property. *Psychological Science*, 18(10), 873 – 878.

- Levy, E., Forehand, M., & Jain, S. P. (2011). The effect of social threats on consumer materialism. In R. Ahluwalia, T. L. Chartrand, & R. K. Ratner (Eds.), *NA – Advances in consumer research* (39, pp. 607-608). Association for Consumer Research.
- Liang, Y., Liu, L., Tan, X., Huang, Z., Dang, J., & Zheng, W. (2016). The effect of self-esteem on corrupt intention: The mediating role of materialism. *Frontiers in Psychology*, 7, 1063–1069. <https://doi.org/10.3389/fpsyg.2016.01063>
- Lins, S., Koch, R., Aquino, S., Costa, I.M., & de Fretias Melo, C. (2021). Mental health: Would excessive buying be a crisis coping strategy? *Psychiatry Research*, 303, 1–2.
- Longoni, C., Gollwitzer, P.M., & Oettingen, G. (2014). A green paradox: Validating green choices has ironic effects on behavior, cognition, and perception. *Journal of Experimental Social Psychology*, 50, 158–165.
- Martin, D. M., & Schouten, J. W. (2014). Consumption-driven market emergence. *Journal of Consumer Research*, 40(February), 855–870.
- Mao, Y., Yang, R., Bonaiuto, M., Ma, J., & Harmat, L. (2020). Can flow alleviate anxiety? The roles of academic self-efficacy and self-esteem in building psychological sustainability and resilience. *Sustainability*, 12(7), 2987. <https://doi.org/10.3390/s12072987>
- McNeill, L. S., Hamlin, R. P., McQueen, R. H., Degenstein, L., Garrett, T. C., Dunn, L., & Wakes, S. (2020). Fashion sensitive young consumers and fashion garment repair: Emotional connections to garments as a sustainability strategy. *International Journal of Consumer Studies*, 44(4), 361–368. <https://doi.org/10.1111/ijcs.1257>

- McNeill, L., & Moore, R. (2015). Sustainable fashion consumption and the fast fashion conundrum: Fashionable consumers and attitudes to sustainability in clothing choice. *International Journal of Consumer Studies*, 39(3), 212–222.
- Mick, D. G. (1996). Are studies of dark side variables confounded by socially desirable responding? *The case of materialism. Journal of Consumer Research*, 23(2), 106–119.
- Miller, A. L. (2011). *Investigating social desirability bias in student self-report surveys. [electronic resource]*. Distributed by ERIC Clearinghouse.
- Mruk, C. (1999). *Self-esteem research, theory and practice*. Free Association Books.
- Nagpaul, T., & Pang, J. S. (2017). Extrinsic and intrinsic contingent self-esteem and materialism: A correlational and experimental investigation. *Psychology & Marketing*, 34(6), 610–622.
- Niinimäki, K., & Hassi, L. (2011). Emerging design strategies in sustainable production and consumption of textiles and clothing. *Journal of Cleaner Production*, 19(16), 1876–1883.
- Noguti, V., & Bokeyar, A. L. (2014). Who am I? The relationship between self- concept uncertainty and materialism. *International Journal of Psychology*, 49(5), 323–333.
- Nunnally, J. C. & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York, NY: McGraw-Hill.
- O’Cass, A. & Siahtiri, V. (2013). In search of status through brands from Western and Asian origins: Examining the changing face of fashion clothing consumption in Chinese young adults. *Journal of Retailing and Consumer Services*, 20(6), 505–515.

- Pandey, M., & Yadav, P. S. (2023). Understanding the role of individual concerns, attitude, and perceived value in green apparel purchase intention; the mediating effect of consumer involvement and moderating role of generation Z & Y. *Cleaner and Responsible Consumption*, 9. <https://doi-org.spot.lib.auburn.edu/10.1016/j.clrc.2023.100120>
- Papahristou, E., & Bilalis, N. (2017). Should the fashion industry confront the sustainability challenge with 3D prototyping technology. *International Journal of Sustainable Engineering*, 10(4–5), 207–214. <https://doi.org/10.1080/19397038.2017.13485>
- Park, J. K., & John, D. R. (2011). More than meets the eye: The influence of implicit and explicit self-esteem on materialism. *Journal of Consumer Psychology*, 21(1), 73–87. <https://doi-org.spot.lib.auburn.edu/10.1016/j.jcps.2010.09.001>
- Pradhan, D., Israel, D., & Jena, A. K. (2018). Materialism and compulsive buying behaviour: The role of consumer credit card use and impulse buying. *Asia Pacific Journal of Marketing and Logistics*, 30(5), 1239–1258. <https://doi.org/10.1108/APJML-08-2017-0164>
- Pretty, J., Ball, A., Benton, T., Guivant, J., Lee, D. R., & Orr, D. (2007). Introduction. In J. Pretty, A. Ball, T. Benton, J. Guivant, D. R. Lee, D. Orr, M. Pfeffer, & H. Ward (Eds.), *The Sage Handbook on Environment and Society* (pp. 1–32). London: Sage.
- Pupelis, L., & Šeinauskienė, B. (2023). Effect of consumer self-discrepancy on materialism and impulse buying: the role of subjective well-being. *Central European Management Journal*, 31(2), 222–240. <https://doi-org.spot.lib.auburn.edu/10.1108/CEMJ-12-2021-0154>

- Rajvanshi, A. (2023, January 17). *Shein is the world's most popular fashion brand – at a huge cost to us all*. Time. <https://time.com/6247732/shein-climate-change-labor-fashion/>
- Reeves, R. A., Baker, G. A., and Truluck, C. S. (2012). Celebrity worship, materialism, compulsive buying, and the empty self. *Psychology & Marketing*, 29(9), 674–679.
- Richins, M. L. (1994). Valuing things: The public and private meanings of possessions. *Journal of Consumer Research*, 21(3), 504–521.
- Richin, M. L. (2017). Materialism pathways: The process that create and perpetuate materialism. *Journal of Consumer Psychology*, 27(4), 480 – 499.
- Richins, M. L., & Dawson, S. (1992). A consumer values orientation for materialism and its measurement: Scale development and validation. *Journal of Consumer Research*, 19(3), 303–316.
- Richins, M. L., & Rudmin, F. W. (1994). Materialism and economic psychology. *Journal of Economic Psychology*, 15(2), 217–231. [https://doi.org/10.1016/0167-4870\(94\)90001-9](https://doi.org/10.1016/0167-4870(94)90001-9)
- Rosenberg, M. (1979). *Conceiving the self*. Basic Books.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton university press.
- Rosmarin, R. (2020, April 22). *Sustainability sells: Why consumers and clothing brands alike are turning to sustainability as a guiding light*. Business Insider. <https://www.businessinsider.com/sustainability-as-a-value-is-changing-how-consumers-shop>
- Rudmin, F. W., & Kilbourne, W. E. (1996). The meaning and morality of voluntary simplicity: History and hypotheses on deliberately denied materialism. In R. W. Belk, N. Dholakia,

- & A. Venkatesh (Eds.), *Consumption and marketing: Macro dimensions* (pp. 166–215). South-Western College Publishing.
- Ruppert-Stroescu, M., Lehw, M. L. A., Hiller, K., and Armstrong, C. M. (2015). Creativity and sustainable fashion apparel consumption: The fashion detox. *Clothing and Textiles Research Journal*, 33(3), 167–182.
- Ruvio, A., Somer, E., and Rindfleisch, A. (2014). When bad gets worse: The amplifying effect of materialism on traumatic stress and maladaptive consumption. *Journal of the Academy of Marketing Science*, 42(1), 90– 101.
- Scaturro, S. (2008). Eco-tech fashion: Rationalizing technology in sustainable fashion. *Fashion Theory*, 12(4), 469– 488. <https://doi.org/10.2752/175174108X3469>
- Schlosberg, D., & Coles, R. (2016). The new environmentalism of everyday life: Sustainability, material flows, and movements. *Contemporary Political Theory*, 15(2), 160–181.
- Seyfang, G. (2005). Shopping for sustainability: Can sustainable consumption promote ecological citizenship? *Environmental Politics*, 14(2), 290–306.
- Shaw, D., Shiu, E. & Clarke, I. (2000) The contribution of ethical obligation and self-identity to the theory of planned behaviour: an exploration of ethical consumers. *Journal of Marketing Management*, 16, 879–894.
- Smith, P. (2022, June 2). *US apparel market – statistics and facts*. Statista. <https://www.statista.com/topics/965/apparel-market-in-the-us/>
- Solomon, M. R. & Rabolt, N. J. (2009). *Consumer Behavior in Fashion*. Prentice Hall, Upper Saddle River, NJ.

- Straughan, R. D., & Roberts, J. A. (1999). Environmental segmentation alternatives: a look at green consumer behavior in the new millennium. *Journal of Consumer Marketing*, 16(6), 558 – 575.
- Tascioglu, M., Eastman, J., Bock, D., Manrodt, K., & Shepherd, D. C. (2019). The impact of retailers' sustainability and price on consumers' responses in different cultural contexts. *The International Review of Retail, Distribution and Consumer Research*, 29(4), 430–455.
- The Conscious Challenge. (2019, June 8). *Clothing & energy*. <https://www.theconsciouschallenge.org/ecologicalfootprintbibleoverview/clothing-energy>
- United Nations Conference on Environment and Development. (1992). *Report of the United Nations Conference on Environment and Development*. United Nations.
- Wiederhold, M., & Martinez, L. F. (2018). Ethical consumer behaviour in Germany: The attitude-behaviour gap in the green apparel industry. *International Journal of Consumer Studies*, 42(4), 419–429.
- Wicklund, R. A., & Gollwitzer, P. M. (1981). Symbolic self-completion, attempted influence, and self-deprecation. *Basic and applied social psychology*, 2(2), 89–114.
- Xu, Y., Chen, Y., Burman, R., & Zhao, H. (2014). Second-hand clothing consumption: A cross-cultural comparison between American and Chinese young consumers. *International Journal of Consumer Studies*, 38(6), 670–677.
- Yang, J. (2023, May 18). *Fashion giant Shein raises \$2 billion but lowers valuation by a third*. Wall Street Journal. <https://www.wsj.com/articles/fashion-giant-shein-raises-2-billion-but-lowers-valuation-by-a-third-1f8c316b>

Zhao, J. (2019). *Predictors of materialism in young adults: A relationship perspective* [Doctoral Dissertation, University of London]. University of London.

Appendices

Appendix A

E-MAIL INVITATION FOR ON-LINE SURVEY

(This should be a brief version of the consent document.)

Dear _____,

I am a graduate student in the Department of Consumer and Design Sciences at Auburn University. I would like to invite you to participate in my research study to explore consumer orientation towards apparel consumption. You may participate if you are an Auburn University student between the ages of 19 – 26.

Participants will be asked to answer an online questionnaire. It should take approximately 15 min.

The risks associated with participating in this study are possible personal questions regarding self-concept and purchasing behaviors. To minimize these risks, the survey is completely anonymous. If you participate in this study, you will not be compensated, but you will receive extra credit at the discretion of the professor circulating the study. People like you are important to furthering research in the consumer behavior field.

If you would like to know more information about this study, an information letter can be obtained by replying to this email, you can access the survey from a link in the letter.

If you have any questions, please contact me at ces0136@auburn.edu or my advisor, Dr. Chattaraman, at vzc0001@auburn.edu.

Thank you for your consideration,

Claire Stovall

Appendix B

Sample Information Letter



Consumer and Design Sciences

(NOTE: DO NOT AGREE TO PARTICIPATE UNLESS IRB APPROVAL INFORMATION WITH CURRENT DATES HAS BEEN ADDED TO THIS DOCUMENT.)

INFORMATION LETTER

For a Research Study entitled

“Consumer Orientation Towards Apparel Consumption”

You are invited to participate in a research study to determine the influence of appreciative and accumulative materialism on sustainable apparel consumption and examine the moderating role of self-esteem in the above relationship. The study is being conducted by Claire Stovall, under the direction of Veena Chattaraman, PhD in Auburn University Department of Consumer and Design Sciences. You are invited to participate because you are a college student and are aged 19 to 26.

What will be involved if you participate? Your participation is completely voluntary. If you decide to participate in the research study, you will be asked to indicate how strongly you agree to a series of statements regarding self-esteem, materialism, and sustainable apparel. Your total time commitment will be approximately 10 minutes.

Are there any risks or discomforts? The risks associated with participating in this study are possible personal questions regarding self-concept and purchasing behaviors. To minimize these risks, the survey is completely anonymous.

Are there any benefits to yourself or others? If you participate in this study, you will not be compensated, but you will receive extra credit in a respective class. The amount of extra credit is at the discretion of the professor. People like you are important to furthering research in the consumer behavior field.

Are there any costs? If you decide to participate, time is the only cost.

If you change your mind about participating, you can withdraw at any time by closing your browser window. If you choose to withdraw, your data can be withdrawn as long as it is identifiable. Once you've submitted anonymous data, it cannot be withdrawn since it will be unidentifiable. Your decision about whether or not to participate or to stop participating will not jeopardize your future relations with Auburn University or the Department of Consumer and Design Sciences.

Any data obtained in connection with this study will remain anonymous. We will protect your security and data by not collecting names. Information collected through your participation may be used to fulfil an educational requirement, published in a professional journal, and/or presented at a professional meeting.

If you have any questions about this study, please contact Claire Stovall at ces0136@auburn.edu.

If you have questions about your rights as a research participant, you may contact the Auburn University Office of Research Compliance or the Institutional Review Board by phone (334) 844-5966 or e-mail at IRBadmin@auburn.edu or IRBChair@auburn.edu.

HAVING READ THE INFORMATION ABOVE, YOU MUST DECIDE IF YOU WANT TO PARTICIPATE IN THIS RESEARCH PROJECT. IF YOU DECIDE TO PARTICIPATE, PLEASE CLICK ON THE LINK BELOW. YOU MAY PRINT A COPY OF THIS LETTER TO KEEP.

Ms. Claire Stovall
Investigator

Dr. Veena Chattaraman
Co-Investigator

The Auburn University Institutional Review Board has approved this document for use from _____ to _____. Protocol # _____

[LINK TO SURVEY](#)

Auburn University Department of Consumer and Design Sciences

308 Spidle Hall, Auburn, AL 36849-5601 | Telephone: 334-844-4051

Humsci.auburn.edu/cads

Appendix C

Questionnaire

1. The Sustainable Apparel Consumption Behavior Scale:

Please read each statement, then select how strongly you agree or disagree with them.

I sell my old clothes to second-hand stores.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I always donate my old clothes to charity.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I never throw away my old clothing.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Clothing I do not wear, I throw away.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I reuse my old clothing for other purposes.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
If I see a sustainable apparel product, I intend to purchase or consider purchasing it.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
If I see a sustainable apparel brand, I intend to view their products.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
When I find an apparel product that fits my needs, the possibility of my purchasing it will increase if it is sustainably made.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I like to shop for second-hand clothing at thrift stores.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I like to purchase second-hand clothing online.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I like to adopt second-hand clothing from friends and/family members.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I like owning fewer clothing items rather than buying second-hand clothing.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree

2. The Material Value Scale:

Please read each statement, then select how strongly you agree or disagree with them.

I admire people who own expensive clothes.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Some of the most important achievements in life include acquiring material possessions.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I don't place much emphasis on the amount of clothing people own as a sign of success.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The clothing I own says a lot about how well I'm doing in life.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree

I like to own clothing that impresses people.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I don't pay much attention to the clothing other people own.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I usually buy only the clothes I need.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I try to keep my life simple, as far as clothing is concerned.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The clothes I own aren't all that important to me.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I enjoy spending money on clothes that aren't practical.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Buying things gives me a lot of pleasure.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I like a lot of luxury in my life.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I put less emphasis on the clothing I wear than most people I know.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I have all the things I really need to enjoy life.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
My life would be better if I owned clothing I don't have.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I wouldn't be any happier if I owned nicer clothes.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I'd be happier if I could afford to buy more clothing.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
It sometimes bothers me quite a bit that I can't afford to buy all the clothes I'd like.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I sometimes feel connected to my clothing.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I know where and how most of my clothing has been made.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
My wardrobe occupies a special place in my life.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I always learn how to use a product correctly before using it to make the most out of it.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I always try to mend my clothing or give it another function before throwing it away.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I never buy something that I don't really like.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I have respect for my clothing in general.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I like the idea that clothing I don't use anymore will have a second life with someone else.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
It is not because clothing is outdated that they should be replaced.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree

3. Self-esteem Scale

Below is a list of statements dealing with your general feelings about yourself. Please indicate how strongly you agree or disagree with each statement.

On the whole, I am satisfied with myself.	Strongly disagree	Disagree	Agree	Strongly agree
At times I think I am no good at all.	Strongly disagree	Disagree	Agree	Strongly agree
I feel that I have a number of good qualities.	Strongly disagree	Disagree	Agree	Strongly agree
I am able to do things as well as most other people.	Strongly disagree	Disagree	Agree	Strongly agree
I feel I do not have much to be proud of.	Strongly disagree	Disagree	Agree	Strongly agree
I certainly feel useless at times.	Strongly disagree	Disagree	Agree	Strongly agree
I feel that I'm a person of worth, at least on an equal plane with others.	Strongly disagree	Disagree	Agree	Strongly agree
I wish I could have more respect for myself.	Strongly disagree	Disagree	Agree	Strongly agree
All in all, I am inclined to feel that I am a failure.	Strongly disagree	Disagree	Agree	Strongly agree
I take a positive attitude toward myself.	Strongly disagree	Disagree	Agree	Strongly agree

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DIRECTION: Please read each statement, then select how strongly you agree or disagree with them.

When I go shopping, I buy apparel that I had not intended to purchase.	Very Often	Often	Sometimes	Rarely	Never
I am a person who makes unplanned apparel purchases.	Very Often	Often	Sometimes	Rarely	Never

DIRECTION: Please read each statement, then select how often you have done the following things.

When I see apparel that really interests me, I buy it without considering the consequences.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
It is fun to buy spontaneously.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I avoid buying apparel that are not on my shopping list.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree

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DIRECTION: Please read each statement, then select how often you have done the following things.

Plants and animals exist primarily to be used by humans.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
We are approaching the limit of the number of people the earth can support.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
To maintain a healthy economy, we will have to develop a steady-state economy where industrial growth is controlled.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The earth is like a spaceship with only limited room and resources.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Humans need to adapt to the natural environment because they can remake it to suit their needs.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
There are limits to growth beyond which our industrialized society cannot expand.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
The balance of nature is very delicate and easily upset.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
When humans interfere with nature, it often produces disastrous consequences.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Humans must live in harmony with nature in order to survive.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Mankind is severely abusing the environment.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Humans have the right to modify the natural environment to suit their needs.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Mankind was created to rule over the rest of nature.	Strongly disagree	Disagree	Neutral	Agree	Strongly agree

4. Demographics:

4.1. What is your age in years? [] (please type in a number)

4.2. What is your gender?

Male

Female

Non-binary

Prefer not to say

4.3. Which of the following ethnic groups do you consider yourself to be a member of?

American Indian/Alaskan Native

- Asian/Pacific Islander
 - Hispanic
 - Non-Hispanic Black
 - Non-Hispanic White
 - Other
 - Prefer not to say
- 4.4. In which geographic region of the United States do you reside?
- MIDWEST (IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, SD, WI)
 - NORTHEAST (CT, DC, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VT)
 - SOUTHEAST (AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, VA, WV)
 - SOUTHWEST (AZ, NM, OK, TX)
 - WEST (AK, CA, CO, HI, ID, MT, NV, OR, UT, WA, WY)
- 4.5. What is your annual household income?
- Less than \$25,000
 - \$25,999-\$50,000
 - \$50,999-\$75,000
 - \$75,999-\$100,000
 - \$100,999-\$125,000
 - \$125,999-\$150,000
 - More than \$150,000
 - Prefer not to say
- 4.6. What is your major at Auburn University?
- 4.7. How often do you purchase apparel products?
- 4 times a week or more
 - 1-3 times a week
 - 1-3 times a month
 - Every other month
 - Every 3-4 months
 - Every 5-6 months or less
- 4.8. How often do you go shopping (may or may not make a purchase) for apparel?
- 4 times a week or more
 - 1-3 times a week
 - 1-3 times a month
 - Every other month
 - Every 3-4 months
 - Every 5-6 months or less
- 4.9. When you are making a clothing purchase, how many items do you usually buy at one time?
- 1
 - 2
 - 3
 - 4
 - 5 or more
- 4.10. How often do you shop for second-hand clothing?

- 4 times a week or more
- 1-3 times a week
- 1-3 times a month
- Every other month
- Every 3-4 months
- Every 5-6 months or less

4.11. What apparel stores do you shop at the most?

4.12. When shopping for apparel what is most important to you?

- convenience
- price
- trend
- longevity
- functionality

THANK YOU FOR ANSWERING EVERY QUESTION!