WILLIAMS, LEEANNA (ANNIE). Ph.D. Encouraging socially responsible fashion consumption: An investigation of the effects of a sustainability index garment label on consumers' brand attitudes and evaluations. (2023)
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Previous research has noted the unsustainable nature of the apparel industry, including increased carbon emissions (Berg et al., 2020; Chrobot et al., 2018), excessive landfill waste (United States, n.d.), and social inequity (Ross & Morgan, 2015). To promote a more sustainable apparel industry, socially responsible fashion consumption (SRFC) should be encouraged (Berg et al., 2020). However, past studies note that an intention-behavior gap exists, as consumers do not actually engage in SRFC despite their intentions to do so (James & Montgomery, 2017a). Several barriers have been found to exist that influence the intention-behavior gap and thereby prevent consumers from engaging in socially responsible fashion consumption, including a lack of consumer knowledge regarding the sustainability of apparel (Connell, 2010; Harris et al., 2016; Hill & Lee, 2012; James & Montgomery, 2017a; McNeill & Moore, 2015), hesitancy to be transparent about supply chains on the part of brands (James & Montgomery, 2017a; Williams & Hodges, 2022a) and human values (Stern, 2000).

One potential solution to mitigate these barriers is the use of apparel labeling. While previous research has focused on the use of ecological and social labels on apparel (Baker, 2002; Hilowitz, 1997; Koszewska, 2011) and their effect on consumers' attitudes toward the brand and purchase intention of the product (Dickson, 2001; Hyllegard, et al., 2012; Ma et al., 2017), there is a knowledge gap concerning consumers' preferred mode of apparel sustainability communication, and how that mode affects their behavior. Thus, to address these gaps, the purpose of this dissertation was two-fold: (1) to explore consumers' preferred mode of apparel

sustainability communication, and (2) to investigate the effect of this mode on their behavior, including their attitudes toward the brand, brand equity, and brand resonance.

To address the first part of the purpose, this dissertation implemented a qualitative research design to collect data from a total of 22 individuals (14 females and 8 males) who participated in six homogenous mini-focus groups. Signaling Theory (Spence, 1973) was used as a lens for interpretation of the data. Analysis of the data yielded six themes used to interpret the data: *Many Birds, One Seed*; *Show Me a Picture*; *Catch My Attention*; *Earn My Trust*; *It's All Relative*; and *Increasing Sustainability*. The theme of *Many Birds, One Seed* reflected that apparel sustainability communication must simultaneously meet consumers' varying interests in and understanding of sustainability. *Show Me a Picture* illustrated that participants' preferred brands to use visuals to quickly communicate the sustainability of apparel (i.e., an index comprised of graphics and/or icons). *Catch My Attention* reflected that sustainability information should be easy to understand, quick to interpret, and placed in a noticeable location. *Earn My Trust* indicated that the index should communicate that a third-party was responsible for determining an apparel item's sustainability so as to gain consumer trust. Interpretation of these four themes indicated that consumers' preferred mode of apparel sustainability communication was a two-sided apparel sustainability index label characterized by color coding, icons, a logo, and a QR code. The last two themes provided insight into how an apparel sustainability index might affect consumer behavior. *It's All Relative* demonstrated that while higher sustainability rankings positively influenced participants' attitudes and purchase intention, participants were more affected by negative sustainability rankings than positive ones. *Increasing Sustainability* reflected that an apparel sustainability index label should communicate to consumers how to increase an apparel item's sustainability during the use, maintenance, and disposal stages. Based

on the mini-focus group data, an apparel sustainability index was then created by a professional graphic design company.

To address the second purpose of the dissertation, a 2x2 between-subjects experimental research design was utilized to determine the effect of the apparel sustainability index's sustainability value and the apparel sustainability index's visibility placement on consumers' brand attitudes, brand equity, and brand resonance evaluations. The moderating effect of consumer knowledge and human values on consumers' attitudes toward their preferred brand was also investigated. An online, structured questionnaire was developed to measure the aforementioned variables. With IRB approval, a total of 243 usable responses were retained using the Prolific platform.

A series of ANOVAs and MANOVAs indicated that the sustainability value of an apparel sustainability index label positively affects consumers' attitudes, dimensions of brand equity (i.e., brand loyalty, perceived quality, brand associations, and brand awareness) as well as dimensions of brand resonance (i.e., behavioral loyalty, attitudinal attachment, and active engagement). The visibility of the apparel sustainability index positively influenced consumers' brand equity evaluations (i.e., brand associations and brand awareness), as well as brand resonance evaluations (i.e., community engagement and active engagement). An interaction effect was found whereby a visible apparel sustainability index with a high value positively affected consumers' attitudes toward their preferred brand, brand loyalty, behavioral loyalty, and community engagement evaluations. Consumers' SRFC social knowledge as well as their biospheric and altruistic values were found to moderate the relationship between the apparel sustainability index's value and placement on consumers' attitudes toward their preferred brand. Lastly, a series of regression analyses revealed a positive relationship between consumers'

attitudes toward their preferred brand and brand equity, and a positive relationship between brand equity and brand resonance.

The results of this dissertation provide several important contributions, including the creation of an apparel sustainability index label. Results from this dissertation also demonstrate that the apparel sustainability index label results in positive consumer attitudes, brand equity, and brand resonance evaluations for those brands with sustainable apparel. In doing so, results operationalize Signaling Theory in a novel way, indicating that the apparel sustainability index label is a form of a signal, which results in a separation equilibrium in the market, thereby enabling consumers to distinguish between sustainable and unsustainable brands. This dissertation offers additional theoretical contributions, in that results suggest a typology of signals exists based on the effect of the signal's visibility on consumer behavior, that feedback to signals can take the form of consumer attitudes, brand equity, and brand resonance, and that knowledge is not a homogenous variable, but rather a multi-dimensional one.

This dissertation also offers solutions for mitigating the SRFC intention-behavior gap. That is, the apparel sustainability index label gives consumers the requisite knowledge regarding the sustainability of apparel items, a noted SRFC barrier. Similarly, results incentivize brands with sustainable apparel to be transparent about their supply chains, another noted barrier to SRFC, in order to benefit from more positive consumer attitudes, brand equity, and brand resonance. By reducing the barriers to SRFC, the SRFC intention-behavior gap can be narrowed, and thus more sustainable consumption can be encouraged. This dissertation also highlights the interdependent relationship of consumers and brands with regards to promoting sustainability, and thus the need to appeal to both stakeholder groups to promote sustainability. Moreover, results encourage brands to adopt more sustainable production methods. That is, due to the

separation equilibrium that results from the use of the apparel sustainability index label, unsustainable brands will resort to greening their supply chains to complete with more sustainable brands. In doing so, the apparel industry will ultimately reduce its carbon footprint as it adopts more socially responsible production practices.

ENCOURAGING SOCIALLY RESPONSIBLE FASHION CONSUMPTION: AN

INVESTIGATION OF THE EFFECTS OF A SUSTAINABILITY INDEX

GARMENT LABEL ON CONSUMERS' BRAND

ATTITUDES AND EVALUATIONS

by

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DEDICATION

I dedicate this dissertation to Trae, Julian and Jaxon.

Trae, words are not enough to describe how grateful I am for you and to have you in my life. You are my rock, and consistently provide me with the support and encouragement I need to thrive. Without you, I would not be the person I am today. You will forever have my heart.

To Julian and Jaxon, every day your curiosity and excitement for life motivate me to be a better person. I am so honored to have the privilege of being your mom and love you both more than life itself.

This dissertation written by Leeanna (Annie) Williams has been approved by the following committee of the Faculty of The Graduate School at The University of North Carolina at Greensboro.

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CHAPTER I: INTRODUCTION

This chapter serves as an introduction to the dissertation and consists of the following sections: (1) Statement of the Research Problem; (2) Background; (3) Research Gaps; (4) Purpose and Objectives; (5) Research Design; (6) Theoretical Framework; (7) Scope and Significance; (8) Definition of Key Terms; and (9) Outline of the Dissertation.

Statement of the Research Problem

The global apparel industry is responsible for nearly 4% of the world's greenhouse gas emissions, a figure that is equivalent to Germany, France, and the United Kingdom's combined annual carbon emissions (Berg et al., 2020). Without any changes to current consumption or production practices, it is estimated that by 2030, the climate impact of these industries will increase by 49%, which is equivalent to the current climate impact of the entire U.S. (Chrobot et al., 2018). As such, the industry's current production practices pose a threat to the world's collective efforts to cap the increase in global temperature to 1.5 degrees Celsius above pre-industrial levels, which is the maximum increase in global temperature allowed before risking irreversible climate change (Berg et al., 2020).

Impact on climate change is just one example of the unsustainable nature of the apparel industry. Others include subjecting employees to poor labor conditions, such as low wages, long hours, and dangerous working conditions (Ross & Morgan, 2015). Moreover, increased apparel production has resulted in increased apparel and textile waste in landfills (Ross & Morgan, 2015; United States, n.d.). Indeed, as seen in Figure 1, production of apparel and footwear products has increased from 1.3 million tons in 1960 to 12.9 million tons in 2018 (United States, n.d.). Over the same time period, the amount of clothing that is landfilled has increased from 1.3 million

tons to 9 million tons (United States, n.d.). Figure 1 also indicates other types of disposal methods for apparel and footwear, such as recycling and combustion; however, these methods are used less frequently.

Figure 1. Apparel and Footwear Production and Methods of Disposal
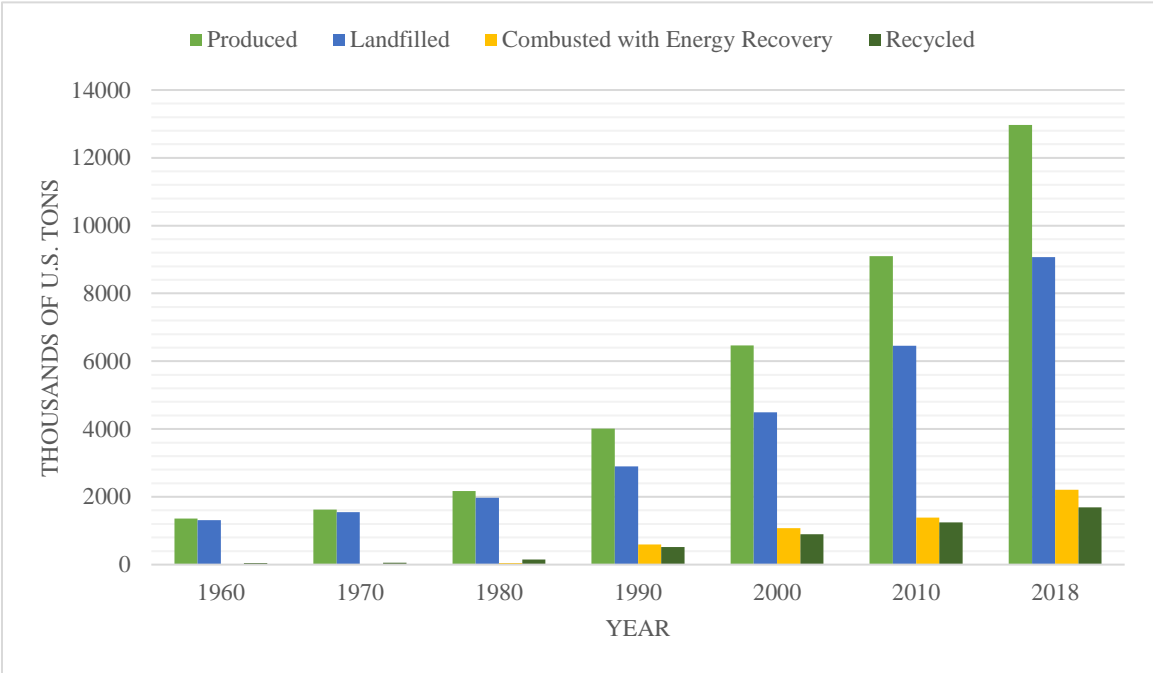
Note. Based on the statistical data from "Textiles: Material-Specific Data," by United States Environmental Protection Agency (n.d.).

If the apparel industry adopts more responsible production practices and encourages sustainable consumer behavior, these negative trends can be curbed (Berg et al., 2020). As seen in Figure 2, prior research suggests that to reduce carbon emissions, the apparel industry should focus on altering its upstream operations, where as much as 61% of carbon emissions savings are possible (Berg et al., 2020). Changes to upstream operations include the decarbonization of material production and processing (i.e., reducing fertilizer and pesticide usage, and using energy efficient production methods), minimization of production and manufacturing wastage (i.e.,

better design and cutting techniques) and the decarbonization of garment manufacturing (i.e.,

utilizing energy efficient equipment and adopting the use of renewable energy) (Berg et al.,

2020). Additionally, according to Figure 2, the apparel industry can reduce its carbon emissions

by as much as 18% should brands improve the sustainability of their materials, adopt more

sustainable packaging and transportation methods, and reduce overproduction (Berg et al., 2020).

Lastly, the fashion industry can lessen its carbon emissions by 21% by encouraging sustainable

consumer behavior, such as encouraging consumers to adopt circular systems, reduce washing

and drying, and increase the recycling of apparel (Berg et al., 2020).

Figure 2. Potential Methods for Reducing Carbon Emissions
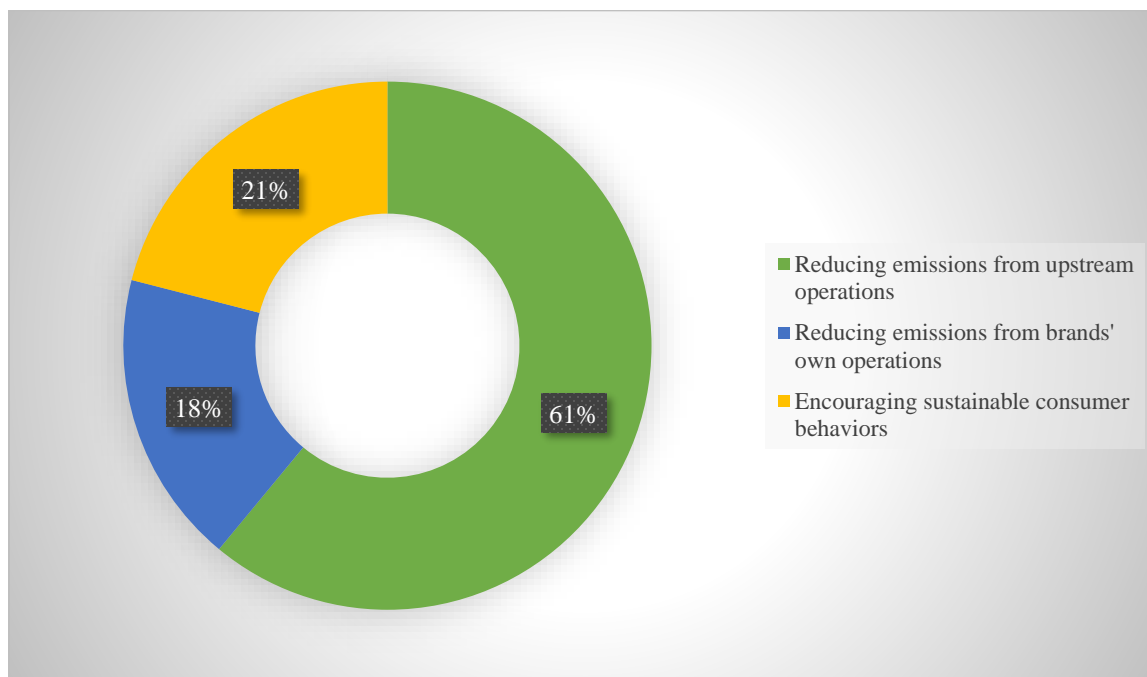
Note. Reproduced from Berg et al. (2020). *Fashion on climate: How the fashion industry can

urgently act to reduce its greenhouse gas emissions.* McKinsey & Company and Global Fashion

Agenda. https://www.mckinsey.com/~/media/mckinsey/ industries/retail/

our%20insights/fashion%20on%20climate/fashion-on-climate-full-report.pdf

To achieve reduced carbon emissions as outlined by Berg et al. (2020), the fashion industry can also influence socially responsible fashion consumption (SRFC), defined as the acquisition, use and/or disposal of fashion items that supports circular systems, and minimizes negative and/or maximizes positive impacts on society and the natural environment (Kozlowski et al., 2018). Consumers engaged in SRFC will demand products with an environmental and/or social benefit, thereby encouraging firms to adjust their upstream and brand operations to be more sustainable. According to Cone Communications (2017), a socially responsible approach to fashion consumption should not be too difficult, as 87% of the general population indicates a desire to buy a product with a social or environmental benefit.

However, despite general approval of the idea among consumers and their intentions to consume responsibly, studies suggest that consumers often do not follow through in terms of actual behavior. This paradox, labeled the intention-behavior gap (James & Montgomery, 2017a) has been identified in many studies on the topic of sustainability (McNeill & Moore, 2015; Mohr et al., 2001; Sumner, 2018) as consumers fail to actually engage in SRFC despite their intentions to do so. Several barriers have been found to exist that influence the intention-behavior gap and thereby prevent consumers from engaging in socially responsible fashion consumption, including a lack of consumer knowledge regarding the sustainability of apparel (Connell, 2010; Harris et al., 2016; Hill & Lee, 2012; James & Montgomery, 2017a; McNeill & Moore, 2015), hesitancy to be transparent about supply chains on the part of brands (James & Montgomery, 2017a; Williams & Hodges, 2022a) and human values (Stern, 2000).

A potential solution to overcome such barriers is the use of an apparel sustainability index, a type of sustainability label that could inform consumers of the environmental and social costs associated with the production of an apparel item. Such an index could result in favorable

brand equity and brand resonance evaluations for brands that utilize the index, as consumers may form positive attitudes toward apparel brands that are considered more sustainable (Hyllegard et al., 2012; Yan et al., 2012). Consequently, firms would be encouraged to be transparent about their supply chains. Although such an index does not exist yet, there are industry initiatives to create one (Crawford et al., 2020; Handfield & Shipman, 2021).

While previous research has focused on the implementation of ecological and social labels on apparel (Baker, 2002; Hilowitz, 1997; Koszewska, 2011) and their effect on attitude toward the brand and purchase intention of the product (Dickson, 2001; Hyllegard, et al., 2012; Ma et al., 2017), there is a knowledge gap concerning the use of apparel sustainability indices and their effects on consumer behavior. Specifically, the literature regarding how a sustainability index should be communicated to consumers is underexplored. Furthermore, understanding the extent to which an apparel sustainability index affects consumers' attitudes and perceptions of brands that utilize such an index, and how such attitudes and perceptions contribute to brand equity and brand resonance is under-investigated. Finally, there is limited research regarding how brands can be incentivized to communicate information about their supply chains. Therefore, addressing these gaps in the literature is critical, as understanding how to effectively communicate apparel sustainability information to consumers could positively influence SRFC. Additionally, an apparel sustainability index could result in favorable brand equity and brand resonance for the firms that utilize such labeling, thereby incentivizing them to be more transparent about their supply chains. As a result of increased transparency, producers may enable the consumer's ability to engage in SRFC, thereby resulting in a more sustainable industry.

This dissertation will address the aforementioned gaps in the literature by investigating three key issues. First, consumer preference for an apparel sustainability index and how it can best be communicated to consumers is explored. This exploration resulted in the creation of a mock apparel sustainability index. Second, driven by the first key issue, the mock apparel sustainability index was then tested to examine whether it influenced consumers' attitudes toward brands as well as its effect on brand equity. Finally, the extent to which an apparel sustainability index impacts brand resonance was investigated.

Background

This section provides an overview of the literature pertinent to addressing the aforementioned issues. First, the concept of socially responsible fashion consumption is discussed. Then, barriers to such behavior, including knowledge, values and producer hesitancy are presented. Next, the purpose, types, and consumer interest in apparel labeling is outlined. The use of apparel labels by brands and its effects on consumer behavior is then provided. To conclude this section, literature pertaining to brand equity, brand resonance, and the positive influence of corporate social responsibility on consumers' brand evaluations is presented.

Socially Responsible Fashion Consumption

A person who engages in socially responsible consumer behavior is "... one who takes into account the public consequences of his or her private consumption or who attempts to use his or her purchasing power to bring about social change" (Webster, 1975, p. 188). While socially responsible consumer behavior has been defined, there is currently no agreed upon definition for socially responsible consumer behavior in the context of fashion consumption (Kozlowski et al., 2018). There is, however, consensus that sustainable business in general be

built on the foundation of sustainable development as outlined in the 1987 Brundtland report (Kozlowski et al., 2018; Stanszus & Iran, 2015).

The Brundtland report defines sustainable development as "... development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (United Nations, 1987, para. 55) and emphasizes the inclusion of environmental protection, economic growth, and social equity for sustainable development ("The Brundtland Report," n.d.). As such, Kozlowski et al. (2018) define sustainable fashion as "the profitable design, production, distribution, and end-of-life reuse, recycling, or disposal of fashion that supports circular systems, minimizes negative and maximizes positive impacts on both society and the natural environment" (p. 195). Combining Webster's (1975) and Kozlowski et al.'s (2018) definitions, considering their focus on improving society, a socially responsible consumer in the context of fashion consumption is a consumer that engages in the consumption of sustainable fashion or clothing as defined by Kozlowski et al. (2018). Therefore, for the purposes of the dissertation, socially responsible fashion consumption, or SRFC, is defined as the acquisition, use, and/or disposal of fashion items that supports circular systems and minimizes negative and/or maximizes positive impacts on society and the natural environment.

Barriers to Socially Responsible Fashion Consumption

Despite consumer interest in products with a social and/or environmental benefit (Cone Communications, 2017), there are noted barriers to actually engaging in SRFC that result in the aforementioned intention-behavior gap. These barriers can broadly be classified into the following three types: *consumer knowledge*, *human values*, and *producer hesitancy*.

According to the literature, a consumer's ability to participate in SRFC is affected by a lack of knowledge. Some consumers do not know about the ethical issues that surround their

apparel purchases (James & Montgomery, 2017a). Of those that do, many do not know where to obtain accurate information regarding the sustainability of products (James & Montgomery, 2017a), how sustainable the products are that they purchase (McNeill & Moore, 2015; Williams & Hodges, 2022b), where to purchase sustainably sourced products (James & Montgomery, 2017b; Williams & Hodges, 2022a), or the social responsibility record of the companies they patronize (Mohr et al., 2001; Williams & Hodges, 2022a). For these reasons, even if consumers wanted to engage in SRFC, they lack the requisite knowledge to do so.

Human values also influence motivation to engage in SRFC. Values are defined as "a desirable transsituational goal varying in importance, which serves as a guiding principle in the life of a person or other social entity" (Schwartz, 1992, p. 21). Because values serve as guiding principles, a consumer's values often influence their behaviors. For instance, some consumers possess more altruistic values (e.g., concern for the well-being of others) and/or biospheric (e.g., concern for the environment) values and thus are motivated to behave in socially and/or environmentally responsible ways (Lundblad & Davies, 2016; Stern, 2000). However, other individuals possess more egoistic values (e.g., concern for oneself), and thus their behaviors are more motivated out of a desire to benefit themselves as opposed to others or nature (Stern, 2000). Indeed, past research suggests that biospheric and altruistic values influence consumer intentions to consume eco-friendly apparel (Kim et al., 2015; Kim et al., 2016; Kim & Seock, 2019).

Lastly, producer hesitancy to be transparent about the supply chain is another barrier to SRFC. Some producers may avoid disclosing details of their supply chains, or communicating their social and/or environmental responsibility efforts, for fear of being accused of engaging in "corporate hypocrisy" (James & Montgomery, 2017a, p. 73), also known as *greenwashing*. Greenwashing is defined as "...when companies make false or exaggerated claims about how

environmentally friendly their products are" (Solomon, 2017, p. 54). Critics charge that these companies focus too much on publicizing their sustainability efforts to create a positive corporate image, instead of promoting and enforcing sustainable practices throughout their entire supply chains (James & Montgomery, 2017a; Sustainable Apparel Coalition, 2019). Additionally, many apparel producers consider details of their supply chain to be proprietary and/or potentially damaging to their reputation (Doorey, 2011; Garcia-Torres et al., 2021). Thus, they are hesitant to disclose such information, as it could risk their competitive advantage and/or sully their corporate image (Doorey, 2011; Garcia-Torres et al., 2021). Lastly, apparel companies may avoid releasing information related to their supply chains, as it is difficult for many producers to know the intricacies of the entire supply chain (James & Montgomery, 2017a). Given that many apparel producers contract work to vendors who, then, unbeknownst to the apparel producer, subcontract that work to smaller factories, it is difficult for the producer to be aware of the environmental and labor standards at subcontracted factories, and thus they cannot truthfully report on them (Doorey, 2011; Garcia-Torres et al., 2021; James & Montgomery, 2017a; Köksal et al., 2017). Therefore, due to the risk of greenwashing, the fact that apparel supply chain information is often proprietary, or that such information may damage their reputation, and/or the fact that apparel producers are often unaware of all the factories that support the production of their goods, apparel producers are often hesitant to release details of their supply chains.

Apparel Labeling to Overcome Barriers

To overcome the aforementioned barriers and to encourage SRFC, consumers and producers could utilize apparel labeling. Currently, in the United States all apparel must be labeled with "the fiber content, the country of origin, the manufacturer or dealer identity, and the

care instructions" (Office of Textiles, n.d., para. 1). Such information should be affixed to the product until delivered to the consumer and should be clear, visible, and easy for the consumer to access (Federal Trade Commission, n.d., para. 29). Beyond these requirements, many apparel manufacturers voluntarily provide additional information via labels, including brand names or product attributes, to communicate and educate consumers regarding the quality and benefits of their product (Baker, 2002).

Some apparel producers may voluntarily choose to utilize additional labels, such as environmental, ecological, social, or sustainability labels to differentiate their products from competitors, as doing so communicates environmental or social responsibility (D'Souza, 2000; Koszewska, 2011). Ecological, or eco labels, a subset of environmental labels, "inform consumers about the environmentally safe mode of production of, or the ecological benefits of using, specific products" (Hilowitz, 1997, p. 217). Social labels are those that "...inform consumers about the social conditions of production in order to assure them [consumers] that the item or service they are purchasing is produced under equitable working conditions" (Hilowitz, 1997, p. 216). Sustainable labels are labels that communicate both a product's ecological and social impact (Koszewska, 2015). Ultimately, labels are used by apparel manufacturers to communicate information about a product to consumers, thereby enabling them to make informed purchasing decisions (Hyllegard et al., 2012).

Communicating the Apparel Production Process

Prior research has demonstrated overall consumer interest in having access to apparel production information when making apparel purchasing decisions (Amed et al., 2019; Ditty, 2020; Sustainable Apparel Coalition, 2019; Williams & Hodges, 2022b; Yudina, 2017). Specifically, many consumers want to know about the quality of the materials being used, the

working conditions of laborers, and the environmental impact (Amed et al., 2019; Ditty, 2020; Modi & Zhao, 2021; Sustainable Apparel Coalition, 2019; Williams & Hodges, 2022b). Such information should be explicit, concise, and easy to understand (Hyllegard et al., 2012; Ma et al., 2017; Williams & Hodges, 2022b; Yan et al., 2012) and should include visual stories or logos (Hyllegard et al., 2012; Sustainable Apparel Coalition, 2019). Initial research reports that consumers prefer such information to be communicated via a host of mediums, including hang tags (Hyllegard et al., 2012), social media, websites, product labels, or QR codes (Sustainable Apparel Coalition, 2019; Williams & Hodges, 2022b).

A potential way to meet consumer demand for accessible, easy to understand information regarding the apparel supply chain is to communicate the production process of apparel via an index. Currently, producers in the apparel industry utilize the Higg Index, an internal system launched by the Sustainable Apparel Coalition to self-assess the sustainability of their company or their products across the product's lifecycle based on environmental and social aspects (Radhakrishnan, 2014). Thus, a Higg index score details a brand or product's sustainability along social and environmental dimensions (Radhakrishnan, 2014). While the Higg Index is not published for consumer review, Yudina (2017) determined that some consumers reported an interest in having access to a company or a product's Higg Index score, with a majority of the study's participants reporting that they would pay attention to a product's Higg Index score should it be communicated on an apparel hang tag. Similarly, the Sustainable Apparel Coalition (2019) also found support for consumer access to a company's Higg score, as such information would communicate the environmental and social impact of its products.

Apparel Labeling and Consumer Behavior

Prior research (Sustainable Apparel Coalition, 2019) demonstrates that both consumers and firms benefit when the latter communicates the social and environmental effects of its production. Specifically, social and environmental labelling positively affects consumer knowledge, which, in turn, positively influences their attitudes toward SRFC, and subsequently, their purchase intentions as regards to sustainably-labeled apparel. For example, the more knowledge consumers have, the more likely they are to overcome barriers associated with consuming environmentally-friendly textiles and apparel (Kang et al., 2013). Similarly, prior research has indicated that consumers with more knowledge regarding the ethical issues surrounding apparel production are more likely to participate in environmentally and socially responsible apparel purchasing behavior and have more positive attitudes towards socially- and environmentally-friendly apparel (Kozar & Connell, 2013). Likewise, Oh and Abraham (2015) determined that consumers with more apparel production knowledge had more favorable attitudes toward organic cotton and were more willing to buy organic cotton clothing at higher price points than those with less knowledge. Yet, there are also several studies that have suggested the opposite. That is, knowledge concerning the production practices of apparel does not always lead to sustainable consumption behavior (Brosdahl & Carpenter, 2010; Connell & Kozar, 2012; Iwanow et al., 2005; Kim & Damhorst, 1998; Kozar & Connell, 2010), thereby indicating that knowledge alone is not the only variable that influences SRFC.

Past studies have also demonstrated an effect of labeling on consumer attitudes toward the label itself and toward the purchase of sustainably-labeled apparel. For example, Ma et al. (2017) found an indirect relationship between attitude and purchase intention, as labels that are easy to use and useful influenced positive attitudes toward the use of the label. This positive

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attitude, along with the perceived usefulness of the label, resulted in a greater willingness to purchase a sustainability-labeled apparel product (Ma et al., 2017). Additionally, Hyllegard et al. (2012) determined that consumers have more positive attitudes toward hangtags with prosocial claims than hangtags without such claims, and such attitudes positively predicted the purchase intention of socially-labeled apparel.

A direct relationship between social labeling and purchase intentions also exists. As Dickson (2001) found, purchase intention was influenced by the inclusion of a no-sweat label, in that consumers were influenced to purchase items that were made by laborers in fair manufacturing conditions. Similarly, in some cases, consumers are motivated to purchase apparel products when such items are labeled for animal welfare (Hustvedt et al., 2008), or when they are labeled as made from organic, non-genetically modified, or locally produced fibers (Hustvedt & Bernard, 2008). Moreover, Bernard et al. (2013) determined that apparel products labeled as organic, natural, eco-friendly and sustainable result in an increased willingness to pay on behalf of consumers than those products labeled as conventional (Bernard et al., 2013). Similarly, findings from Byrd and Su (2021) suggest that apparel products labeled as environmentally friendly, 100% cotton, ethically sourced, and organic may positively influence consumer purchase intention. Furthermore, Hustvedt and Bernard (2010) determined that participants displayed an increased willingness to pay for t-shirts with labels that state the shirt was made in accordance with international labor laws or from a factory that has an independent trade union.

Social labelling also benefits firms that utilize these labels to communicate the social impact of their supply chains; as such, labelling appears to positively affect consumer attitudes toward the brands that utilize social labels. For instance, Yan et al. (2010) found that participants developed more favorable attitudes toward brands when the advertised brand communicated the

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fair treatment of workers, as opposed to brands that utilized advertising that promoted sexual or dual (sexual and fair treatment of workers) appeals. Similarly, Hyllegard et al. (2012) also determined that the use of socially responsible labelling resulted in positive attitudes toward the brand.

Thus far, the concept of SRFC, barriers to SRFC, the purpose, types, and consumer interest in apparel labeling, as well as the effect of apparel labeling on consumer behavior have been summarized. To address the objectives of this dissertation, it is also necessary to understand how an apparel sustainability label can serve as a form of corporate social responsibility, and how corporate social responsibility affects consumers' brand evaluations. Thus, the following sections provide an overview of corporate social responsibility and its effect on brand equity and brand resonance.

Corporate Social Responsibility and Brand Equity

Brand equity is defined as "the set of brand assets and liabilities linked to a brand, its name and symbol, that add to or subtract from the value provided by a product or service to a firm and/or that firm's customers" (Aaker, 1991, pp. 15-16). Brand equity provides value to both the customer and the firm. For instance, brand equity enables customers to better interpret and process information regarding a brand, affects consumer confidence in purchase decisions, and enhances customer satisfaction (Aaker, 1991; Hoeffler & Keller, 2002; Keller, 2013). Brand equity also benefits firms, in that brand equity enhances the effectiveness of their promotional strategies (Aaker, 1991; Hoeffler & Keller, 2002; Keller, 2001; 2013), allows for premium pricing (Aaker, 1991; Ailawadi et al., 2003; Hoeffler & Keller, 2002; Keller, 2001; 2013; O'Neill & Xiao, 2006; Sethuraman, 2003), facilitates growth via brand extensions (Aaker, 1991; Ailawadi et al., 2003; Hoeffler & Keller, 2002; Keller, 2001; 2013; O'Neill & Xiao, 2006;

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Sethuraman, 2003), and reduces competitor influences (Aaker, 1991; Anselmsson et al., 2007; Hoeffler & Keller, 2002; Keller, 2001; Keller, 2013). Thus, both consumers and producers stand to benefit when a consumer perceives a brand to possess brand equity.

As demonstrated in Figure 3, Aaker (1991) contends that there are several dimensions that comprise brand equity, including brand loyalty, brand awareness, perceived quality, brand associations, and other proprietary brand assets (Aaker, 1991). *Brand loyalty* refers to the degree to which the consumer repeatedly patronages a brand over competing brands, or the degree to which a consumer is the attached to a brand (Aaker, 1991). Aaker (1991) further suggests that as brand loyalty increases, the risk of losing the customer to a competing brand decreases. *Brand awareness* reflects the consumer's ability to recognize or recall a brand (Aaker, 1991). *Perceived quality* is a measure of the consumer's perception of the overall quality or superiority of a brand and can be based on such aspects as reliability and performance of the brand's products (Aaker, 1991). *Brand associations* are the mental connections consumers make with a brand, including their attitudes, beliefs and feelings toward the brand (Aaker, 1991). This leads consumers to construct a brand image based on their perceptions of the brand (Keller, 2013). *Other proprietary brand assets* refer to a brand's patents, trademarks, etc.

Figure 3. Aaker's (1991) Dimensions of Brand Equity

Note. Adapted from Aaker, D., A. (1991). *Managing brand equity: Capitalizing on the value of a brand name.* The Free Press.

Prior research notes that dimensions of brand equity are positively affected by a company's corporate social responsibility (CSR) efforts, or their socially and/or environmentally responsible actions. For example, the perceived economic sustainability of fast fashion and sustainable apparel brands, conceptualized as the degree to which these brands offer quality products, positively affects consumers' brand trust (Park & Kim, 2016). Moreover, there is a positive relationship between the extent to which a company is socially responsible and brand trust for sustainable fashion brands (Park & Kim, 2016). Prior research also indicates that apparel and footwear companies that are transparent about their supply chains benefit from increased consumer brand trust (Kang & Hustvedt, 2014) and retailers that sell sustainable clothing and implement environmental stewardship practices benefit from increased customer loyalty (Dabija,

2018). Similarly, past research suggests consumers associate a positive brand image with apparel brands that are engaged in CSR and are willing to pay more for apparel items that result from socially responsible practices, should the consumer be able to trust that the brand is actually engaging in CSR (Gupta & Hodges, 2012).

While not related to apparel specifically, past studies also confirm a positive relationship between a company's CSR efforts and dimensions of brand equity. For instance, the CSR records of fast-moving consumer goods companies, such as Coca-Cola and Nestle, positively affects consumer brand image and perceived quality of those brands, contributing to favorable brand perceptions (Ramesh et al., 2019). Similarly, the CSR efforts of financial services firms positively affects consumer perceived quality of those companies (Poolthong & Mandhachitara, 2009) and results in brand loyalty for such institutions as banks (Marin et al., 2009) and hotels (Kim & Kim, 2016; Martinez & del Bosque, 2013). Prior research also suggests that the perceived quality of products such as wine, hair loss treatment, teeth whitening and software increase when consumers are informed of a brand's CSR practices (Chernev & Blair, 2015). Lastly, a positive relationship between brand awareness and CSR has been found, as one study (Mattera et al., 2014) reported that Spanish service companies that hold an ISO 26000, or a certification of social responsibility efforts, benefit from brand awareness.

While Aaker (1991) conceptualized brand equity as comprised of several dimensions, Keller (2001) proposed a model of customer-based brand equity (see Figure 4). This model suggests that there are several hierarchal blocks of brand equity, that when built in succession, culminate in brand resonance (Keller, 2001). These blocks include brand identification, brand meaning, brand responses, and brand relationships (Keller, 2001). *Brand identification* reflects the extent to which consumers are aware of the brand, and how readily the consumer can recall

or recognize the brand (Keller, 2001). *Brand meaning* comprises two dimensions: *performance* and *imagery* (Keller, 2001). *Performance* reflects how well the brand meets the consumers' functional needs (i.e., product reliability and service effectiveness) whereas *imagery* is the extent to which the brand meets the consumer's abstract needs, such as psychological and/or social needs (Keller, 2001). *Brand responses* are the ways in which consumers think and feel about the brand (Keller, 2001). Responses can either be judgements (i.e., consumers' personal opinions about the brand based on performance and imagery associations) and/or they can be feelings based on emotional reactions to the brand (Keller, 2001). Lastly, *brand relationships* reflect consumer resonance, or the relationship the consumer has with the brand (Keller, 2001). Achieving brand resonance is the pinnacle of building brand equity, as it reflects a brand and a consumer being in synch with one another, resulting in brand loyalty, attitudinal attachment, feeling a sense of community with the brand, and active engagement (Keller, 2001).

Figure 4. Keller's (2001) Customer-Based Brand Equity Model
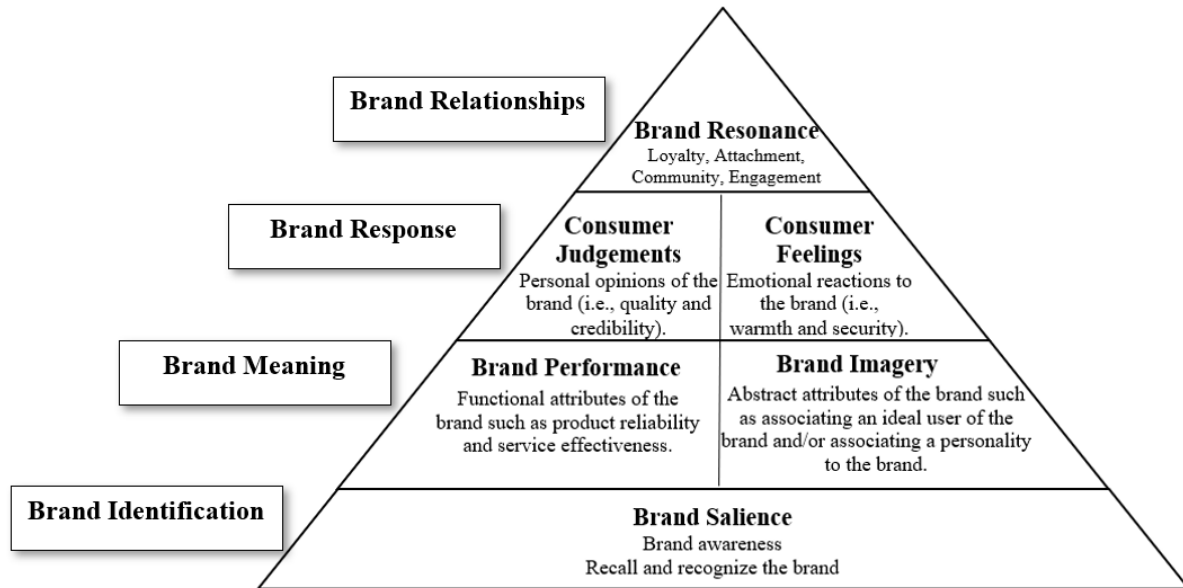
Note. Adapted from Keller, K. L. (2001). Building customer-based brand equity. *Marketing Management, 10*(2), 14-19.

By focusing on apparel sustainability labeling, corporate social responsibility, and consumer evaluations of the brand, the dissertation will offer a deeper understanding of how the barriers associated with SRFC can be mitigated. Specifically, by exploring whether sustainability labels can result in brand equity and brand resonance, firms may be more willing to overcome the barriers associated with producer hesitancy and to disclose aspects of their supply chain to consumers, resulting in consumers having the requisite knowledge to engage in SRFC.

Research Gaps

While the aforementioned findings have been documented in the literature, what is not known are the modes of apparel sustainability labeling information that consumers prefer, and the potential effect of such modes of labeling on consumer attitudes and brand evaluations. Thus, this section provides a brief discussion of the research gaps in the literature, as well as how this

dissertation addresses them. First, a summary of past findings regarding modes of apparel sustainability communication, including an apparel sustainability index, is presented, followed by a discussion of the effects of such communication on consumer attitudes and brand evaluations. Next, the potential for apparel sustainability communication to narrow the intention-behavior gap is offered. Lastly, the moderating role of knowledge and values on consumer attitudes towards the brand and brand evaluations is discussed.

Apparel Sustainability Index

Past research has indicated that, when making apparel purchasing decisions, consumers are interested in understanding how the apparel they buy and wear is produced, such as the quality of materials as well as the type and conditions of labor used (Sustainable Apparel Coalition, 2019). Prior studies suggest that consumers prefer such information to be concise and easy to understand (Hyllegard et al., 2012; Ma et al., 2017; Williams & Hodges, 2022b; Yan et al., 2012). Moreover, past studies note that apparel sustainability information could be communicated via hang tags (Hyllegard et al., 2012), social media, websites, product labels, QR codes, or an index (Sustainable Apparel Coalition, 2019; Hodges & Williams, 2022b). While these past studies have investigated the use of social, ecological, and sustainability labels (Baker, 2002; Hilowitz, 1997; Koszewska, 2011) and concluded the aforementioned findings, they have not fully explored the types of sustainability communication modes consumers prefer, or investigated whether an apparel sustainability index is the preferred mode to communicate apparel sustainability information. Investigating the feasibility of an apparel sustainability index, and how such an index should communicate sustainability information is imperative, as it could deliver the apparel production transparency that consumers desire. Such transparency could

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mitigate the SRFC barrier of consumer ability, positively influence consumers to engage in more

SRFC, and, in turn, reduce the negative impacts on people and the planet by the fashion industry.

Effects of Apparel Sustainability Labeling

Prior research provides support for how labeling affects consumer behavior towards

brands that utilize sustainability labeling, including purchase intentions for sustainably-labeled

goods (Dickson 2001; Hustvedt et al., 2008; Ma et al., 2017) and consumer attitudes toward the

brand (Hyllegard et al., 2012; Yan et al., 2010). Similarly, past studies indicate a relationship

between a company's CSR actions and dimensions of brand equity. However, there is a dearth of

research that considers the extent to which an apparel sustainability index affects consumer

attitudes toward the brand, dimensions of brand equity in the context of apparel consumption,

and how brand equity may translate to brand resonance for apparel firms. Investigating these

gaps is necessary, and findings from the dissertation will demonstrate the positive effect of

sustainability labels on consumers' attitudes and their evaluations of brands. Such findings help

mitigate the SRFC barrier of producer hesitancy, in as much as results from the dissertation

could incentivize firms to be transparent about their supply chains in exchange for positive

consumer attitudes, along with increased brand equity and brand resonance.

Narrowing the Intention-Behavior Gap

As previously noted, many studies have identified the intention-behavior gap that exists

relative to apparel consumption (James & Montgomery, 2017a; James & Montgomery, 2017b;

McNeill & Moore, 2015). Other studies contend that environmental, social, and sustainable

labels can enable consumers to make more environmentally and socially responsible purchase

decisions (D'Souza et al., 2006; Hyllegard et al., 2012; Ma et al., 2017). One study by James and

Montgomery (2017b) argued that retailers should implement sustainability messaging to inform

consumers regarding the ethical and sustainable issues surrounding a fashion purchase to promote SRFC. However, there is little research that addresses how the apparel industry can narrow the intention-behavior gap by using an apparel sustainability index as a label affixed to garments. Thus, by determining the effects of sustainability labeling on consumer attitudes and evaluations of brands, the dissertation presents a means to overcome the barriers associated with SRFC (i.e., consumer ability and producer hesitancy), and in doing so, narrow the intention-behavior gap. Addressing this gap in the literature is imperative for reducing the intention-behavior gap in apparel consumption, and, more broadly, for supporting a sustainable fashion industry.

The Role of Moderators

Human values and knowledge have been found to affect intentions to engage in sustainable behavior (Kim et al., 2015; Kim et al., 2016; Kim & Seock, 2019; Kozar & Connell, 2013; Lundblad & Davies, 2016; Stern, 2000). Moreover, sustainability labeling has been found to affect consumer attitudes toward the label (Hyllegard et al., 2012; Ma et al., 2017), attitudes toward the brand (Hyllegard et al., 2012; Yan et al., 2010) and purchase intentions (Bernard et al., 2013; Byrd & Su, 2021; Dickson, 2001; Hustvedt et al., 2008; Hustvedt & Bernard, 2008; Hustvedt & Bernard, 2010). However, the extent to which human values and knowledge moderate the relationship between attitude towards the brand and brand equity, as well as the relationship between brand equity and brand resonance, is under investigated. Investigating the role of human values and knowledge relevant to consumers' attitudes towards brands, brand equity, and brand resonance is important, as such information is necessary to understanding how to effectively influence consumers to engage in SRFC.

In sum, the dissertation addressed the aforementioned gaps in the literature by exploring consumer preference for an apparel sustainability index label and ways to communicate aspects of apparel sustainability to consumers via an index. Ultimately, by addressing these gaps, the dissertation offers a way to narrow the existing intention-behavior gap by demonstrating how sustainability labeling can overcome some of the barriers associated with SRFC. Specifically, this dissertation examined whether an apparel sustainability index results in positive consumer attitudes, brand equity, and brand resonance. Such an effect may incentivize firms to disclose details of their supply chains. Increased transparency on behalf of firms could enable consumers to make informed purchasing decisions, thereby minimizing the barrier of consumer ability and resulting in the facilitation of SRFC, along with narrowing the intention-behavior gap.

Purpose and Objectives

The global apparel industry's unsustainable nature is illustrated by its carbon emissions (Berg, 2020) and inequitable labor practices, such as the use of child labor, low wages, and unsafe working conditions (Ross & Morgan, 2015). However, these negative effects could be reduced should the apparel industry adopt more responsible production practices and encourage SRFC (Berg, 2020). While past studies have noted the barriers to SRFC and revealed the existence of an intention-behavior gap (James & Montgomery, 2017a; James & Montgomery, 2017b; McNeill & Moore, 2015; Mohr et al., 2001; Sumner, 2018), there are few that focus on narrowing this gap by way of an apparel sustainability index label. Thus, the purpose of this dissertation was two-fold: (1) to explore consumers' preferred mode of apparel sustainability communication, and (2) to investigate the effect of this mode on their behavior, including their attitudes toward the brand, brand equity, and brand resonance.

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As noted previously, a potential method to overcome the barriers of SRFC is to utilize an apparel sustainability index label, affixed to a garment, that could inform consumers of the garment's environmental and social costs. While past research indicates that such information can be communicated via a host of modes (Hyllegard et al., 2012; Sustainable Apparel Coalition, 2019), there is a lack of research concerning what the preferred modes for such communication might be. As such, to address the purpose of this dissertation, the first objective of this study was *to explore consumer interest in and preference for an apparel sustainability index.* Moreover, given that a consumer-facing index is not currently available for consumer use, the second objective of this study was *to develop a hypothetical, consumer-facing sustainability index for apparel that communicates an item's production "costs."* These objectives were necessary to address the purpose of this dissertation, in that understanding the mode of apparel sustainability communication preferred by consumers may encourage SRFC and ultimately reduce the intention-behavior gap.

Exploring whether an apparel sustainability index is preferred by consumers and then creating an index allows for the investigation of its effects on consumer behavior. Given that brand equity results from consumer behavior, in particular, consumer attitudes toward and purchase intention of the brand, examining how a sustainability index affects brand equity, and ultimately brand resonance, is critical to understanding how it affects consumer behavior more broadly. Thus, the third, fourth, and fifth objectives of this study were *to examine the extent to which the apparel sustainability index affects consumer attitude toward the brand and brand equity*, *to investigate the effect of the apparel sustainability index on brand resonance*, and *to investigate the relationship between attitude toward the brand, brand equity, and brand resonance*. The next section describes the research design used in the study.

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Research Design

As will be discussed in detail within Chapter III, to address the purpose and objectives of this dissertation, a research design composed of two phases was implemented (see Figure 5). The first phase was a preliminary study that featured a qualitative design to address the first and second objectives of the dissertation (to explore consumer's interest in and preference for an apparel sustainability index, and to develop a hypothetical, consumer-facing sustainability index for apparel that communicates an item's production "costs"). A qualitative approach to addressing objectives one and two was deemed best given that these objectives are exploratory (Hodges, 2011). Driven by the results of the Phase 1 study, the purpose of Phase 2, an experimental research design, was to provide a better understanding of the impact of the developed apparel sustainability index on consumer attitudes toward the brand, brand equity, and brand resonance, thereby addressing objectives three, four, and five (to examine the extent to which the apparel sustainability index affects consumer attitude toward the brand and brand equity, to investigate the effect of the apparel sustainability index on brand resonance, and to investigate the relationship between attitude toward the brand, brand equity, and brand resonance).

Figure 5. Phases of the Research Design

Phase I | Phase II

Exploration of Consumer Preferences for an Apparel Sustainability Index
- Conduct mini-focus group interviews.
- Transcribe interviews.
- Analyze & interpret interviews.

Development of Mock Apparel Sustainability Index
- Using interpretation, create a mock apparel sustainability index.
- Conduct member checks.
- Revise mock apparel sustainability index in accordance with member checks.

Hypotheses Testing
- Experimental design
- MANOVA
- Regression

Theoretical Framework

The theoretical framework used to investigate objectives three, four, and five was based on Signaling Theory. As will be discussed in full within Chapter II, the heart of Signaling Theory is the issue of information asymmetry, which arises "between those that hold…information and those who could potentially make better decisions if they had it" (Connelly et al., 2011, p. 42). Information asymmetry currently exists in the apparel industry, as producers are privy to the sustainability of their supply chains, yet many often choose not to communicate this information to consumers (James & Montgomery, 2017a; Sustainable Apparel Coalition, 2019). Thus, consumers lack information regarding the sustainability of the apparel they consume; however, should this information be made available to them, they may be influenced to engage in SRFC.

As demonstrated in Figure 6, Signaling Theory maintains that the following exist in the signaling environment: a signaler, a signal, a receiver, and feedback sent to the signaler (Connelly et al., 2011). The *signaler* is the entity that has information not yet communicated. The *signal* is how that information is communicated to a *receiver*, or the audience who does not have the information, but would like to receive it (Connelly et al., 2011). Signalers often use signals to communicate quality, defined broadly as "…the underlying, unobservable ability of

the signaler to fulfill the needs or demands of an outsider observing the signal" (Connelly et al., 2010, p. 43). *Feedback* sent to the signaler can occur via cross signaling, or signals that communicate the receiver's dissatisfaction with the signal (Connelly et al., 2011).

Figure 6. Theoretical Framework

Signal
Mechanism to communicate the desired information.

Examples: Websites, social media, corporate reports and certifications.

Signaler
The entity that possesses desired information.

Examples: Apparel producers and corporations.

Receiver
The entity that desires the information.

Examples: Consumers.

Feedback
The response of the receiver to the signal.

Examples: Improved corporate reputation, and increased purchase.

Previous research concerning sustainability has applied Signaling Theory to demonstrate that firms use multiple forms of CSR communication, such as corporate reporting, codes of ethics, websites, certifications, and social media to signal sustainability-related initiatives to stakeholders (Hetze, 2016; Saxton et al., 2019; Zerbini, 2017). Firms can use such signals to positively influence their corporate reputations (Galbreath, 2010; Hetze, 2016). Moreover, Signaling Theory has demonstrated a positive relationship between online retailers that are perceived to engage in CSR and consumer intentions to purchase from such retailers (Dang et al., 2020).

Beyond the application of Signaling Theory to highlight the use of CSR initiatives by firms to signal sustainability to stakeholders, past research has also used Signaling Theory to suggest that website quality signals product quality to consumers and positively influences their purchase intentions (Wells et al., 2011). Additionally, the number and complexity of a firm's market actions, including pricing actions, marketing actions, product introductions and legal actions, signal aspects of a firm to its stakeholders, affecting the firm's reputation for better or worse depending upon the signal (Basdeo et al., 2006). Lastly, prior research suggests that firms can use brands as signals to communicate product positions and attribute levels, and to assure credibility to consumers (Erdem & Swait, 1998).

In sum, in this dissertation, the signaler is the brand utilizing the apparel sustainability index. The sustainability index is the signal, and the receiver is the consumer of the brand. Feedback to the signaler takes the form of attitudes, brand equity, and brand resonance. By providing an apparel sustainability index, brands can reduce information asymmetry regarding the sustainability of a consumer's apparel purchases, thereby potentially facilitating SRFC. In turn, brands may benefit from the consumer's feedback regarding the apparel sustainability index as a signal, including favorable attitudes towards the brand, brand equity, and brand resonance.

Scope and Significance

The negative effects of the fashion industry on the environment and society have been widely noted (Berg et al., 2020; Chrobot et al., 2018; Ross & Morgan, 2015). However, the fashion industry has the potential to curb such effects should it adopt more environmentally friendly production methods and influence SRFC (Berg et al., 2020). While consumers may intend to consume products with a social and/or environmental benefit (Cone Communications, 2017), they experience several barriers to doing so, including ability (James & Montgomery,

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2017a; James & Montgomery, 2017b; McNeill & Moore, 2015; Mohr et al., 2001; Sumner, 2018), values (Lundblad & Davies, 2016; Stern, 2000), and producer hesitancy (Doorey, 2011; Garcia-Torres et al., 2021; James & Montgomery, 2017a; Köksal et al., 2017; Sustainable Apparel Coalition, 2019), resulting in an intention-behavior gap (James & Montgomery, 2017a). By addressing the intention-behavior gap inherent in the fashion industry, the dissertation offers several practical and theoretical implications.

First, previous studies have demonstrated consumer interest in accessing the transparency of an apparel item's supply chain (Amed et al., 2019; Ditty, 2020; Sustainable Apparel Coalition, 2019; Williams & Hodges, 2022b; Yudina, 2017). However, the fashion industry has yet to adopt a unified system to communicate aspects of an apparel item's production to consumers (Sustainable Apparel Coalition, 2019). The dissertation seeks to fill this gap by providing empirical evidence regarding how to effectively communicate apparel sustainability to consumers via an index. In doing so, the dissertation offers an empirically developed and tested example of an apparel sustainability index that can be adopted by the fashion industry.

Second, firms may experience barriers to disclosing details of their supply chains, such as being accused of greenwashing (James & Montgomery, 2017a), losing competitive advantage and/or damaging their reputation (Doorey, 2011; Garcia-Torres et al., 2021), as well as the inability to track the entirety of their supply chain (Doorey, 2011; Garcia-Torres et al., 2021; Köksal et al., 2017; James & Montgomery, 2017a). The dissertation intends to help overcome the SRFC barrier of producer hesitancy by demonstrating the effect of the apparel sustainability index on consumer behavior, including consumers' attitudes towards the brand, brand equity, and brand resonance. Findings from the dissertation could incentivize firms to be transparent about their supply chains to capitalize on such benefits. In doing so, apparel producers may

fulfill the apparel production transparency needs and desires of consumers, thereby enabling the latter to engage in SRFC.

Third, the dissertation seeks to narrow the intention-behavior gap by examining how an apparel sustainability index label can overcome the previously noted barriers to SRFC. That is, if consumers possess the ability to engage in SRFC, and firms were incentivized to disclose details of their supply chains in exchange for positive consumer attitudes, brand equity and brand resonance, then SRFC can be facilitated. In doing so, the intention-behavior gap may narrow, resulting in a more sustainable fashion industry as consumers consume more sustainably produced apparel.

The dissertation also has theoretical implications. Prior studies involving Signaling Theory have focused on firms' use of signals to communicate quality (Connelly et al., 2011), demonstrated the wide breadth of signals that firms use to communicate sustainability (Hetze, 2016; Saxton et al., 2019; Zerbini, 2017), suggested that signals can affect a firm's reputation (Basdeo et al., 2006; Galbreath, 2010; Hetze, 2016), and indicated that signals can positively influence consumers' purchase intentions (Dang et al., 2020; Wells et al., 2011). Moreover, Signaling Theory has been widely applied to demonstrate how signalers use signals to communicate their quality (Connelly et al., 2011). However, the dissertation expands upon the use of Signaling Theory to demonstrate how an apparel sustainability index label is a type of signal that reduces information asymmetry between the apparel producer (i.e., the signaler) and consumer (i.e., the receiver), resulting in consumer evaluations of the brand (i.e., feedback). Such a conceptualization has not been fully investigated in the literature.

Finally, this dissertation has implications for sustainability, as consumers who are influenced to engage in SRFC could mitigate the negative social and environmental costs of

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current apparel consumption and production practices. As such, the dissertation empirically

advances knowledge regarding how the fashion industry can use an apparel sustainability index

to positively influence SRFC, and in turn, sustainability, more broadly.

Definition of Key Terms

The following table provides definitions for the key terms used within the dissertation.

Table 1. Definition of Key Terms

Key Term	Definition
Apparel Sustainability Index	A type of sustainability label that informs consumers of the environmental and social costs associated with the production of an apparel item.
Brand Associations	The mental connections consumers make with a brand including their attitudes, beliefs and feelings toward the brand (Aaker, 1991).
Brand Awareness	Reflects a customer's ability to recognize or recall a brand (Aaker, 1991).
Brand Equity	"…the set of brand assets and liabilities linked to a brand, its name and symbol, that add to or subtract from the value provided by a product or service to a firm and/or that firm's customers" (Aaker, 1991, pp. 15-16).
Brand Image	The "...perceptions about a brand as reflected by the brand associations held in consumer memory" (Keller, 2013, p. 93).
Brand Loyalty	The degree to which a customer repeatedly patronages a brand over competing brands, or the degree to which a customer is attached to a brand (Aaker, 1991).
Ecological Labels	A subset of environmental labels that "inform consumers about the environmentally safe mode of production of, or the ecological benefits of using, specific products" (Hilowitz, 1997, p. 217).
Other Proprietary Assets	A brand's intellectual property such as patents and trademarks (Aaker, 1991).
Perceived Quality	A measure of a consumer's perception of the overall quality or superiority of a brand and can be based on such aspects as reliability and

Key Term	Definition
	performance of the brand's products (Aaker, 1991).
Signaling Theory	A theory for describing behavior when two parties (individuals or organizations) have access to different information. Typically, one party, the sender, must choose whether and how to communicate (or signal) that information, and the other party, the receiver, must choose how to interpret the signal (Connelly et al., 2013, p. 39).
Social Labels	Labels that "...inform consumers about the social conditions of production in order to assure them [consumers] that the item or service they are purchasing is produced under equitable working conditions" (Hilowitz, 1997, p. 216).
Socially Responsible Fashion Consumption	The acquisition, use and/or disposal of fashion items that supports circular systems, minimizes negative and/or maximizes positive impacts on society and the natural environment (Kozlowski et al., 2018).
Sustainable Labels	Labels that communicate both a product's ecological and social impact (Koszewska, 2015).

Outline of Dissertation

Chapter I provided an introduction to the purpose, objectives, concepts, and relationships being investigated in the dissertation. Research background and gaps relating to the topic were discussed. The research purpose and objectives were stated. The research design and theoretical framework were briefly presented, along with the scope and significance of the dissertation. This chapter concluded with definitions of key terms.

Chapter II provides a comprehensive review of the literature pertinent to the topic. Literature related to socially responsible fashion consumption, apparel labeling, corporate social responsibility, brand equity, and Signaling Theory are discussed. The conceptual model and a set of testable hypotheses are presented.

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Chapter III delineates the research methodology and provides a detailed discussion concerning the two phases of the research design. First, results of the preliminary qualitative study used to design the stimulus for the experimental study are presented. Then, the details regarding the second phase, an experimental design to investigate the effects of an apparel sustainability index on consumer's attitudes, brand equity, and brand resonance, are provided. A summary of the data analysis approach is also included.

Chapter IV details the data analysis and results of Phase 2 of the dissertation. First, sample characteristics are outlined. Next, an analysis of the manipulation checks is presented, followed by an analysis of the measures used in Phase 2. Results of the hypotheses testing are then discussed. Concluding this chapter is a summary of the results of each hypothesis.

Chapter V begins with a discussion of the major findings of Phase I and Phase 2 of the dissertation. Then, conclusions based on these major findings are provided. Theoretical and practical implications are then outlined, followed by limitations of the dissertation, as well as suggestions for further research.

CHAPTER II: LITERATURE REVIEW

In this chapter, a literature review of the major constructs is presented and a conceptual model is provided. The hypotheses developed are then presented. This chapter includes the following sections: (1) Socially Responsible Fashion Consumption; (2) Apparel Labeling; (3) Corporate Social Responsibility; (4) Brand Equity; (5) Signaling Theory; (6) Conceptual Model; (7) Hypotheses Development; and (8) Summary.

Socially Responsible Fashion Consumption

As discussed in Chapter I, there is no agreed upon definition of socially responsible consumption in the context of fashion consumption (Kozlowski et al., 2018). However, a socially responsible consumer in general is defined as "... one who takes into account the public consequences of his or her private consumption or who attempts to use his or her purchasing power to bring about social change" (Webster, 1975, p. 188). Moreover, there is agreement that sustainable business in general should meet the needs of the present, without compromising future generations from doing the same (Kozlowski et al., 2018; Stanszus & Iran, 2015; United Nations, 1987, para. 55). Addressing environmental protection, economic growth, and social equity can help to achieve this goal ("The Brundtland Report," n.d.). Thus, drawing on Webster (1975) and Kozlowski et al. (2018), in the dissertation, socially responsible fashion consumption (SRFC) is defined as the acquisition, use and/or disposal of fashion items that supports circular systems while it minimizes negative and/or maximizes positive impacts on society and the natural environment.

Because there are many stages of apparel consumption, including "...acquiring, storing, using, maintaining, and discarding clothing" (Winakor, 1969, p. 629), there are many ways in

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which a consumer can engage in SRFC. For instance, in the acquisition stage of consumption, one can engage in collaborative fashion consumption (Iran & Schrader, 2017), purchase fashion made from organic fibers (Goworek et al., 2012), or purchase fashion second hand (Iran & Schrader, 2017). In the use and maintenance stage, one could prolong the wear of a garment (Kozlowski et al., 2018; Waste & Resources Action Programme, 2012) by modifying their laundering approaches (Waste & Resources Action Programme, 2012) or repairing it (Durrani, 2018; Harris et al., 2016). And lastly, in the discard stage, one could donate their used items to a charity or give or sell to a secondhand shop (Ha-Brookshire & Hodges, 2009).

Barriers to Socially Responsible Fashion Consumption

While consumers often express a positive interest in consuming goods with an environmental and/or social benefit (Cone Communications, 2017), an intention-behavior gap exists in the fashion industry, as many fail to actually consume apparel with such characteristics (James & Montgomery, 2017a). Barriers to SRFC include cognitive demand (Sumner, 2018), or the amount of thought required to make a decision. Given that fashion purchasing often requires an excess of cognitive processing, (i.e., due to the demand of making a decision to purchase a certain item from various, competing alternatives), consumers may resort to habitual buying practices, which may not include SRFC (Sumner, 2018). Exacerbating this problem is the expectation that consumers should be eco-friendly as "...the challenge of finding stylish ethical fashion and the higher financial cost of ethical fashion increases constraint on the cognitive process and therefore, the tendency for habitual behaviour increases" (Sumner, 2018, p. 32). Another frequently cited barrier of SRFC is price (Chan & Wong, 2012; James & Montgomery, 2017b) as sustainably sourced, or eco-fashion items, are perceived to carry price premiums (Parker & Henninger, 2018). Even if a consumer intends to engage in SRFC, they are often more

influenced by the price of an item (Chan & Wong, 2012) with many being willing to trade ethics for lower prices (James & Montgomery, 2017b).

Aesthetics is also cited as a barrier to SRFC, as eco-friendly clothing suffers from "...a historical association with being unfashionable and not on-trend" (James & Montgomery, 2017b, p. 27). Many consumers report that eco-friendly clothing is shapeless or colorless (Iran, 2018) and there are few aesthetically pleasing options when it comes to eco-fashion (James & Montgomery, 2017b). Thus, consumers must make a tradeoff between easily accessing fashionable fast fashion items and choosing among a limited selection of non-aesthetically pleasing eco-fashion items (James & Montgomery, 2017b).

Some consumers think that to engage in SRFC, they must trade quality for an eco-fashion garment, maintaining "...that if adhering to ethical standards is the primary concern for the company, then the quality of its products is likely to be poorer" (Berberyan et al., 2018, p. 39). For instance, some consumers think that the materials used in eco-friendly garments are harsh (McNeill & Moore, 2015) or uncomfortable and scratchy (Chan & Wong, 2012), leading to an overall view of eco-fashion garments and the eco-fashion industry as a whole to be of poor quality. Thus, quality is also another barrier to a consumer's intention to engage in SRFC.

Lastly, cynicism is often cited as a barrier to SRFC, as many consumers doubt the overall effect that their participation in SRFC can have on sustainability more broadly (James & Montgomery, 2017b). Along with cognitive demand, price, aesthetics, quality, and cynicism, other commonly cited barriers include human values, consumer knowledge, and producer hesitancy. The dissertation focuses primarily on the latter barriers, which are discussed at length in the following sections.

Human Values

One frequently noted barrier of environmentally and/or socially responsible consumer behavior is a consumer's values. As discussed in Chapter I, a value is defined as "a desirable transsituational goal varying in importance, which serves as a guiding principle in the life of a person or other social entity" (Schwartz, 1992, p. 21). Values often underlie consumer motivations, as consumers prefer products they believe will help them achieve a goal, which is often linked to an underlying personal value (Solomon, 2017).

Schwartz (1994) proposes four underlying motivations that comprise a total of ten human values. The four motivations are organized across two bipolar scales: (1) openness to change vs. conservation and (2) self-enhancement vs. self-transcendence. *Openness to change* reflects values that emphasize stimulation, self-direction, and hedonism, whereas *conservation* reflects values that emphasize preservation of traditional practices, conformity, and security (Schwartz, 1994). The underlying motivation of *self-enhancement* reflects values that emphasize the success and dominance of the individual, such as power and achievement. In contrast, *self-transcendence* emphasizes acceptance and concern for others (Schwartz, 1994). Values such as universalism and benevolence are considered to be associated with self-transcendent motivations (Schwartz, 1994). As illustrated in Figure 7, Schwartz's (1994) values are "…a continuum of related motivations" (p. 24), wherein shared adjacent value types share similar underlying motivations, and those across from one another reflect opposing underlying motivations.

Figure 7. Schwartz's Value System

Self-Transcendence

Universalism	Benevolence
Self-Direction	
	Conformity/Tradition
Stimulation	

Openness to Change ⟵————————⟶ Conservation

Hedonism	Security
Achievement	Power

Self-Enhancement
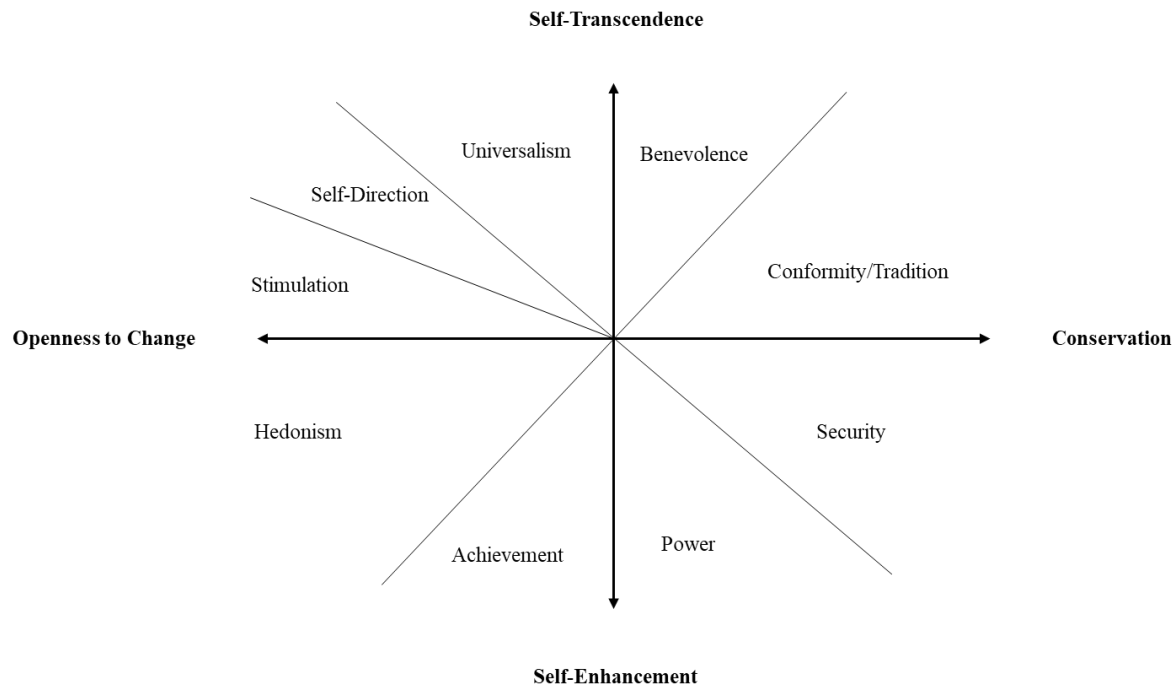
Note. Reprinted from Schwartz, S. H. (1994). Are there universal aspects in the structure and contents of human values? *Journal of Social Issues, 50*(4), 19-45.

Prior research (c.f. Karp, 1996; Schultz et al., 2005) demonstrated that values of self-transcendence positively affect pro-environmental behavior, whereas values of self-enhancement are negatively related to such behavior. Moreover, previous studies (c.f. Hansen et al., 2012; Manchiraju & Sadachar, 2014) indicated that values of self-transcendence positively affect consumer attitudes to make ethical consumption decisions, whereas self-enhancement values are negatively related to ethical consumption decisions. The self-transcendent value of universalism has also been found to indirectly and positively affect a consumer's SRFC intention through the mediating variables of moral norms and attitudes (Diddi & Niehm, 2016). Similarly, Stringer et al. (2020) found that self-transcendence values positively influence consumers' concern for

animal welfare and the environment, which then positively influences their purchase intention of ethically produced fast fashion apparel products.

A direct relationship between self-transcendence values and purchase intention also exists. Ma and Lee (2012) determined a positive relationship between self-transcendent values and consumers' purchase intention of non-food Fair Trade items, including clothing. While not related to apparel specifically, consumers with high self-transcendence values are also more likely to possess high purchase intentions for environmentally friendly produced wines (Barber et al., 2012) as well as photovoltaic electricity storage systems for self-generated solar power (Poier et al., 2022).

In addition to Schwartz's (1994) suggested values, Stern et al. (1999) found that the values of egoism, altruism, and biospherism are related to environmentally friendly behavior. The latter two are considered to be indicative of self-transcendent values, while the former is reflective of self-enhancement values (Stern et al., 1999). In establishing the Value-Belief-Norm theory, Stern et al. (1999) argued that individuals that possess high altruistic (i.e., concern for others) and high biospheric (i.e., concern for the environment) values are more likely to believe that humans negatively impact the environment. Moreover, individuals with these values possess an awareness of the impact of human behavior on the environment and believe that their actions can remedy them (de Groot & Steg, 2007; Stern et al., 1999; Stern & Dietz, 1994). These beliefs activate a person's pro-environmental personal norms, or feelings of personal obligation to behave in environmentally friendly ways (de Groot & Steg, 2009; Stern et al., 1999; Stern, 2000; Stern & Dietz, 1994).

Conversely, the value of egoism (i.e., concern for oneself) has been found to be negatively related to environmentally friendly behavior when the costs of engaging in such

behavior exceed the benefit to the individual (de Groot & Steg, 2009; Stern et al., 1999).

However, there are instances in which those with egoistic values still engage in pro-environmental behavior, should the personal benefit of doing so outweigh the cost (de Groot & Steg, 2009). For instance, a person may avoid using their car (an environmentally friendly behavior), because the financial costs of operating a car are too high, and not necessarily because of environmental reasons (de Groot & Steg, 2009). Similarly, Becker-Leifhold (2018) found that values of egoism are positively related to collaborative fashion consumption, as renting expensive clothing enables consumers to improve their social status, conform to other's expectations, and fulfill their interest in fashion (Becker-Leifhold, 2018). Kim and Seock (2019) also concluded that egoism can positively influence consumers' purchase intention of environmentally friendly apparel, as such purchases signal their status and enable them to fit in with reference groups.

Consumer Knowledge

Another consistent barrier to SRFC is a lack of consumer knowledge. For instance, according to the literature, many consumers do not know where to obtain information related to the sustainability of apparel (James & Montgomery, 2017a), how to determine whether clothing is ethically or sustainably produced (McNeill & Moore, 2015), or where to source such apparel from (Connell, 2010). Others are not familiar with the complex nature of the apparel supply chain (James & Montgomery, 2017a) and the social and environmental effects of clothing production and consumption (Connell, 2010; Harris et al., 2016; Hill & Lee, 2012; James & Montgomery, 2017a). Moreover, many report lacking knowledge regarding how and where to properly dispose of or recycle clothing (Goworek et al., 2012; Morgan & Birtwistle, 2009; Rathinamoorthy, 2020). Past research also demonstrated that consumers do not have enough

information concerning the social responsibility performance of the companies they patronize (Mohr et al., 2001). Thus, while consumers may have positive intentions to engage in SRFC, the aforementioned studies demonstrate that many lack the knowledge to be able to do so.

Producer Hesitancy

While lack of knowledge is a persistent barrier to SRFC, apparel producers could mitigate this barrier by being more transparent about their supply chain practices (James & Montgomery, 2017a). However, producer hesitancy to release such details prevents this transfer of knowledge and thus creates another obstruction to SRFC. Producer hesitancy can be attributed to several reasons, one being the complexity of a producer's supply chain (Harris et al., 2016; James & Montgomery, 2017a). For instance, many apparel companies only audit their first tier (direct) suppliers (James & Montgomery, 2017a). That is, many companies only have codes of conduct established with their direct suppliers, and regularly inspect only these suppliers for compliance (James & Montgomery, 2017a). However, many of these direct suppliers will outsource some of their production to smaller factories, or "shadow factories" (James & Montgomery, 2017a). As a result, it is often difficult for brands to disclose the details of their supply chain (e.g., all of the suppliers involved in producing a garment and their associated labor, health, and safety standards) given that these subcontractors are typically unknown to the producer (Doorey, 2011; Garcia-Torres et al., 2021; Harris et al., 2016; James & Montgomery, 2017a; Köksal et al., 2017).

Producers are also hesitant to be transparent about their supply chains, as doing so could be perceived as greenwashing, or "...when companies make false or exaggerated claims about how environmentally friendly their products are" (Solomon, 2017, p. 54). Firms engaged in greenwashing are accused of investing more effort into publicizing their sustainability efforts to

create a positive corporate image, instead of promoting and enforcing actual sustainable practices (James & Montgomery, 2017a; Sustainable Apparel Coalition, 2019). Given that many consumers believe that producers engage in corporate social responsibility for self-interested reasons (Mohr et al., 2001), and are skeptical of firms' socially responsible efforts (Harris et al., 2016), firms avoid releasing such details to avoid negative consumer attitudes and/or distrust of the brand (James & Montgomery, 2017a). Moreover, according to the literature, producers are concerned that details of their supply chain could be portrayed negatively, thereby compromising their corporate image (Garcia-Torres et al., 2021; James & Montgomery, 2017a). Lastly, some studies found that producers are hesitant to communicate the intricacies of their supply chain, as they believe such details are proprietary and that releasing such information would compromise their competitive advantage (Doorey, 2011; Goworek et al., 2012).

As discussed in this section, previous research supports the existence of such SRFC barriers as human values, consumer knowledge, and producer hesitancy. However, what has not been fully explored is how these barriers can be overcome. Specifically, prior research has not fully explored whether apparel labeling, especially an apparel sustainability index, can mitigate these SRFC barriers by providing consumers with the requisite knowledge to make informed purchasing decisions, relating directly to human values, and incentivizing producers to be transparent about their supply chains. In the next section, the types and uses of apparel labeling, the effect of labels on consumer behavior, as well as criticism of labels will be discussed.

Apparel Labeling

The dissertation examines whether an apparel sustainability index, a type of apparel label, influences SRFC by mitigating some of the barriers to it. Hilowitz (1997) defined a label as "information that the manufacturer or marketer of a product provides to the consumer at the

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point of sale" (p. 216). Prior research suggests that producers use labels to provide information about their products, thereby differentiating them from competitors (Baker, 2002). Moreover, labels enable consumers to make informed purchasing decisions (Hyllegard et al., 2012).

Types and Purposes

In the United States, all apparel items are legally mandated to be labeled with "the fiber content, the country of origin, the manufacturer or dealer identity, and the care instructions" (Office of Textiles, n.d., para. 1). This information must be affixed to the product until received by the consumer and should be communicated in a clear, visible, and accessible form (Federal Trade Commission, n.d., para. 29). Producers have the flexibility to report this required information on one or numerous labels; however, all information pertaining to an apparel item's fiber content must appear in proximity, and the type and lettering must be of consistent size and conspicuousness (Federal Trade Commission, n.d., para. 32-33).

Beyond the legal mandates of the United States government, some brands choose to add additional labels, such as environmental, ecological, or social labels to differentiate their products from competitors, as doing so suggests environmental or social responsibility (D'Souza, 2000; Koszewska, 2011). Ecological, or eco labels, a subset of environmental labels, "inform consumers about the environmentally safe mode of production of, or the ecological benefits of using, specific products" (Hilowitz, 1997, p. 217). Such labels are voluntary and are often based on life cycle analysis (Koszewska, 2015). Commonly, brands utilize the International Organization for Standardization guidelines to communicate the environmental friendliness of their products. The International Organization for Standardization has divided environmental labels into three types: Type I, Type II, and Type III (Koszewska, 2015). Type I, II, and III classifications are only applied to environmental labels; as such, classifications are based on life-

cycle analysis (Koszewska, 2015), or the environmental impacts of a product over its life cycle, from raw material to disposition (International Organization for Standardization, 2006).

Type I labels are multi-criteria based, third party certified and based on a simplified life cycle analysis (Koszewska, 2015). Examples of such labels include the Blue Angel Label, the European Union Eco-Label (Gallastegui, 2002) and Nordic Swan. These labels communicate that a product is environmentally friendly throughout its entire life cycle. *Type II* labels are claims made by manufacturers, importers, or distributors that refer to a single, specific product attribute (Gallastegui, 2002; Koszewska, 2015). Examples of ISO *Type II* labels are labels that attest that products are not tested on animals and CFC-free (Koszewska, 2011). *Type III* labels use pre-set indices to assess a product's entire life cycle and are certified by a third party (Koszewska, 2015). Examples include nutrition labeling on food and environmental product declaration labels (Koszewska, 2011). It is important to note that the International Organization for Standardization publishes the guidelines firms should adhere to in order to use the *Type I, II,* or *III* labels. However, the International Organization for Standardization does not provide certifications, instead it is provided by a third-party agency.

While ecological labels focus on the environment, social labels "...inform consumers about the social conditions of production in order to assure them [consumers] that the item or service they are purchasing is produced under equitable working conditions" (Hilowitz, 1997, p. 216). Most social labels communicate the living and working conditions of laborers in developing countries (Hilowitz, 1997). As such, social labels often include equity-related aspects of an item's production, including fair trade conditions and worker rights (Koszewska, 2011). There is not a universal certification system for social responsibility; however, some brands voluntarily use the following labels: Clean Clothes Campaign, Rugmark (Hilowitz, 1997;

Koszewska, 2011), Care and Fair, Fair Wear Foundation, and the Oeko-Tex Standard 100 labels.

Each of these labels maintain different standards, and thereby communicate different aspects of

social responsibility. For example, the Clean Clothes Campaign label signifies that a brand is a

part of a global network committed to fair working conditions for apparel workers (Clean

Clothes, n.d.). The Rugmark and Care and Fair labels certify that products are made without

illegal child labor (Care and Fair, n.d.; Rugmark, n.d.). The Fair Wear Foundation label certifies

that a product is made by employees who have a right to collective bargaining, are not

discriminated against, are paid a living wage, and have reasonable work hours and safe working

conditions (Fair Wear, n.d.). The Oeko-Tex Standard 100 label guarantees that all components of

a product (e.g., threads, buttons, etc.) are harmless to human health (Oeko-Tek Standard 100,

n.d.).

While the International Organization for Standardization developed *Type I*, *II* and *III*

labels for environmental labels, they are based on garment life-cycle analyses (Koszewska,

2015). Because it is difficult to analyze the life-cycle of a garment in terms of its social impact

(Koszewska, 2015), *Type I*, *II* and *III* certifications are not used for social labels. However, the

International Organization for Standardization does use the 26000 classification to offer

organizations standards for social responsibility (International Organization for Standardization,

2010). That is, those organizations that meet the International Organization for Standardization's

guidelines for social responsibility can appeal to a third-party certification agency for the use of

the ISO 26000 label (International Organization for Standardization, 2010). In addition to

ecological and social labels, apparel producers may also use sustainability labels on products.

Such labels are those that communicate both a product's ecological and social impact

(Koszewska, 2015). Examples include the Global Organic Textile Standard and Cradle to Cradle

(Koszewska, 2015), Fair-Trade, Oeko-Tex Made in Green, and BLUESIGN labels. Similar to

social labels, each of these labels maintains different requirements for its use. The BLUESIGN

label signifies that a product is manufactured with the lowest possible impact on people and the

environment (Bluesign, n.d.). The Global Organic Textile Standard label illustrates that a product

is made in accordance with environmental and social standards, such as the use of organic fibers

and no use of child labor (Global Organic Textile Standard, n.d.). The Cradle-to-Cradle label

indicates that a product is made with materials healthy for humans and the environment, as well

as uses methods that promote product circularity, clean air and climate protection, water and soil

stewardship and social fairness (Cradle to Cradle, n.d.). The Fair-Trade label indicates that a

product was made in safe working conditions using methods that support environmental

protection and sustainable livelihoods (Fair Trade, n.d.). Lastly, the Oeko-Tex Made in Green

label communicates that a product is made without harmful substances and in a socially

responsible way (Oeko-Tex Made, n.d.). Table 2 provides a review of commonly used

environmental, social, and sustainable apparel labels, as well as relevant apparel labeling

associations.

Table 2. Examples of Apparel Labels and Labeling Associations

Name/Source	Type	Description	Logo
Blue Angel www.blauer-engel.de/en	Ecological-ISO Type I	Ecolabel of Germany that certifies the environmental friendliness of a breadth of products across their entire lifecycle. More than 20,000 products are certified by Blue Angel including textiles, clothing, and shoes.	
BLUESIGN www.bluesign.com/	Sustainable	The BLUESIGN logo ensures that textile consumer products are manufactured with the lowest possible impact on people and the environment.	
Care and Fair www.care-fair.org	Social	The Care and Fair initiative works against the use of illegal child labor in the carpet industry.	
Clean Clothes Campaign https://cleanclothes.org/	Social	The Clean Clothes Campaign is a network of more than 235 organizations located in over 45 countries that focuses on the protection of laborers in the garment and sportswear industries.	
Cradle to Cradle www.c2ccertified.org/	Sustainable	The Cradle to Cradle program promotes the use of safe, circular, and responsibly made products. Certification addresses five dimensions: that materials used are healthy for humans and the environment, product circularity, clean air and climate protection, water and soil stewardship and social fairness. Products include apparel, shoes, and textiles.	

Name/Source	Type	Description	Logo
EU Eco-Label www.ecolabel.eu	Ecological- ISO Type I	The EU Eco-Label certifies the environmental friendliness of a diverse range of products and services, attesting they are environmentally friendly across their entire lifecycle. Products include clothing, textiles, and footwear.	
Fair-Trade Certification www.fairtradecertified.org	Sustainable	The Fair-Trade certification addresses social, environmental, and economic standards, ensuring that the production of Fair-Trade certified products is in accordance with safe working conditions, environmental protection, and sustainable livelihoods. Products include food, clothing, flowers, shoes, home goods and beauty products.	
Fair Wear Foundation www.fairwear.org/	Social	The Fair Wear Foundation is an independent organization of more than 147 brands focused on improving the working conditions of garment laborers.	
Global Organic Textile Standard (GOTS) https://global-standard.org/	Sustainable	GOTS ensures that the production of textiles is in accordance with environmental and social standards.	
Nordic Swan www.nordic-ecolabel.org/	Ecological- ISO Type I	The Nordic Swan is the official ecolabel of the Nordic countries. Testing products across their entire lifecycle, the Nordic Swan logo attests that certified products are environmentally friendly.	

Name/Source	Type	Description	Logo
Oeko-Tex Standard 100 www.oeko-tex.com/	Social	The Oeko-Tex Standard 100 attests that every component of a textile article, including threads, buttons, and other accessories, are free from substances harmful to humans.	
Oeko-Tex Made in Green www.oeko-tex.com/	Sustainable	The Oeko-Tex Made in Green logo attests that textiles are made without harmful substances and in socially responsible ways.	
Rugmark https://rugmarkindia.de/	Social	The Rugmark certification ensures that carpets have been manufactured and exported by companies that do not use illegal child labor.	

Past studies have found consumer interest in increased apparel production transparency (Amed et al., 2019; Ditty, 2020; Goworek et al., 2012; Sustainable Apparel Coalition, 2019; Williams & Hodges, 2022b; Vehmas et al., 2018; Yudina, 2017). According to the literature, consumers are most interested in knowing about the quality of the materials being used (Sustainable Apparel Coalition, 2019), the working conditions of laborers (Modi & Zhao, 2021; Williams & Hodges, 2022b) and the environmental impact of apparel production (Amed et al., 2019; Ditty, 2020). Studies have found that consumers prefer such information to be communicated in an explicit, concise, and in an easy-to-understand manner (Han et al., 2017; Hyllegard et al., 2012; Ma et al., 2017; McNeill & Moore, 2015; Williams & Hodges, 2022b; Yan et al., 2012). Modes of preferred communication include narratives (e.g., stories about who and/or how the apparel item was made), logos, hangtags (Hyllegard et al., 2012; Lee et al., 2020; Li & Leonas, 2021; Sustainable Apparel Coalition, 2019) as well as social media, websites, product labels, or QR codes (Sustainable Apparel Coalition, 2019; Williams & Hodges, 2022b). Findings of past research suggest that producers should use multiple communication channels and media to engage consumers (Han et al., 2017; Vehmas et al., 2018).

Despite a consumer interest in accessing more information concerning the production of the apparel they purchase, the industry has yet to implement a universal label to communicate such details (Radhakrishnan, 2014). However, some apparel producers currently use the Higg Index to self-evaluate their supply chain and products along environmental and social dimensions (Radhakrishnan, 2014). The Higg Index, created by the Sustainable Apparel Coalition, is a "…suite of tools for the measurement of value chain sustainability" (Sustainable Apparel Coalition, n.d.). The Higg Index offers producers five tools to assess the social and environmental costs of the apparel they produce: the Higg Facility Environmental Module, the

Higg Facility Social and Labor Module, the Higg Brand and Retail Module, the Higg Materials

Sustainability Index, and the Higg Product Module (Sustainable Apparel Coalition, n.d.). By

accessing these tools, producers can self-evaluate their supply chains, identify places along their

supply chain to improve sustainability, and compare the sustainability of their products with

other brands in the apparel and footwear industry (Kozar & Connell, 2015; Sustainable Apparel

Coalition, n.d.; Yudina, 2017).

      Beginning in May of 2021, some parts of the Higg Index score, mainly the environmental

impact of materials, were released for consumer access for select brands, including H&M,

Amazon, and Norrona (Sustainable Apparel Coalition, 2021). However, the full breadth of the

Higg Index information is not yet available to consumers (Sustainable Apparel Coalition, 2019).

Nevertheless, prior research suggests there is consumer interest in accessing such an index

(Sustainable Apparel Coalition, 2019), with many consumers reporting they would pay attention

to a product's Higg Index score should it be communicated via an apparel hangtag (Yudina,

2017).

      While the apparel industry has not yet implemented a sustainability index, the food

industry has implemented a handful of indices to communicate the nutritional value of food, such

as the Guiding Stars (see Figure 8) and the Traffic Light Program (see Figure 9). The Guiding

Stars index allows consumers to understand the nutritional value of food items based on an

ascending scale of zero to three stars, with three stars reflecting foods high in nutrition

(Karamanos et al., 2019). Likewise, the Traffic Light program uses red, yellow, and green

coloring to communicate high, medium, and low levels of calories, sugar, salt, and fat

(Karamanos et al., 2019). Preliminary research indicates that the Guiding Stars program has

resulted in an increased purchase of more nutritionally valuable food (Sutherland et al., 2010)

and the Traffic Light program has resulted in fewer purchases of red labeled products high in sugar or fats (Scarborough et al., 2015).

Figure 8. Example of Guiding Star Nutrition Label
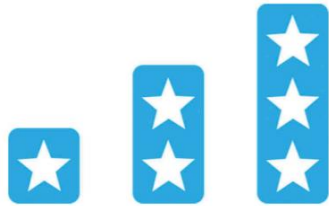
Note. From *Guiding Stars*, n.d. (https://guidingstars.ca/about/).

Figure 9. Example of Traffic Light Nutrition Label

Note. From *Check the label* by Food Standards Agency, 2020 (https://www.food.gov.uk/safety-hygiene/check-the-label).

Consumer Use of Labels

The literature regarding whether consumers access and utilize the information provided on apparel labels is mixed. Hyllegard et al. (2012) found that 60% of American respondents read hangtags on a frequent or very frequent basis. When it comes to utilizing the care label, three quarters of American women consult a garment's label for care information, factoring this into the cost of a garment prior to purchasing it (Label Consciousness, 2007). In a Canadian study, half of participants reported using the information on care labels almost always or always when choosing apparel (Feltham & Martin, 2006) and in a South African study, 52% of participants

always read labels, indicating that their purchase decisions were affected by the information displayed on the label (Van Der Merwe et al., 2014). However, in a U.K. based study, Iwanow et al. (2005) found that only 11% of consumers frequently looked at the label of branded apparel prior to purchasing it, and in a Norwegian based study (Laitala & Klepp, 2013), not all participants read the care labels, with many relying on their previous experience with similar garments to care for clothing.

As discussed in Chapter I, previous studies have demonstrated that environmental, social, and sustainability labels enable consumers to make more environmentally and socially responsible purchase decisions (D'Souza et al., 2006; Hyllegard et al., 2012; Ma et al., 2017). Indeed, prior research suggests that such labels positively affect consumer knowledge, and subsequently their purchase intention of sustainably-labeled apparel. For example, the more knowledge consumers have, the more likely they are to overcome barriers associated with consuming environmentally friendly textiles and apparel (Kang et al., 2013). Similarly, prior research suggests that consumers with more knowledge regarding the ethical issues surrounding apparel production are more likely to purchase environmentally and socially responsible apparel (Blazquez et al., 2020; Cowan & Kinley, 2014; Diddi & Niehm, 2016; Goworek et al., 2012; Ko & Jin, 2017; Kozar & Connell, 2013; Okur & Saricam, 2018; Zheng & Chi, 2015). Moreover, some research has demonstrated that consumers with more apparel production knowledge have more favorable attitudes toward organic cotton and are more willing to buy organic cotton clothing at higher price points than those with less knowledge (Oh & Abraham 2015). Despite these findings, there are also past studies suggesting that knowledge concerning the production practices of apparel does not always lead to sustainable consumption behavior (Brosdahl &

Carpenter, 2010; Connell & Kozar, 2012; Iwanow et al., 2005; Kim & Damhorst, 1998; Kozar & Connell, 2010).

Prior research also indicates a positive effect of apparel labeling on consumer attitudes toward the label itself, which, in turn, positively affects consumer attitudes toward the purchase of sustainably-labeled apparel. Based on the Technology Acceptance Model, Ma et al. (2017) found that sustainability apparel labels that are perceived to be easy to use (i.e., learning the label is easy, the label is easy to make purchase decisions, and it would be easy to become an expert at using the label) and useful (i.e., the label gives access to useful information, the labels will make purchasing easier, and purchase decisions would be difficult without the label) positively influence attitudes toward the use of the label, which, in turn, positively influences consumer purchase intention of sustainably-labeled apparel. Similarly, Hyllegard et al. (2012) determined that consumers have more favorable attitudes toward hangtags with prosocial, explicit claims than hangtags without such claims. In Hyllegard et al.'s (2012) experiment, explicit claims were communicated, including that the garment was made without exploitive practices (e.g., sweatshops, unfair wages or child labor), instead of simply stating that the garment was made with fair labor practices. Consumers' positive attitudes toward these prosocial, explicit hangtags, in turn, positively influenced their purchase intention of socially-labeled apparel (Hyllegard, 2012). Hyllegard et al. (2014) reached similar conclusions, finding that college students preferred t-shirts with hangtags containing prosocial claims vs. hangtags without such claims. Prosocial hangtags, in turn, influenced their attitudes and purchase intention of socially labeled apparel (Hyllegard et al., 2014).

A direct, positive relationship between social labeling and purchase intention of sustainably-labeled apparel has also been found to exist. For example, Dickson (2001) found that

participants' purchase intention of sustainable apparel was influenced by the inclusion of a no-sweat label, which indicates that the apparel was made in fair working conditions. Similarly, Hustvedt et al. (2008) suggested that, in some cases, consumers are motivated to purchase apparel products that are labeled for animal welfare. Positive consumer purchase intention also resulted from apparel items labeled as containing organic, non-genetically modified or locally-produced fibers (Hustvedt & Bernard, 2008). In addition, previous studies suggest that apparel products labeled as environmentally friendly, ethically sourced, produced with 100% cotton or organic resulted in positive purchase intentions (Byrd & Su, 2021). Some consumers are willing to pay more for apparel products labeled as organic, natural, eco-friendly, sustainable (Bernard et al., 2013) or that the apparel product was made in accordance with international labor laws by workers that are a part of an independent trade union (Hustvedt & Bernard, 2010).

Past studies suggest that brands also benefit from positive attitudes that result from the use of social labelling. For instance, Yan et al. (2010) found that participants developed more favorable attitudes toward brands that used labeling to depict the fair treatment of workers, as opposed to brands that promoted sexual or dual (sexual and fair treatment of workers) appeals. Similarly, Hyllegard et al. (2012) found that the use of socially responsible labelling resulted in positive attitudes toward the brand.

Criticism of Apparel Labels

While labels provide consumers with information, there are currently more than 300 different labels used on consumer products in general, which can cause confusion, as there is no unified, single system to vet the labels that are put on products (Case, 2009). Additionally, technical jargon and confusing symbols may make the label difficult to understand (Baker, 2002; Van der Merwe et al., 2014). For these reasons, the current labels available in the marketplace

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can contribute to excess cognitive demand, cynicism, and lack of knowledge, as consumers attempt to understand what each label means and whether the label reflects how sustainable an item is. Moreover, one drawback of labeling sustainable items as different from conventional ones is that it can cause consumer skepticism, as they try to discern the differences between the two types of products (James & Montgomery, 2017b). As a result, consumers perceive two separate and distinct markets, one that contains sustainable products and one that does not, thereby forcing them to make a choice between the two (James & Montgomery, 2017b). Furthermore, the use of social labeling and segregating sustainable products from other apparel "...discourage[s] retailers from embedding social responsibility into their core business values. As a result, this approach discourages the industry from moving towards a more socially responsible future" (James & Montgomery, 2017b, p. 26). However, if brands were to make sustainable clothing a central feature of their collections, then greater overall social responsibility could be achieved, as the brand would be demonstrating its total commitment to sustainability and there would be only one, unified marketplace for consumers to choose from (James & Montgomery, 2017b).

As discussed in this section, previous research demonstrates that labels provide consumers with important information at the point of sale (Hilowitz, 1997), thereby enabling them to make informed purchasing decisions (Hyllegard, 2012). While labels in general can help consumers differentiate among brands (Baker, 2002), ecological, social, and sustainable labels offer consumers information regarding the environmental and social costs of an item's production (Koszewska, 2015). In this way, ecological, social, and sustainable labels can serve as a form of corporate social responsibility, as they offer brands the opportunity to demonstrate their commitment to environmental and social responsibility to consumers (D'Souza, 2000;

Koszewska, 2011). The next section provides an overview of the literature on corporate social responsibility, including its benefits and uses in the apparel industry.

Corporate Social Responsibility

Given that social, environmental, and sustainable apparel labels communicate social and/or environmental aspects of a garment, such labels can be considered a form of corporate social responsibility (CSR) communication. CSR is loosely defined as "…a company's commitment to minimizing or eliminating any harmful effects and maximizing its long-run beneficial impact on society" (Mohr et al., 2001, p. 47). Thus, the purpose of CSR is to "align a company's social and environmental activities with its business purpose and values" (Rangan et al., 2015, para. 1). There is no definitive guide to what constitutes CSR. Some argue that CSR should only be about returning profits to shareholders (Friedman, 1970). However, others contend that CSR should address society's expectations of business responsibilities across economic, legal, ethical, and/or discretionary dimensions (Carroll, 1979; Elkington, 1998; Gomory & Sylla, 2013; Niesenbaum, 2020). Economic responsibilities include producing goods and services that society wants and to sell them at a profit (Carroll, 1979). Legally, society expects a firm to fulfill its economic goals while abiding by legal guidelines (Carroll, 1979). While Carroll (1979) maintained that it is difficult to define ethical responsibilities, he suggested that society expects businesses to behave in ways that go beyond their legal responsibilities. Lastly, discretionary responsibilities refer to business actions that are not required by law, or expected by society, such as philanthropy or offering childcare to employees (Carroll, 1979).

Examples of CSR stem from the creation and establishment of original corporations. The term *corporation* is derived from the Latin term corpus, meaning "body of the people," and early corporations under Roman law, such as hospitals or homes for the poor, served social purposes

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(Chaffee, 2017). The concept of corporations fulfilling social purposes extended into Anglo-American law, as the British Crown used corporate law to create corporate charters for social purposes and land exploration (Chaffee, 2017). Once the United States established its independence, it relied on the foundations of Anglo law to develop American law, one example being the use of corporate charters to establish social entities, such as churches and charities (Chaffee, 2017). During and after American industrialization, businessmen such as Henry Ford engaged in CSR by paying automobile factory workers above-average industry wages, as well as by using the firm's profits to establish universities, libraries, and parks (Savitz & Weber, 2014). After World War II, due to economic prosperity, businesses pursued multiple goals, including positively contributing to their communities (Gomory & Sylla, 2013). However, in the 1970s, a shift in CSR attitude was seen in the United States (Gomory & Sylla, 2013). As businesses were losing profits due to competition and globalization, business leaders and academics began to maintain that a company's root purpose was to return profits to shareholders, not to directly provide for society (Gomory & Sylla, 2013). This mentality still drives many businesses today, although some businesses are heeding the call to incorporate more CSR activity into their operations (Gomory & Sylla, 2013).

Benefits of Corporate Social Responsibility

There are a myriad of benefits for corporations that engage in CSR. One benefit is a viable society. A symbiotic relationship exists between society and businesses as "…the long-term viability of the corporation depends upon its responsibility to the society of which it is a part. And the well-being of society depends upon profitable and responsible business enterprises" ("Statement on corporate," 1981, p. 12). Businesses need functioning societies to thrive. If a society lacks employable workers, or members without discretionary income, then the

operation of a business may be compromised. Therefore, businesses have a duty to support the

societies that they are a part of, if, at the very least, to ensure their economic and operational

longevity (Gomory & Sylla, 2013). Another benefit of engaging in CSR for a firm is to ensure

the future availability of natural resources. It is estimated that the resources of three Planet Earths

will be needed to sustain current consumption levels (James & Montgomery, 2017b). If changes

are not made to include the sustainable use of natural resources, which can be achieved via CSR

activities, then the availability of resources to support future business operations will be

questionable.

Beyond environmental reasons to engage in CSR, it can also be used to mitigate social

tensions, such as income inequality. Prior to the shift in views of CSR in the 1970s, the average

wages for lower-level production and non-supervisory employees "…grew 100 percent, and the

share of national income received by the top 1 percent of earners...ranged from 9 to 13 percent"

(Gomory & Sylla, 2013, p. 109). However, from 1979 to 2009, the growth in wages changed as

the compensation for lower-level employees "…rose 8 percent, and the top 1 percent of earners

increased their share of national income to more than 23 percent" (Gomory & Sylla, 2013, p.

109). As a result of this income inequality, the United States has experienced various protests,

most recently the "Occupy" movement (Solomon, 2017). By engaging in CSR behaviors like

paying a living wage, the income gap and related social tension could lessen, and there may be

more disposable income circulating in the economy to further support businesses.

For those who maintain Milton Friedman's (1970) position that the sole social

responsibility of business is to return profits to shareholders, there is research to support that

businesses engaged in CSR are more profitable than those who are not invested in such activities

(Dubner, 2012). For example, researchers tracked 180 U.S. companies over 20 years to measure

the impact of CSR on a company's bottom line (Dubner, 2012). Results indicated that those firms with high sustainability measures, based on "...their governance systems, business policies, and cultural characteristics…" (Savitz & Weber, 2014, p. 43) outperformed those with low sustainability measures, both in terms of stock market and operating performance (Dubner, 2012). Specifically, "...$1.00 invested in 1993 in a portfolio made up of the high-sustainability companies would have grown, by 2010, to $22.60, whereas $1.00 invested in the low-sustainability companies would have grown to just $15.40" (Savitz & Weber, 2014, p. 43). According to Savitz and Weber (2014), profits can also be increased by paying higher-than-average industry wages. The authors provide the example of when, in 1913, industry leaders were cutting wages to reduce costs, yet Ford was able to increase profits by maintaining a high wage, which subsequently eliminated employee turnover in its factory, resulting in reduced operating costs (Savitz & Weber, 2014).

Further benefits of CSR, which also have profit implications, center on consumer behavior. When a company is transparent, the consumer begins to trust the company more and sees it as being a responsible entity that takes responsibility for its actions (James & Montgomery, 2017a). As a result, the brand image of that company improves, as does its customer loyalty (James & Montgomery, 2017a). Companies that engage in CSR begin to differentiate themselves from their competitors, making their differences known to consumers, thereby creating a competitive advantage (James & Montgomery, 2017a).

Profits can also be realized by engaging in CSR that is eco-friendly, or eco-efficient (Savitz & Weber, 2014). Eco-efficiency "... means reducing the amount of resources used to produce goods and services, which increases a company's profitability while decreasing its environmental impact" (Savitz & Weber, 2014, p. 48). For instance, in 2005, when Walmart

adopted a strategy to reduce waste, the company not only reduced its total amount of waste and increased the amount it recycles in its U.S. operations by as much as 80 percent, but efforts to reduce its use of packaging were estimated to have saved the company between $12 and $13 billion (Savitz & Weber, 2014). Another example is Unilever, whose adoption of eco-efficient strategies in 2011 netted the company approximately $61 million in savings, and a cumulative estimate of $328 million in savings since 2006 (Savitz & Weber, 2014, p. 48).

An additional benefit of CSR is that it can help to protect the operational viability of a business (Savitz & Weber, 2014). For instance, in 2002, a water shortage in Kerala, India, a location home to both Coca-Cola and Pepsi bottling plants, caused the local population to blame both soda companies for taking away needed water (Savitz & Weber, 2014). Realizing that the local population viewed the bottling of soda, while people lacked fresh water, to be irresponsible, Pepsi responded with a CSR initiative. Pepsi not only improved the Kerala water well but also built community wells in surrounding areas (Savitz & Weber, 2014). Coca-Cola did not follow suit, and in 2004, the Coca-Cola plant was shut down by the Keralan government (Savitz & Weber, 2014). When the Keralan government attempted to do the same to Pepsi, there was little support from the locals, and the government's efforts were even thwarted by local villagers (Savitz & Weber, 2014). As a result of Pepsi's CSR activities, it is still in operation in Kerala, whereas its competitor, Coca-Cola, is not (Savitz & Weber, 2014).

Corporate Social Responsibility in the Fashion Industry

The scope of CSR in the fashion industry is wide. For instance, some fashion firms engage in broad CSR strategies, such as establishing sustainable supply chains and publishing annual reports (James & Montgomery, 2017a). Attempts to establish sustainable supply chains largely revolve around a manufacturer creating its own code of conduct that it then holds its

suppliers accountable for adhering to via monitoring and auditing practices (Turker & Altuntas, 2014). Auditing is described as when "...relevant company employees conduct factory visits to suppliers to ensure that their factory code of conduct is being adhered to. Issues observed include the health and safety of the working environment, working hours, provision of paid overtime and employment records" (James & Montgomery, 2017a, p. 69). A specific example of this practice is the fast fashion firm H&M's multi-level auditing system, used to ensure that its supply chain adheres to established labor and ethical guidelines (Heuermann, 2018). H&M rewards high scoring auditees with long-term economic opportunities and reduces orders from suppliers who fail to adhere to its sustainability standards or ignore its recommendations for improving sustainability (Heuermann, 2018). Another method that reflects a firm's CSR activities is annual reporting, which summarizes its performance and values for that year (James & Montgomery, 2017a). While some view this simply as a document to communicate key information to stakeholders, James and Montgomery (2017a) maintain that annual reporting can also "be considered a valuable communication tool that improves consumer trust and diminishes the threat of greenwashing" (p. 74).

More direct CSR actions on behalf of fashion companies include joining CSR driven initiatives, such as Marks and Spencer's work with its manufacturers to provide educational services that improve upon the literacy and health of its garment manufacturer employees (James & Montgomery 2016b). Moreover, Marks and Spencer invests in the infrastructure of its contractors' towns to improve upon sanitation and education, as well as to install sustainably built factories (James & Montgomery, 2016b). Another fashion brand, C&A, funds a project, Terre des Hommes, which strives to provide thousands of young women with employment (Turker & Altuntas, 2014).

Some fashion firms support initiatives that pressure the governments of supply chain countries by refusing to do business in a country until relevant unethical practices are addressed and remediated (Turker & Altuntas, 2014). For instance, C&A has refused the use of Uzbekistani cotton in its goods until issues such as child labor and the depletion of natural resources are addressed (Turker & Altuntas, 2014).

"Thank You" campaigns, a strategy used to not only thank consumers for their patronage but to demonstrate how their purchase benefits society (James & Montgomery, 2017a) is another CSR strategy employed by fashion firms such as Marks and Spencer (James & Montgomery, 2017b). This strategy encourages consumers to realize the positive contributions they have made, incentivizing them to repeat the behavior in the future (James & Montgomery, 2017b).

Some firms, such as H&M, are also attempting to highlight their offerings of eco-fashion, or more sustainably or ethically produced fashion items, through social labeling and stocking eco-fashion lines (James & Montgomery, 2017a). Other fashion firms, such as Tauko, engage in upcycling, defined as "...the process of re-using materials or products that increases the value of the used materials" (Moisio, 2018, p. 123), to offset waste produced by the fashion industry. Lastly, fashion firms such as H&M and Marks and Spencer have launched programs to facilitate the recycling of used clothing by offering customers the opportunity to discard their clothing via in-store bins in exchange for a discount on new purchases (James & Montgomery, 2017b).

This section presented literature on the concept of CSR and its history, benefits of CSR, as well as its applicability and use in the fashion industry. However, understanding how CSR relates to brand equity is critical to understanding how producers can be incentivized to disclose details (e.g., labor, working and safety conditions, as well as environmental impact of apparel) of

their supply chains. Thus, the next section discusses the literature on brand equity and its relationship to CSR and consumer behavior.

Brand Equity

Beyond the benefits of CSR outlined above, as will be discussed in detail in this section, prior studies suggest that CSR also positively influences a firm's brand equity. As summarized in Chapter I, brand equity is defined by Aaker (1991) as "a set of brand assets and liabilities linked to a brand, its name and symbol, that add to or subtract from the value provided by a product or service to a firm and/or to that firm's customers" (p. 15). Aaker (1991) contended that there are five dimensions that contribute to brand equity: *brand loyalty*, *awareness*, *perceived quality*, *brand associations*, and *other proprietary brand assets* (see Figure 3, p. 16). Interrelationships among the dimensions exist as they interact with one another to contribute to the formation of brand equity (Aaker, 1991). Moreover, brand equity delivers value to consumers, in that it aids their processing and interpretation of information, affects confidence in the purchase decision, and enhances use satisfaction (Aaker, 1991). Firms also benefit from brand equity, as it enhances efficiency and effectiveness of marketing programs, enables brand loyalty, allows for increased prices and margins, enables brand extensions and trade leverage, as well as provides a competitive advantage (Aaker, 1991; Keller, 1998).

Dimensions of Brand Equity

Brand Loyalty

Aaker (1991) argued that brand loyalty is the linchpin of brand equity, as this dimension "is a measure of the attachment that a customer has to a brand" (p. 39). Brand loyalty differs from the other dimensions of brand equity, as it is most tied to a user's experience with the brand (Aaker, 1991). Consumers who are loyal to a brand, as opposed to a product, confer equity to

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that brand, as they are less likely to switch to another brand when their preferred brand makes changes to its price or product features (Aaker, 1991). Thus, brand loyal consumers are less likely to support competitors, ensuring the preferred brand future sales (Aaker, 1991).

There are five hierarchal levels of brand loyalty: the "switcher," the "satisfied/habitual buyer," the "satisfied buyer," the "likes the brand buyer," and the "committed buyer" (Aaker, 1991). The *switchers* are those without brand loyalty, as they are price sensitive and indifferent to brand names (Aaker, 1991). The *satisfied/habitual buyers* are those who are not dissatisfied with a brand, and due to the habitual nature of humans, will continue to support the brand so long as they have no reason to change brands (Aaker, 1991). *Satisfied buyers* are also satisfied with the brand; however, they are hesitant to switch brands, as they will incur some type of switching cost (i.e., time, money, performance risk) should they do so (Aaker, 1991). The *likes the brand buyers* have an affinity for the brand; however, this is a general feeling, and these buyers cannot always explain what it is they like about the brand (Aaker, 1991). Lastly, *committed buyers* are those who see the brand as an expression of who they are, and often will engage in positive word of mouth of the brand (Aaker, 1991). Brand loyal consumers provide the firm with specific benefits, such as reduced marketing costs, increased trade leverage, attraction of new customers, and time to respond to competitive threats (Aaker, 1991). To create and maintain brand loyalty, firms should treat customers with respect, have frequent contact with customers, measure and manage customer satisfaction, create switching costs, and provide extra perks such as thank you letters or coupons (Aaker, 1991).

Brand Awareness

Brand awareness is "the ability of a potential buyer to recognize or recall that a brand is a member of a certain product category" (Aaker, 1991, p. 61). Brand awareness can be seen as a

continuum: unawareness of a brand, recognition of a brand as a part of a product class when presented with a list of brands, ability to recall that a brand is a part of a product class without any aid, and considering the brand first when a product is needed (Aaker, 1991; Keller, 1998). Brand awareness provides firms with an anchor to which other associations can be attached (Aaker, 1991). Moreover, brand awareness provides consumers a sense of familiarity from which a feeling of liking can grow (Aaker, 1991). Brand awareness can also symbolize commitment and substance, as there must be a reason why the brand is recognized (Aaker, 1991). Lastly, brand awareness enables brands to become a part of a consumer's consideration set of products or services to purchase (Aaker, 1991). To build brand awareness, firms should be memorable by being different, involve a slogan or jingle, publicize, sponsor events, consider brand extensions, and provide cues to link the product to a product class (Aaker, 1991).

Perceived Quality

Perceived quality is "the customer's perception of the overall quality or superiority of a product/service with respect to its intended purpose relative to alternatives" (Aaker, 1991, p. 85). Perceived quality can incentivize consumers to buy the product or service, differentiate the brand from its competitors, command a price premium, facilitate brand extensions, and garner attention from retailers and distributors (Aaker, 1991). Perceived quality of products can be influenced by such factors as performance, features, reliability, and durability (Aaker, 1991). Similarly, consumer's perceived quality of services is affected by such variables as reliability, competence, responsiveness, empathy, and tangibles (Aaker, 1991).

Brand Associations

Aaker (1991) defines brand associations as "…anything linked to the brand" (p. 109). This can include the product class the brand is a part of, the price of the product, benefits to the

customer, uses of the product or service, and lifestyles the brand can confer (Aaker, 1991). Brand associations can vary based on their strength, with stronger brand associations resulting from frequent experiences and supported by a network of other links (Aaker, 1991). Brand associations help consumers process and retrieve information, differentiate the brand from competitors, create positive attitudes and feelings, are a basis for brand extensions, and give consumers a reason to buy (Aaker, 1991).

Other Proprietary Assets

In Aaker's (1991) conceptualization of brand equity, other proprietary assets reflect a brand's "…patents, trademarks, and channel relationships" (p. 21) as well as price, brand personality, perceived value, and market share (Aaker, 1996). Such assets are useful in preventing competitors from copying the brand (Aaker, 1991). Proprietary assets also help to maintain customer loyalty, as such assets can help consumers differentiate between a brand and its competitors (Aaker, 1991).

Consumer-Based Brand Equity

In contrast to Aaker (1991), Keller (1998) approached brand equity from a consumer perspective and defined consumer-based brand equity as "…the differential effect that brand knowledge has on consumer response to the marketing of that brand" (p. 45). Positive brand equity results when a consumer responds more favorably to a product and the way it is marketed in comparison to products not marketed in the same manner (Keller, 1998). While Aaker (1991) conceptualized brand equity as a set of interrelated dimensions, Keller (2001) believed that brand equity results from a series of sequential steps: *establishing brand identity*, *creating appropriate brand meaning*, *eliciting relevant brand responses*, and *developing brand relationships* which results in *brand resonance* (see Figure 4, p. 19).

The first step, brand identity, reflects who the brand is to the consumer (Keller, 2001). To convey a brand identity, a brand must achieve salient brand awareness, which is demonstrated via the consumer's ability to readily recognize and recall the brand (Keller, 2001). There are two dimensions to brand awareness: depth and breadth (Keller, 2001). Depth reflects how easily consumers can recall or recognize the brand, whereas breadth reflects the extent to which consumers consider the product for their various consumption needs (Keller, 2001).

The second step, brand meaning, reflects the associations a consumer has made with the brand (Keller, 2001). Associations can be functional- or performance-related (i.e., product reliability, durability, and serviceability) as well as abstract- and imagery-related (i.e., associations with user profiles, usage situations, and personality) (Keller, 2001). The former reflects a consumer's experience or contact with the brand, whereas the latter refers to the extrinsic properties of a brand. Brand meanings vary across three dimensions: strength (i.e., the strength of a brand's connection to an association), favorability (i.e., how valuable is the association to the consumer), and uniqueness (i.e., how unique is the brand association to the brand) (Keller, 2001). Brand equity results from strong, favorable, and unique associations (Keller, 2001).

The third step, brand responses, reflects how consumers feel about the brand (Keller, 2001). Brand responses can include judgements and feelings. Judgements reflect a consumer's opinion about the brand around such aspects as quality, credibility, consideration, and superiority. Feelings are a consumer's emotional reactions to the brand and its marketing (Keller, 2001). Consumers can have a range of feelings towards a brand, including warmth, fun, excitement, security, social approval, and self-respect (Keller, 2001).

Once brand identity, brand meaning, and brand response have been established, brands can then achieve the fourth step of brand equity, brand relationships, also known as brand resonance (Keller, 2001). Brand relationships reflect a consumer's resonance with the brand, or the degree to which the consumer connects with the brand (Keller, 2001). According to Keller (2001), brand resonance reflects "the depth of the psychological bond customers have with the brand as well as how much activity this loyalty engenders" (p. 19). Keller (2001) outlined four dimensions of brand resonance, including positive consumer behavioral loyalty, or the frequency and volume of consumer purchases of a brand. Attitudinal attachment, or the degree to which the brand is "…perceived as something special in a broader context" (Keller, 2001, p. 19) is another dimension of brand resonance. For instance, love for a brand is indicative of a consumer's positive attitudinal attachment with a brand (Keller, 2001). A third dimension of brand resonance is a sense of community (Keller, 2001). That is, consumers who feel a sense of kinship with others associated with the brand have a positive sense of community with the brand, which translates into brand resonance (Keller, 2001). Lastly, active engagement or "…when customers are willing to invest time, energy, money, or other resources into the brand beyond those expended during purchase or consumption" (Keller, 2001, p. 19) reflects brand resonance. Examples of active engagement include a consumer's willingness to participate in chat rooms or to sign up to receive updates about the brand (Keller, 2001).

While Aaker (1991) posited five interrelated dimensions of brand equity, and Keller (2001) proposed a series of hierarchical steps, past studies suggest that Aaker's (1991) dimensions of brand equity result in brand resonance. For instance, in the context of apparel, brand performance and brand imagery positively affect a consumer's feelings towards a fashion brand, which then positively affect brand resonance as measured by behavioral loyalty,

attitudinal attachment, consideration set, and price premium (Kim, 2012). Similarly, Frank and Watchravesringkan (2016) determined that brand image positively affects brand resonance as measured by purchase intention, loyalty, and word of mouth for sportswear brands. Perceived quality, brand awareness and brand associations have also been found to positively affect brand resonance for apparel and lifestyle brands (Kim & Brandon, 2012). Beyond apparel, brand equity as measured by associations and perceived quality positively influences brand resonance for theatrical shows (Huang et al., 2014). Duman et al. (2018) also found that consumer feelings and judgements positively affect brand resonance of destination brands.

Finally, Yoo and Donthu (2001) developed and tested a multidimensional measure of consumer-based brand equity, which they defined as "…cognitive and behavioral brand equity at the consumer level" (p. 2). Through their analysis, Yoo and Donthu (2001) determined three brand equity dimensions: brand loyalty, perceived quality, and brand awareness/brand associations. The latter was collapsed into one dimension instead of two as proposed by Aaker (1991), as there was a lack of discriminant validity found between these two constructs (Yoo & Donthu, 2001). Yoo and Donthu's (2001) scale, along with Aaker's (1991) and Keller's (2001) conceptualizations of brand equity provide important interpretations regarding the concept of brand equity as well as how to measure its dimensions. As such, this dissertation adapts these interpretations and measures to better understand whether an apparel sustainability index positively influences dimensions of brand equity.

Corporate Social Responsibility and Brand Equity

Hoeffler and Keller (2002) argued that CSR can directly and positively affect dimensions of brand equity, including brand awareness, brand image, brand credibility, brand feelings, brand community, and brand engagement. Research studies support Hoeffler and Keller's (2002) claim

by demonstrating the effect of CSR on dimensions of brand equity across a diverse range of industries and products. For instance, in the apparel industry, the perceived economic sustainability of fast fashion and sustainable apparel brands, conceptualized as the degree to which these brands offer quality products, positively affect consumers' brand trust (Park & Kim, 2016). Moreover, there is a positive relationship between the extent to which a company is socially responsible and brand trust for sustainable fashion brands (Park & Kim, 2016). Prior research also indicates that apparel and footwear companies that are transparent about their supply chains benefit from increased consumer brand trust (Kang & Hustvedt, 2014) and retailers that sell sustainable clothing and implement environmental stewardship practices benefit from increased customer loyalty (Dabija, 2018). Similarly, past research suggests consumers associate a positive brand image (Gupta & Hodges, 2012) as well as brand awareness, brand associations, perceived quality, and brand loyalty (Staudt et al., 2014) with apparel brands that are engaged in CSR. Lastly, the CSR dimensions of product responsibility, economics, and environment positively affect brand equity as measured by brand loyalty, perceived quality, brand awareness, brand associations, and overall brand equity (Woo, 2013).

As demonstrated, CSR has positive effects on brand equity, including brand awareness, brand loyalty, perceived quality, brand awareness, brand associations, and overall brand equity. As such, apparel firms could be incentivized to disclose aspects of their supply chains (e.g., labor, working and safety conditions, and environmental impact) in exchange for brand equity. Such a process could help to mitigate the SRFC barrier of producer hesitancy discussed earlier in this chapter.

Studies also support such findings in industries beyond apparel. For instance, analyzing the CSR efforts of Lowe's, Target, and Best Buy, Creel (2012) demonstrated that a firm's CSR

efforts positively affect its brand equity dimensions of brand awareness, brand image, brand credibility, brand feelings, sense of brand community, and brand engagement. Similarly, Kang and Namkung (2017) found that Starbuck's perceived ethical, legal, and economic CSR efforts have a significant influence on brand equity as measured by brand awareness, brand image, perceived quality, and brand loyalty. These findings are also indicated in the food industry, as restaurants that implement CSR practices, such as using locally grown, organic, and sustainably produced foods, reducing energy, and promoting recycling benefit from increased consumer intentions to visit, as well as their intentions to recommend the restaurant to others and say positive things about the restaurant (Namkung & Jang, 2013). In addition, this effect is mediated by participants' health and environmental consciousness, as those with high self-perception of health and environmental-consciousness respond more positively to such CSR practices than those with low self-perception of health and environmental-consciousness.

Past studies also noted that hotels benefit from CSR, as such practices positively affect brand image, perceived quality, brand awareness, and brand loyalty (Kim & Kim, 2016; Martinez & Nishiyama, 2019). Likewise, in the manufacturing and services industry, CSR, along with corporate reputation (i.e., the degree to which the customer thinks about a firm and it is highly esteemed), have a positive effect on a firm's financial performance as well as brand loyalty, perceived quality, brand awareness, brand associations, and brand satisfaction (Lai et al., 2010). In the airline industry, Nshimiyimana (2018) conceptualized brand image as containing the variables brand equity, brand loyalty, and brand awareness, and determined that ethical, legal, and economic dimensions of CSR positively affect these variables. For footwear, prior research found that a firm's perceived CSR initiatives positively influence consumer trust, brand loyalty, and consumer-based brand equity (Sharma & Jain, 2019). Another study determined that

the perceived quality of products such as wine, hair loss treatment, teeth whitening and software

increase when consumers are informed of a brand's CSR practices (Chernev & Blair, 2015).

Analyzing the effects of CSR across the oil and gas, power, metals and mining, non-

banking financial companies, and banking industries, Singh and Verma (2017) found that CSR

positively affects the brand equity dimensions of brand awareness, brand image and brand

loyalty, and purchase intention. Similarly, by investigating the effects of CSR across 57 brands

from various countries (e.g., United States, Japan, South Korea, France, United Kingdom, Italy,

Germany, Finland, Switzerland, and The Netherlands) and industries (e.g., mining and

construction, tobacco, beverages, printing, chemicals, transportation, and retail), Torres et al.

(2012) discovered that CSR toward multiple stakeholder groups (i.e., community, customers,

investors, employees, and suppliers) positively influences global brand equity, as measured by

financial revenue, the influence of the brand, and the brand's strength in terms of consumer

loyalty (Torres et al., 2012). Moreover, those CSR initiatives that combine both community- and

customer-focused CSR have the largest effects on brand equity (Torres et al., 2012). For

cosmetics, perceptions of a brand's environmental, social, and economic CSR positively affect

the variables of brand equity (i.e., brand awareness, perceived quality, brand loyalty, brand

associations), brand credibility, and brand reputation. Additionally, a positive relationship

between brand awareness and CSR has been found in a study (Mattera et al., 2014) on Spanish

service companies that hold an ISO 26000, or a certification of social responsibility efforts,

revealing a benefit from brand awareness.

Ailawadi et al. (2014) demonstrated that CSR dimensions of environmental friendliness,

community support, local products and employee fairness positively influence consumers'

loyalty towards grocery retailers. However, the CSR dimensions of environmental friendliness

and community support are negatively related to loyalty for consumers that are more price sensitive and that place greater value on assortment and location convenience (Ailawadi et al., 2014). Financial firms also benefit from increased brand awareness, perceived quality, and brand loyalty because of their CSR efforts (Huang, 2020; Marin et al., 2009; Poolthong & Mandhachitara, 2009). In the hotel industry, CSR positively affects service quality, customer satisfaction, corporate image, and corporate reputation (Latif et al., 2020) as well as brand awareness, quality, associations, and loyalty (Amare, 2020). Lastly, Cowan and Guzman (2020) found that CSR positively contributes to brand equity, especially for corporate brands from countries with low or mid-ranked sustainability reputations (Cowan & Guzman, 2020).

Other studies posited an indirect effect of CSR on brand equity, as CSR has been determined to positively affect brand loyalty, which then positively affects overall brand equity in the automobile industry (Muniz et al., 2019). This effect is greater in countries where CSR activities are perceived to be voluntary, as opposed to government mandated (Muniz et al., 2019). Moreover, Muniz et al. (2019) noted that consumers must be aware of the brand and its CSR activity for the CSR initiatives to affect its brand equity. However, there is an inverted U-shape effect of awareness on brand equity, as more awareness leads to a decrease in equity (Muniz et al., 2019). That is, excessive communication regarding a brand's CSR strategy causes consumer boredom and cynicism, leading to a decrease in brand equity (Muniz et al., 2019). In the context of health insurance, CSR positively influences customer loyalty both directly and indirectly through the variables of co-creation (i.e., collaboration between the brand and the consumer to meet consumer interests and needs) and customer trust (Iglesias et al., 2018). Asatryan and Asamoah (2014) found a similar indirect effect of CSR on brand equity, as their study suggested that CSR positively affects the antecedents of customer loyalty, including

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customer satisfaction, product quality, company image, and consumer trust. Lastly, another study determined that perceived financial performance and perceived quality of ethics statements influence perceived CSR, which then positively affects corporate reputation, consumer trust, and loyalty (Stanaland et al., 2011).

Analyzing a variety of service industries, Iglesias et al. (2018) found that consumers' perceived ethicality of a firm, as measured by social responsibility, environmental responsibility, and the creation of jobs, positively affects brand equity directly, as well as indirectly, through the mediators of recognition benefits (the benefits consumers receive for consuming the brand) and brand image. For sportwear, CSR associations have a direct, positive affect on loyalty (as measured by attitudinal loyalty, purchase intention, expenditure level and word of mouth), and an indirect influence through their positive effect on brand awareness and consumer satisfaction (Rivera et al., 2019). In the banking industry, CSR positively influences corporate reputation as well as brand awareness and brand associations directly, as well as indirectly, through the mediating variable of trust (Fatma et al., 2015). Similarly, a financial firm's legal and ethical forms of CSR positively affect its brand image, which then positively affects its brand equity (Salehzadeh et al., 2018). Similarly, in the hotel industry, Martinez and Del Bosque (2013) determined that CSR affects customer-company identification (i.e., the degree to which a consumer identifies with the company), and that customer-company identification indirectly affects loyalty through the variables of trust and satisfaction. Likewise, there is a positive relationship between a consumer's ethical standards and their perceptions of a company's commitment to CSR activities (Park et al., 2017). The company's CSR commitment results in greater satisfaction with and trust in the company and its services, which then positively

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influences loyalty (Park et al., 2017). Table 3 provides a summary overview of the studies discussed in this section.

Table 3. Summary of Research Regarding CSR and Brand Equity

Author(s)	Industry/ Product	Summary of Findings
Ailawadi et al. (2014)	Grocery	Corporate social responsibility dimensions positively affect consumer attitudes toward the store, which positively affects consumer loyalty. Corporate social responsibility dimensions of environmental friendliness and community support are negatively related to loyalty for consumers that are more price sensitive and that place greater value on assortment and location convenience.
Amare (2020)	Hotel	A firm's stakeholder, environmental and societal corporate social responsibility practices positively affect the brand equity dimensions of awareness, quality, associations, and loyalty.
Asatryan and Asamoah (2014)	Airline	Corporate social responsibility practices positively affect the brand equity dimensions of awareness, quality, associations, and loyalty.
Chernev and Blair (2015)	Consumer products	The perceived quality of consumer products increases when consumers are informed of a brand's corporate social responsibility practices.
Cowan and Guzman (2020)	Luxury, auto, technology, logistics, financial, beverage, hospitality, energy, fast moving consumer goods, business services and media	Consumer perceptions, corporate social responsibility signals, and sustainability signals contribute to brand equity, and can be more effective for corporate brands from countries with low or mid-ranked sustainability reputations.
Creel (2012)	Consumer products	Corporate social responsibility positively affects brand awareness, brand image, brand credibility, brand feelings, sense of brand community and brand engagement.
Dabija (2018)	Apparel	Retailers who implement corporate social responsibility benefit from increased consumer loyalty.
Fatma et al. (2015)	Banking	Corporate social responsibility positively influences corporate reputation, brand awareness and brand association directly as well as indirectly via the mediating variable of trust.

Author(s)	Industry/ Product	Summary of Findings
Gupta and Hodges (2012)	Apparel	Consumers associate a positive image with apparel brands that are engaged in corporate social responsibility.
Hoeffler and Keller (2002)	N/A	Brand awareness, brand image, brand credibility, brand feelings, brand community and brand engagement can be positively influenced by corporate social responsibility.
Huang (2020)	Financial services	Corporate social responsibility efforts affect brand awareness, brand loyalty and perceived quality.
Iglesias et al. (2018)	Hotels, utilities, gas stations, hypermarkets, supermarkets, internet and telephone providers, insurance, clothing retail and financial	Customer perceived ethicality positively affects brand equity directly as well as indirectly through the mediators of recognition benefits and brand image.
Kang and Hustvedt (2014)	Footwear- Nike, New Balance and TOMS	Social responsibility and transparency directly affect participant's trust and attitudes toward the corporation, and indirectly affect their intentions to purchase from and spread positive WOM.
Kang and Namkung (2017)	Restaurant- Starbucks	Ethical, legal, and economic aspects of corporate social responsibility have a significant influence on consumers' perceptions of brand equity.
Kim and Kim (2016)	Hotels	There is a positive relationship among corporate social responsibility, corporate ability, corporate reputation, transparency, and consumer loyalty.
Lai et al. (2010)	Manufacturing and services	Corporate social responsibility and corporate reputation have positive effects on brand equity and brand performance.
Latif et al. (2020)	Hotels	There is a direct, positive impact of corporate social responsibility on service quality, customer satisfaction, corporate image, and corporate reputation.
Marin et al. (2009)	Banking	Corporate social responsibility positively affects brand loyalty, and this effect is stronger when mediated through consumer-company identification.

Author(s)	Industry/ Product	Summary of Findings
Martinez and Del Bosque (2013)	Hotels	Corporate social responsibility and consumer-company identification directly affect satisfaction and trust. These variables both positively affect loyalty.
Martinez and Nishiyama (2019)	Hotels	Corporate social responsibility has positive effects on brand image, perceived quality, brand awareness, and brand loyalty.
Mattera et al. (2014)	Service companies	There is a positive relationship between brand awareness and ISO 26000 certification.
Muniz et al. (2019)	Automobile	Corporate social responsibility positively affects brand loyalty, which then positively affects brand equity. This effect is greater in countries (e.g., Australia and the United States) where corporate social responsibility activities are perceived to be voluntary as opposed to government mandated. Consumers must be aware of the brand and its corporate social responsibility activity to affect brand equity. However, there is an inverted U-shape effect of awareness on brand equity.
Namkung and Jang (2013)	Restaurant	Corporate social responsibility practices that are sustainably and environmentally focused positively influence customer's perceptions of green brand image and behavioral intentions. Those with high health and environmental-consciousness responded more positively to restaurant green practices.
Nshimiyimana (2018)	Airline	Corporate social responsibility positively affects a firm's brand image as measured as brand equity, brand loyalty, and brand awareness.
Park et al. (2017)	Retail	There is a positive relationship between a participant's ethical standards and perceptions of a company's commitment to corporate social responsibility activities. The company's corporate social responsibility commitment results in greater satisfaction with and trust in the company and its services, which then positively influences loyalty.
Park and Kim (2016)	Apparel	The perceived economic sustainability of fast fashion and sustainable apparel brands positively affects consumer's brand

Author(s)	Industry/ Product	Summary of Findings
		trust. Moreover, there is a positive relationship between the extent to which a company is socially responsible and brand trust for sustainable fashion brands.
Poolthong and Mandhachitara (2009)	Banking	Corporate social responsibility positively and directly influences perceived service quality and brand affect. There is also a positive relationship between perceived service quality and trust, and trust and brand affect.
Salehzadeh et al. (2018)	Banking	Corporate social responsibility has a direct effect on brand image. Brand image has a significant direct effect on brand equity.
Sharma and Jain (2019)	Sportswear	Perceived corporate social responsibility initiatives positively influence consumer trust, brand loyalty and brand equity.
Singh and Verma (2017)	Oil and gas, power, metals and mining, non-banking financial companies and banking	Corporate social responsibility positively affects the brand equity dimensions of brand awareness, brand image, brand loyalty and purchase intention.
Stanaland et al. (2011)	Not listed	Perceived financial performance and perceived quality of ethics statements influence perceived corporate social responsibility, which affects corporate reputation, consumer trust, and loyalty.
Staudt et al. (2014)	Not listed	Perceived financial performance and perceived quality of ethics statements influence perceived corporate social responsibility, which affects corporate reputation, consumer trust, and loyalty.
Torres et al. (2012)	Mining and construction, tobacco, beverages, printing, chemicals, metal, machinery, electronics, optics, transportation, radio, television, electric, gas and sanitation services, wholesale and retail trade and public administration	Corporate social responsibility positively influences global brand equity as measured by financial revenue, the influence of the brand and the brand's strength in terms of consumer loyalty. Corporate social responsibility initiatives that combine both community and customer focused corporate social responsibility have the largest effects on brand equity.
Woo (2013)	Apparel/ Adidas, Nike, H&M, Gap, and Levi's	The corporate social responsibility dimensions of product responsibility, economics, and environment positively affect brand equity.

The Effect of Corporate Social Responsibility on Attitude

Past studies note a positive relationship between CSR and consumer attitudes, as a brand's CSR image (i.e., that a brand is aware of environmental issues, fulfills its social responsibilities, and gives more back to society) positively influences consumer attitudes toward the brand (Lee & Lin, 2021). For footwear, perceptions of a corporation's efforts to be transparent regarding production and labor conditions, and to be socially responsible by giving back to the local community, directly affect consumer attitudes toward the corporation (Kang & Hustvedt, 2014).

Attitudes can also be positively influenced through the introduction of new green products (Olsen et al., 2014). However, there is a negative relationship between the quantity of green messages, the environmental legitimacy of the message source, and brand attitudes (Olsen et al., 2014). Moreover, CSR affects brand attitudes toward vice-related products (i.e., alcohol, sweets, and candy) more than virtue-related products (i.e., bottled water, fiber supplements). While not measuring attitude specifically, Brown and Dacin (1997) found that a firm's associations with CSR affect consumer evaluations of that firm's products, as negative CSR associations can have a negative effect on overall product evaluations, whereas positive CSR associations can have the opposite effect. For instance, in the context of apparel, Jung and Seock (2016) found that reports of negative CSR (i.e., that the American Apparel brand was not made locally) negatively affect consumer's attitudes of the brand and subsequently their purchase intention of the brand's products.

In apparel, attitudes can also be influenced by advertising, as exposure to an advertisement with a sustainability message has a direct effect on a brand's CSR image, specifically that the brand is aware of environmental issues, fulfills its social responsibilities, and

gives back to society (Lee & Lin, 2021). CSR image, in turn, positively influences consumer attitude, as well as identification with the brand (Lee & Lin, 2021). Table 4 provides a summary of the aforementioned findings as well as illustrates that the positive relationship between CSR and consumer attitudes exists across a wide range of products and industries, including grocery (Ailawadi et al., 2014) and organic product retailers (Ho, 2017), food (Gatti et al., 2012; Pino et al., 2015), banking (Poolthong & Mandhachitara, 2009), laundry detergent (Rios et al., 2006), electronics (Lii & Lee, 2012), and apparel, household appliances, insurance, travel services and food (Tian et al., 2011).

Table 4. Summary of Research Regarding CSR and Consumer Attitudes

Author(s)	Industry/ Product	Summary of Findings
Ailawadi et al. (2014)	Grocery	Corporate social responsibility dimensions positively affect consumer attitudes toward the store, which positively affect consumer loyalty. Corporate social responsibility dimensions of environmental friendliness and community support are negatively related to loyalty for consumers that are more price sensitive and that place greater value on assortment and location convenience.
Brown and Dacin (1997)	Consumer products	Negative corporate social responsibility associations can have a detrimental effect on overall product evaluations, whereas positive corporate social responsibility associations can enhance product evaluations.
Ho (2017)	Organic products	Corporate social responsibility and environmental concern both have positive effects on attitude toward the retailer. Consumer-retailer love and attitude toward a retailer are the main mediators of the relationship between corporate social responsibility associations, environmental concern, and consumer behavioral intentions.
Jung and Seock (2016)	Apparel	Brand awareness and perceived quality positively affect brand attitude and purchase intention. Participant's brand attitudes and purchase intentions are negatively impacted by negative corporate social responsibility.
Kang and Hustvedt (2014)	Footwear- Nike, New Balance and TOMS	Social responsibility and transparency directly affect participant's trust and attitudes toward the corporation, and indirectly affect their intentions to purchase from and spread positive word of mouth.
Lee and Lin (2021)	Apparel	Exposure to an advertisement with a sustainability message has a direct effect on the brand's corporate social responsibility image. A brand's corporate social responsibility image mediates the relationship between advertisement exposure, perceived brand innovativeness and consumer-brand identification.
Lii and Lee (2012)	Electronics	Corporate social responsibility initiatives have a significant effect on consumer-company identification and brand attitude. Consumer-company identification and brand attitude are key mediators of the relationship between corporate social responsibility initiatives and behavioral intention.
Olsen et al. (2014)	Household products, food, alcoholic beverages, non-	Green new product introductions positively influence brand attitude. The quantity of green messages, the product type and source credibility affect the extent to which new green products change brand attitude.

Author(s)	Industry/ Product	Summary of Findings
	alcoholic beverages, and personal care	
Pino et al. (2015)	Food	Perceptions regarding the producer's philanthropic and legal corporate social responsibility positively affects consumer attitudes and purchase intentions of the product respectively.
Rios et al. (2006)	Laundry detergent	Corporate social responsibility positively affects brand attitude.

Corporate Social Responsibility and Purchase Intention

Past studies suggest a positive relationship between CSR and purchase intention across a range of industries and products, including banking and insurance (Abdeen et al., 2016; Singh & Verma, 2017), consumer products (Dang et al., 2020; Ramesh et al., 2019), food (Du & Bhattacharya, 2007; Gatti et al., 2012; Pino et al., 2015), footwear (Kang & Hustvedt, 2014; Mohr & Web, 2005), apparel (Gupta & Hodges, 2012; Jung & Seock, 2016; Lee & Lee, 2015), electronics (Lii & Lee, 2012), oil and gas, power, metals and mining and non-banking financial companies (Singh & Verma, 2017) and cosmetics (Wang, 2021). Additionally, Tian et al. (2011) found that product categories moderate consumer responses to CSR, as experience products such as refrigerators, air-conditioners, travel services and yogurt are more likely to result in consumers' positive purchase intentions than search (i.e., sports clothes, shoes, and digital cameras) and credence (i.e., insurance services) products.

Other studies have examined mediating variables that influence the effect of CSR on purchase or consumption intention, such as a consumer's awareness of a firm's CSR efforts (Lee & Shin, 2010; Sen et al., 2006; Tian et al., 2011). Similarly, many studies have noted that the relationship between CSR and purchase intention is affected by consumer-company identification, or the degree to which the consumer identifies with a brand or company (Dang et al., 2020; Du & Bhattacharya, 2007; Ho, 2017; Lee & Lee, 2015; Lichtenstein et al., 2004; Lii & Lee, 2012; Sen & Bhattacharya, 2001). Moreover, Sen and Bhattacharya (2001) determined that the issues a company chooses to focus on, the quality of its products, consumer support for CSR issues, and their general beliefs about CSR affect their responses to CSR. Interestingly, under certain circumstances, CSR initiatives can decrease consumer intentions to buy a company's products (Sen & Bhattacharya, 2001). For instance, while CSR can influence purchase intention

directly, its indirect influence on purchase intention through information pertaining to new

product quality results in negative purchase intentions for consumers with high CSR support,

which can be explained by a perceptual contrast effect between CSR and product quality (Sen &

Bhattacharya, 2001). Table 5 provides a summary of the aforementioned findings.

Table 5. Summary of Research Regarding CSR and Purchase Intentions

Author(s)	Industry/Product	Summary of Findings
Abdeen et al. (2016)	Banking and Insurance	Consumers' beliefs of firm's legal, philanthropic, and ethical corporate social responsibility obligations positively influence their support intentions.
Dang et al. (2020)	Consumer products	Perceived corporate social responsibility positively influences consumers' purchase intention. Consumers' self-identification with the brand mediates the relationship between perceptions of a firm's corporate social responsibility and purchase intention.
Du and Bhattacharya (2007)	Yogurt	Positive corporate social responsibility beliefs held by consumers positively affect purchase intention, loyalty, and advocacy. This effect is stronger for brands that integrate their corporate social responsibility and core business strategy.
Gatti et al. (2012)	Christmas cakes	Perceived corporate social responsibility positively affects corporate reputation and purchase intention.
Gupta and Hodges (2012)	Apparel	Consumers associate a positive image with apparel brands that are engaged in corporate social responsibility.
Ho (2017)	Organic products	Corporate social responsibility and environmental concern both positively affect attitude toward the retailer. Consumer-retailer love and attitude toward a retailer are main mediators of the relationship between corporate social responsibility associations, environmental concern, and consumer behavioral intentions.
Jung and Seock (2016)	Apparel	Brand awareness and perceived quality positively affect brand attitude and purchase intention. Participants' brand attitudes and purchase intentions are negatively impacted by negative corporate social responsibility.
Kang and Hustvedt (2014)	Footwear- Nike, New Balance and TOMS	Social responsibility and transparency directly affect participants' trust and attitudes toward the corporation, and indirectly affect their intentions to purchase from and spread positive word of mouth.
Lee and Lee (2015)	Apparel	Consumers' beliefs about a fashion company's economic and legal responsibilities positively and directly influence purchase intention. Beliefs about a fashion company's ethical and philanthropic responsibilities positively and indirectly influence purchase intention through the mediator, self-congruity.
Lee and Shin (2010)	Not specified	There is a positive relationship between consumers' awareness of a firm's corporate social responsibility activities and their purchase intention.

Author(s)	Industry/Product	Summary of Findings
Lichtenstein et al. (2004)	Grocery	Corporate social responsibility perceptions positively affect purchase behavior and donations through customer-corporate identification.
Lii and Lee (2012)	Electronics	Corporate social responsibility initiatives significantly affect consumer-company identification and brand attitude. Consumer-company identification and brand attitude are key mediators of the relationship between corporate social responsibility initiatives and behavioral intention.
Mohr and Webb (2005)	Footwear	Environmental and philanthropic corporate social responsibility have a positive impact on evaluation of the company and purchase intention.
Pino et al. (2015)	Food	Perceptions regarding the producer's philanthropic and legal corporate social responsibility positively affect consumer's attitudes and purchase intention of the product respectively.
Ramesh et al. (2019)	Fast moving consumer goods	There is a direct, positive relationship among corporate social responsibility and brand image, brand attitude and perceived quality.
Sen et al. (2006)	Corporate donations	Corporate social responsibility awareness positively affects participant's consumption, employment, and investment intention with the focal company.
Sen and Bhattacharya (2001)	Electronics	Corporate social responsibility initiatives positively affect consumers' evaluations of the company, which is mediated by the degree to which a consumer identifies with the company and moderated by their support of the company's corporate social responsibility initiatives. Corporate social responsibility initiatives can, under certain conditions, decrease consumers' intentions to buy a company's products.
Singh and Verma (2017)	Oil and gas, power, metals and mining, non-banking financial companies and banking	Corporate social responsibility positively affects the brand equity dimensions of brand awareness, brand image, brand loyalty and purchase intention.
Tian et al. (2011)	Household appliances, traveling, food, apparel, insurance, and digital cameras	Awareness and trust of corporate social responsibility result in positive corporate evaluations, product associations and purchase intention. Product categories moderate consumer responses to corporate social responsibility.
Wang et al. (2021)	Cosmetics	Participants' perceptions of a brand's environmental, social, and economic corporate social responsibility positively affect brand equity, brand credibility, and

Author(s)	Industry/Product	Summary of Findings
		brand reputation. These variables positively mediate the impact of corporate social responsibility perceptions on purchase intention.

As reflected in this section, brand equity is comprised of several dimensions, including brand awareness, brand associations, brand image, brand loyalty, and perceived quality (Aaker, 1991; Keller, 2001; Yoo & Donthu, 2001). Prior research suggests that dimensions of brand equity, along with the purchase intention of a brand's products, and consumer attitudes towards a brand are positively affected by a firm's engagement in CSR (see Tables 3, 4 and 5). As such, brands engaged in CSR benefit from increased brand equity, thereby creating a competitive advantage (Aaker, 1991; Keller, 1998), and enabling consumers to differentiate among brands. In a similar vein, Signaling Theory proposes that consumers can differentiate between low- and high-quality firms as a result of a firm's signals. The following section discusses Signaling Theory in detail.

<div align="center">**Signaling Theory**</div>

In this section, a detailed discussion of Signaling Theory is provided, including its history and how the theory has expanded and been applied across disciplines. A discussion regarding the typologies of signals, as well as how CSR can be considered a form of signaling, is also presented.

History

Signaling Theory stems from Akerlof's (1970) Lemon Model, wherein he argued that the market for automobiles is filled with both good and bad new cars, as well as good and bad old cars. However, only the sellers know the quality of their cars and whether they are selling bad cars, or "lemons" (Akerlof, 1970). Thus, information asymmetry exists, as the sellers of cars have more information concerning the quality of their cars than the buyers (Akerlof, 1970). In the market, sellers of good cars will set their prices higher, and sellers of the "lemons" will have lower prices (Akerlof, 1970). Due to the presence of lower priced cars in the market, buyers will

not pay the price for higher quality automobiles (Akerlof, 1970). As a result, over time, the good

cars are driven out of the market by the "lemons," as the sellers cannot compete with the low

market price (Akerlof, 1970). As such, the existence of inferior goods diminishes the market for

quality goods when information asymmetry is present (Akerlof, 1970). Thus, Akerlof (1970)

suggested that sellers need some way of communicating and ensuring the quality of their

products. Sellers can do this by offering guarantees, using a brand name or a chain store name,

obtaining a license (e.g., medical license), or education (Akerlof, 1970). In each of these

examples, the seller is signaling the quality of a good or service to the consumer, thereby

enabling the consumer to decipher the good products from the "lemons" (Akerlof, 1970).

Spence (1973) built off of Akerlof's (1970) Lemon Model with his seminal article

regarding labor markets by arguing that the labor market is rife with information asymmetry, as

employers cannot observe the productive capabilities of potential employees at the time of hire,

or even immediately after hire. However, there are observable qualities that the employer can

base their assumptions on, including signals and indices (Spence, 1973). Indices are those

attributes that the individual cannot change, such as race and sex, whereas signals are alterable

attributes, such as education (Spence, 1973). While the employer might not know the productive

capability of the potential employee at the time of hire, the employer has formed conditional

probabilities of an employee's productive capability based on their combination of signals and

indices (Spence, 1973). In fact, the employer has developed a wage schedule in accordance with

each set of signals and indices they have experienced previously (Spence, 1973). That is, when

the employee is hired, they are paid in accordance with what the employer has experienced in

terms of the type of capability a particular profile of indices and signals yields (Spence, 1973). A

feedback loop occurs after the employee is hired, as the employer re-evaluates their conditional

probabilities to determine if the employee's profile of signals and indices matches their

assumptions (Spence, 1973). Should the employee's profile yield additional marginal productive

capability or decreased marginal productive capability, the employer's wages offered to

employees in the next round of hiring will be adjusted accordingly (Spence, 1973). An

equilibrium is reached once an employer's assumptions are self-confirming. That is, when an

employer's wage is reflective of a person's marginal productive capability.

Spence (1973) provides an example to illustrate his point. Suppose there are two types of

employees in the labor market: Group I and Group II. Those in Group I have a marginal

productivity of one, whereas those in Group II have a marginal productivity of two. Thus, those

in Group II are of higher quality because they have a higher marginal productivity. The cost of

education for Group I is *y*, whereas the cost of education for Group II is *y/2* (Spence, 1973). See

Table 6 for a summary.

Table 6. Marginal Product and Cost of Education for Groups in the Labor Market

Group	Marginal Product	Cost of Education
I	1	y
II	2	y/2

Note. Reproduced from Spence, M. 1973. Job market signaling. *Quarterly Journal of Economics,*

87, 355-374.

Given the employer's feedback loop of conditional probabilities and wages, the employer

believes there to be some level of education, *y**, wherein $y < y^*$ is indicative of a productivity of

one, and $y \geq y^*$ yields a productivity of two (Spence, 1973). Thus, as illustrated in Figure 10, the

offered wage schedule will be 1 for those with less than *y** of education, and 2 for those with *y**,

or more than y*, of education (Spence, 1973). Given this wage schedule, individuals will self-

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select the optimal level of education to maximize the difference between their earnings and the cost of education. Thus, members of Group I will set y equal to zero because education is costlier than it is for members of Group II, and there is no benefit to investing in education until that individual reaches $y*$ (Spence, 1973). Members of Group II will set y equal to $y*$ because there is no incentive to incur any more education beyond $y*$, as the wage will remain the same (Spence, 1973).

Figure 10. Wage Schedule as a Function of Level of Education
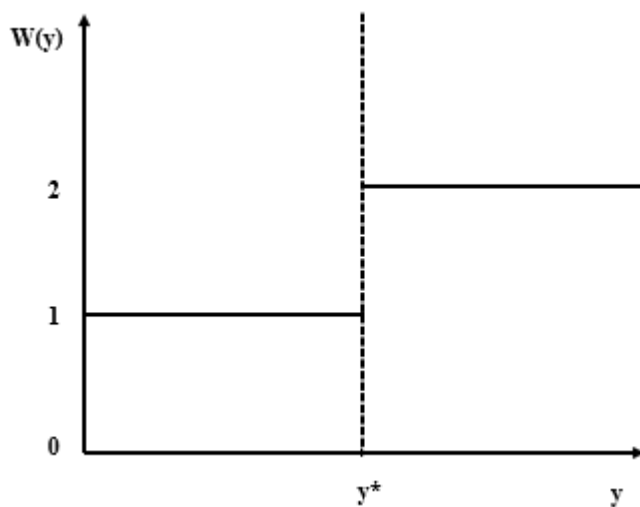
Note. Reproduced from Spence, M. 1973. Job market signaling. *Quarterly Journal of Economics, 87*, 355-374.

Based on Spence's (1973) example, while employers cannot determine the difference between these two groups before hiring, high quality employees are incentivized to invest in education to distinguish their productive capability from low quality employees, as they will be paid a higher wage for doing so (Spence, 1973). A presumption made by Spence (1973) is that the signal and productive capability are negatively correlated. That is, higher investment in education leads to lower productive capability. This difference is critical because if it were not

true, all individuals seeking a job would invest in education, and therefore the signal of education could not discriminate between high- and low-quality candidates (Spence, 1973).

Signaling Theory is applicable to information asymmetry in the apparel industry, as brands are privy to details of their supply chains, yet few firms share these details with consumers. Nevertheless, firms that do share such information could signal their qualities of sustainability to consumers, thereby reducing information asymmetry. For instance, an apparel sustainability index could communicate the sustainability of a brand's supply chain, and, in doing so, create a separation equilibrium, wherein consumers could easily distinguish between high-quality (i.e., more sustainable) and low-quality (i.e., less sustainable) firms.

The Signaling Environment

As summarized in Table 7, the signaling environment is composed of several factors: the signaler, the signal, the receiver, and feedback (Connelly et al., 2011). The signaler is the entity that possesses insider, unobservable information about a product, firm, service, or individual (Connelly et al., 2011). Signalers can include individuals, such as employees (Spence, 1973), investment bankers (Balvers et al., 1988), indigenous peoples (Bird et al., 2005), and entrepreneurs (Leland & Pyle, 1977). Several prior studies suggest that firms are also signalers (Bhattacharrya, 1979; Boulding & Kirmani, 1993; Certo, 2003; Erdem, 1998; Erdem & Swait, 1998; Kirmani & Wright, 1989; Nelson, 1974; Ross, 1977; Wenerfelt,1988; Wolinsky, 1983).

Table 7. Key Components of Signaling Theory

	Signaler	Receiver	Signal	Feedback
Definition	The entity that possesses insider information about a product, item, service, or person that is unobservable to the public.	The entity that would like access to the information possessed by the signaler.	The mode of communicating the unobservable information to the receiver. This is often an extrinsic cue that informs the receiver of a product, item, service, or person's attributes.	The receiver's response to the signal.
Examples	Firms, employees, investment bankers, indigenous peoples, and entrepreneurs.	Investors, consumers, stakeholders, individuals, and firms.	Price, advertisements education, brands, websites, warranties, debt, and dividends.	Perception of quality, purchase intention, investment, reputation, political power, and prestige.

The receiver is the party that would like access to the insider information known to the signaler (Connelly et al., 2011). Previous research suggests those more inclined to use signals are those that are more likely to take on certain forms of risk (i.e., buying the latest electronic gadgets), those with higher purchase intentions of a product category, and those that have a higher perceived benefit of a product category (Dawar & Parker, 1994). Examples of receivers are provided in Table 7 and include firms (Spence, 1973), individuals (Bird et al., 2005), consumers (Boulding & Kirmani, 1993; Dang et al., 2020; Erdem, 1998; Kirmani, 1990; Kirmani & Wright, 1989; Nelson, 1974; Wenerfelt, 1988; Wolinsky, 1983), investors (Balvers et al., 1988; Certo, 2003; Leland & Pyle, 1977; Ross, 1977), and stakeholders (Basdeo et al, 2006).

The signal is the method of communicating the unobserved information to the receiver (Connelly et al., 2011). Signals are often extrinsic cues that reflect attributes about the product, firm, service, or individual (Bloom & Reve, 1990; Richardson et al., 1994). Signals frequently

communicate aspects of quality, which is defined broadly as "…the underlying, unobservable ability of the signaler to fulfill the needs or demands of an outsider observing the signal" (Connelly et al., 2011, p. 43). Outsiders benefit from the dissemination of a signal, as it informs their decision-making process (Connelly et al., 2011).

Signals are characterized by observability and cost (Connelly et al., 2011). Signal observability is how easy the signal is to detect, with more observable signals being more effective at communicating information (Connelly et al., 2011). Signal cost is the cost the person, firm, product, or service incurs because of signaling (Connelly et al., 2011). For instance, according to Spence (1973), those seeking to communicate their quality to potential employers must invest in education, thus, they incur a cost of both time and money to do so. As a result, effective signals result in a separating equilibrium between high-quality and low-quality signalers in the market (Boulding & Kirmani, 1993; Kirmani & Rao, 2000; Spence, 1973). High-quality signalers will invest in the signal as long as the return from doing so exceeds the cost of the signal, whereas low-quality entities will not invest in the signal, as the cost of doing so exceeds the return (Kirmani & Rao, 2000; Spence, 1973). As a result, when the high-quality signaler uses the signal, the receiver is able to distinguish it from the low-quality entity (Boulding & Kirmani, 1993; Kirmani & Rao, 2000; Spence, 1973).

To make signals effective, they must be credible (Boulding & Kirmani, 1993). That is, the receiver of the signal must believe that the high-quality firm is investing in a signal that is too costly for a low-quality firm to use (Boulding & Kirmani, 1993). Credibility can be positively influenced should signals come with a bond, or a type of loss (i.e., profit or reputation), that the signaler will incur should their signal be false, and they sell a low-quality product (Erdem & Swait, 1998; Ippolito, 1990; Kirmani & Rao, 1993).

Typologies of Signals

There are several types of signals. Zerbini (2017) distinguished between direct signals, or those in which the signal comes directly from the signaler, and indirect signals, or those that come from a third party attesting to the quality of the signaler. There are also *dissipative* and *penalty* signals (Kirmani & Rao, 2000; Milgrom & Roberts, 1986; Zerbini, 2017). The former is characterized by high upfront costs, such as advertising (Milgrom & Roberts, 1986), whereas the latter results in a cost to the signaler should the signal not be true (Kirmani & Rao, 2000). Kirmani and Rao (2000) expand upon this concept to develop a typology of marketing signals based on the monetary consequences to the firm resulting in *default-independent* signals and *default-contingent* signals.

Default-independent signals are those in which the potential for a firm to incur monetary losses exists, regardless of whether the firm defaults on its claim (Kirmani & Rao, 2000). This category can be further broken down depending on whether the signal is sale dependent or sale independent. For example, advertising is a sale-independent, default-independent signal, as it is an upfront investment that occurs regardless of whether the firm's claim regarding their product is true, or whether the firm actually sells the product (Kirmani & Rao, 2000). Sale-dependent, default-independent signals, such as low introductory prices, only occur after the sale of the product (Kirmani & Rao, 2000). Low introductory prices signal the quality of the product/service to consumers, as the seller is willing to forego a short-term revenue loss in exchange for a consumer trying their product (Kirmani & Rao, 2000). In instances of default-independent signals, consumers infer that only firms with high quality products/services would be willing to make upfront investments (i.e., advertising), or incur short term losses (i.e., low introductory

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prices) to garner future sales, because firms with inferior products/services would not garner future sales should their products/services be of poor quality (Kirmani & Rao, 2000).

Default-contingent signals are those in which the firm loses money only when the firm defaults on its claim (Kirmani & Rao, 2000). This category can be further dimensionalized based on whether the firm is risking future revenues or future costs. For example, high prices are an example of a default-contingent, revenue risking signal, wherein consumers who are quality sensitive and are willing to pay higher prices for quality products but will not repurchase these products should they end up being of low quality (Kirmani & Rao, 2000). Warranties are an example of a default-contingent cost-risking signal, as products of low quality will result in the consumer calling in the warranty, leading to future costs for the company (Kirmani & Rao, 2000). Thus, consumers infer that a low-quality firm would not be willing to make such claims (Kirmani & Rao, 2000).

Prior research suggests that signals are wide and varied. Funeral feasts and produce displays (Bird et al., 2005), warranties (Boulding & Kirmani, 1993), and websites (Wells et al., 2011) can be considered signals. Previous studies also demonstrate that the type of auditor a firm uses (Balvers et al., 1988), the prestige of a firm's board of directors (Certo, 2003), a firm's debt (Ross, 1977), value of a firm's dividends (Bhattacharrya, 1979), and percentage of ownership retained by entrepreneurs when seeking outsider investment (Leland & Pyle, 1977) are considered signals. Signals can also take the form of advertising (Caves & Greene, 1996; Kirmani, 1990; Kirmani & Wright, 1989; Nelson, 1974), pricing (Caves & Greene, 1996; Wolinsky, 1983), brands (Erdem, 1998; Erdem & Swait, 1998; Wenerfelt, 1988), country of manufacture (Essoussi & Merunka, 2007), market actions such as pricing and marketing (Basdeo et al., 2006), and corporate social responsibility communications (Dang et al., 2020).

Lastly, feedback is the receiver's response to the signal (Connelly et al., 2011). Often, the signal results in the receiver's inference of the quality of a firm, product, or service quality (Bhattacharrya, 1979; Boulding & Kirmani, 1993; Caves & Greene, 1996; Connelly et al., 2011; Erdem, 1998; Erdem & Swait, 1998; Essoussi & Merunka, 2007; Kirmani, 1990; Kirmani & Wright, 1989; Nelson, 1974; Ross, 1977; Wells et al., 2011; Wenerfelt, 1988; Wolinsky, 1983). However, signals have also been determined to result in increased purchase intention (Boulding & Kirmani, 1993; Dang et al., 2020; Wells et al., 2011), investment (Leland & Pyle, 1977), reputation (Basdeo et al., 2006), and political power and prestige (Bird et al., 2005). Table 8 provides a summary of seminal studies employing Signaling Theory.

Table 8. Summary of Select Seminal Signaling Theory Studies

Author(s)	Signaler	Signal/Receiver	Feedback	Summary of Findings
Akerlof (1970)	Sellers	Price/Buyers	Quality	Inferior goods push out quality goods in the market. Thus, signals are necessary to help guarantee the quality of a product.
Balvers et al. (1988)	Investment Bankers	Auditor/Potential Investors	Reduced underpricing	Investment bankers signal the quality of their reputation via the auditing firm they use. This relationship reduces instances of underpricing in initial public offerings.
Basdeo et al. (2006)	Firms	Market actions/ Stakeholders	Corporate reputation	A firm's reputation is positively affected by the number of its market actions (e.g., pricing, marketing, product announcements, new product introductions, capacity and distribution, legal actions, agreements and licensing), complexity of its market actions, the time it takes rivals to respond to its market actions, and similarity of its actions with rivals.
Bhattacharrya (1979)	Firms	Dividends/Outsiders of the firm	Perception of profitability	Dividends can signal the firm's profitability to outsiders.
Boulding and Kirmani (1993)	Firms	Warranties/Consumers	Perception of product quality and purchase intentions	High vs. Low Bond Credibility, Short vs. Long warranty lengths and Limited vs. Unconditional product warranties signal aspects of quality to the consumer.
Certo (2003)	Firms	Board of Directors/ Investors	Improved IPO stock performance	Investor perceptions of board prestige (human and social capital) signal organizational legitimacy, thereby reducing the liability of market newness and improving IPO firm stock performance.
Erdem (1998)	Firms	Brand/Consumers	Perception of quality	Consumers' associations of quality with one brand signals its quality to the same brand in a different category, as consumers use the

Author(s)	Signaler	Signal/Receiver	Feedback	Summary of Findings
				experience with the parent product as a signal of the quality of the brand's extension.
Erdem and Swait (1998)	Firms	Brand/Consumers	Inference of product quality and brand equity	Perceived quality is increased by (a) the credibility and (b) the clarity of the brand signal.
Kirmani (1990)	Firms	Advertising/Consumers	Perception of brand comfort and quality	Consumers' perceptions of advertising costs signal brand quality in an inverted- U shape. Higher ad costs indicate greater brand comfort and quality; however, extremely high costs are associated with lower comfort and quality.
Kirmani and Wright (1989)	Firms	Advertising/Consumers	Perception of quality	Higher expenses of advertising result in higher perceptions of product quality.
Leland and Pyle (1977)	Entrepreneurs	Percentage of ownership/ Investors	Increased investment	Entrepreneurs can signal the quality of their firms by the percentage of ownership they retain in their company when seeking investors.
Milgrom and Roberts (1986)	Firms	Advertising and price/ Consumers	Inference of quality	Simultaneous signals of advertising and product price signal quality to consumers.
Nelson (1974)	Firms	Advertising/Consumers	Inference of quality	For experience goods, advertising signals quality. For search goods, advertising provides information about the characteristics of the brand.
Ross (1977)	Firms	Financial packages of the firm including debt and equity/Investors	Valuation of the firm	Firms can signal their quality by taking on debt as falsely using this signal could result in bankruptcy.
Spence (1973)	Employees	Education/Employers	Inference of quality and higher wages	Employees can signal their quality by investing in education, thus garnering higher wages.
Wenerfelt (1988)	Firms	Brand/Consumers	Perceived product quality	Firms can use their brand to signal quality for a new product.

Author(s)	Signaler	Signal/Receiver	Feedback	Summary of Findings
Wolinksy (1983)	Firms	Price/Consumers	Inference of quality	Firms can signal the quality of their products via price.

Extension of Signaling Theory

Signaling Theory has been adopted in many disciplines to demonstrate how signals can reduce information asymmetry. For instance, in Economics, price (Milgrom & Roberts, 1986; Wolinsky, 1983) and advertising are demonstrated to be signals of quality (Kihlstrom & Riordan, 1984; Nelson, 1974). Researchers in the field of Finance have demonstrated the use of firm debt (Ross, 1977), issuance of dividends (Bhattacharrya, 1979), and the proportion of ownership retained by owners (Leland & Pyle, 1977) as signals of firm quality. Similarly, investment bankers signal the quality of their reputation by the auditing firm they use when undergoing initial public offerings, which reduces instances of underpricing for new initial public offerings (Balvers et al., 1988). In Anthropology, Signaling Theory has been used to explain how such cultural events as the Meriam Islander's funeral feasts and the Abelam big-yam display are signals of quality, such as alliance size and knowledge, respectively (Bird et al., 2005).

Signaling Theory has also been used in Management to demonstrate how the prestige of a firm's board of directors signals the quality of the firm, thereby improving upon its initial public offering stock performance (Certo, 2003). The number and complexity of a firm's market actions (i.e., pricing, marketing, and legal actions) also signal the firm's quality, ultimately affecting its reputation (Basdeo et al., 2006). In Advertising, Signaling Theory has been used to demonstrate how consumers' perceptions of advertising cost signal brand quality, as higher expenses on advertising result in increased perceptions of product quality (Kirmani & Wright, 1989). In a follow up study, Kirmani (1990) determined that perceptions of advertising costs signal brand quality in an inverted U-shape, as perceived higher costs of advertising result in a consumer perceiving the fictious brand of an athletic shoe to have higher comfort and quality; however, extremely high costs are associated with lower brand quality and comfort.

Caves and Greene (1996) used Signaling Theory to demonstrate how price signals quality for convenience goods. In consumer behavior, warranties have been used as signals to communicate the quality of a product to consumers, as bonds with high (vs. low credibility), that are long (vs. short) and have unconditional coverage (vs. limited) signal aspects of quality to the consumer, resulting in increased purchase intention of the product with such a warranty (Boulding & Kirmani, 1993). In Marketing, researchers have used Signaling Theory to illustrate how firms can signal the quality of a new product by using the brand name of an existing product (Erdem, 1998; Wenerfelt, 1988). Moreover, the quality of a firm's website affects consumers' interpretations of product quality, which influences online purchase intentions (Wells et al., 2011).

By surveying MBA students in 38 western, industrialized countries, Dawar and Parker (1994) determined there to be a handful of universal signals of product quality across cultures: brand, price, physical appearance, and retail reputation. Moreover, consumers relied on brand more than price and physical appearance, which was relied on more than retail reputation to determine product quality (Dawar & Parker, 1994). When assessing the quality of cars, consumers may infer quality based on the country of manufacture, especially when the brand of the car is unfamiliar to them (Essoussi & Merunka, 2007). Consumers may also infer quality of a product based on the reputation of the retailer selling the product (Chu & Chu, 1994). Thus, manufacturers of high-quality products will distribute their products to reputable retailers, whereas manufacturers of low-quality products will distribute to a discounter retailer (Chu & Chu, 1994). In retailing, a firm's perceived corporate social responsibility initiatives, such as support for the environment and local community, serve as signals that positively affect consumers' purchase intention and the reputation of the firm (Dang et al., 2020).

Thus, based on prior research, firms use a variety of signals, including advertising, warranties, price, and boards of directors to signal their quality to consumers, resulting in a variety of feedback, including perceptions of comfort and quality, purchase intentions, and positive valuation of the firm. As such, Signaling Theory could demonstrate how apparel brands that utilize an apparel sustainability index label as a signal to communicate sustainability to consumers benefit from a separation equilibrium, as consumers could then distinguish between low-quality (i.e., less sustainable) and high-quality (i.e., more sustainable) apparel brands.

Corporate Social Responsibility as a Signal

In the context of sustainability, prior research demonstrates that firms (i.e., the signaler) use an array of CSR signals to communicate to a variety of receivers (Zerbini, 2017). For example, previous studies suggest that firms can use CSR reports to increase stakeholder perceptions of their CSR performance (Uyar et al., 2020), affect their corporate reputation (Hetze, 2016), and perceptions of quality (Mahoney et al., 2013). Similarly, a firm can benefit from stakeholder perceptions of ethical decision making and behavior by having its senior management team become members of the Ethics Officer Association (Chavez et al., 2011). Increased firm reputation can also result from its CSR efforts (Galbreath, 2010), such as its ethics statements (Stanaland et al., 2010), corporate social performance efforts (Turban & Greening, 1997), and charitable donations (Fombrun & Shanley, 1990). Similarly, a firm can communicate its CSR efforts to consumers, resulting in increased brand equity (Cowan & Guzman, 2020; Huang, 2020), consumer satisfaction (Galbreath, 2010), consumer trust and loyalty (Stanaland et al., 2010), and purchase intention (Dang et al., 2020). Moreover, companies can benefit from increased consumer engagement by posting CSR messages via social media,

such as tweets about community development, consumer issues, human rights, labor practices, and the environment (Saxton et al., 2019).

Firms can also use CSR signals to communicate quality to employees, as firms with a code of ethics benefit from their employees having more positive perceptions of the ethicality of employees as well as support to behave in ethical ways (Adams et al., 2001). Similarly, firms that embody CSR in the form of progressive work environments (i.e., they have works councils, apprenticeship training programs, and a high quality, incumbent workforce) benefit from increased employee recruitment (Backes-Gellner & Tuor, 2010). Firms can increase employee commitment and employee attraction by engaging in corporate environmental (Dögl & Holtbrügge, 2014) and social responsibility efforts (Turban & Greening, 1997), respectively. Previous research also suggests that a firm's ethical, legal, economic, and discretionary CSR efforts reduce employee turnover (Galbreath, 2010).

CSR signals have also been found to positively affect firm-supplier relationships, as suppliers with ethical codes of conduct benefit from continued relationships with a firm (Colwell et al., 2011). Moreover, firms can use CSR signals, such as membership in the Domini Social Index 400 and the Dow Jones Sustainability Indices to benefit financially, as such signals result in increased share prices (Ramchander et al., 2011; Robinson et al., 2011). Other studies support the relationship between a firm's CSR efforts and increased financial performance (Cowan & Guzman, 2020), especially in less developed nations (Su et al., 2014). Table 9 provides a summary of studies on CSR as a signal.

Table 9. Summary of Studies Examining CSR as a Signal

Author(s)	Signaler	Signal/Receiver	Feedback	Summary of Findings
Adams et al. (2001)	Firms	Code of Ethics/Employees	Perception of the ethicality of a firm's employees and support for employees to behave in ethical ways	A company with a code of ethics results in its employees having more positive perceptions of the ethicality of its employees as well as support to behave in ethical ways.
Backes-Gellner and Tuor (2010)	Firms	Works councils, apprenticeship training program and a high-quality incumbent workforce/ Employees	Employee recruitment	CSR in the form of progressive work environments significantly improves employee recruitment.
Chavez et al. (2001)	Firms	Membership in the Ethics Officer Association/ Stakeholders	Perception of a firm's ethical decision making and behavior	Stakeholders are more likely to perceive a firm as having ethical decision making and ethical behavior if that firm's managing members belong to the Ethics Officer Association.
Colwell et al. (2011)	Suppliers	Codes of Conduct/Firms	Business relationship with supplier	Ethical codes of conduct positively influence a firm's continued relationship with a supplier.
Cowan and Guzman (2020)	Firms	CSR/Consumers	Financial performance and brand equity	CSR efforts signal a firm's quality resulting in increased financial performance as well as brand equity.
Dang et al. (2020)	Firms	Perceived CSR/Consumers	Purchase intention	There is a positive relationship between consumers' perceptions of online retailers' CSR efforts and purchase intention.
Dögl and Holtbrügge, (2014)	Firms	Corporate environmental responsibility/Employees	Employee commitment	There is a positive relationship between a firm's corporate environmental responsibility efforts and employee commitment.

Author(s)	Signaler	Signal/Receiver	Feedback	Summary of Findings
Fombrun and Shanley (1990)	Firms	Charitable donations/Consumers	Reputation	Charitable donations positively affect a firm's reputation.
Galbreath (2010)	Firms	CSR efforts/Stakeholders	Employee turnover, customer satisfaction and firm reputation	There is a positive relationship between a firm's CSR efforts and reduced employee turnover, increased customer satisfaction, and increased firm reputation.
Hetze (2016)	Firms	CSR Reports/Stakeholders	Reputation	A conceptualization that CSR reports can signal quality to employees and firms, which affects the firm's reputation.
Huang (2020)	Firms	CSR/Consumers	Brand awareness, perceived quality, and brand loyalty	There is a positive relationship between a firm's CSR efforts and brand awareness, perceived quality, and brand loyalty.
Mahoney et al. (2013)	Firms	CSR Reports/Stakeholders	Perceptions of sustainability	Firms with higher CSR performance scores are more likely to voluntarily release CSR reports.
Ramchander et al. (2011)	Firms	Membership in the Domini Social Index 400/Investors	Share price	There is a positive relationship between the membership in the Domini Social Index 400 and share price.
Robinson et al. (2011)	Firms	Membership in the Dow Jones Sustainability Indices/Investors	Share price	There is a positive relationship between membership in DJSI and a firm's share price.
Saxton et al. (2019)	Firms	CSR social media messages/Consumers	Audience engagement	Companies can engage consumers by posting CSR messages via social media. Effective messages are those that contain CSR topics, use hashtags and/or join preexisting CSR conversations.
Stanaland et al. (2010)	Firms	Perceived quality of ethics statements/Stakeholders	Corporate reputation,	Perceived quality of ethics statements signals perceived CSR, which positively

Author(s)	Signaler	Signal/Receiver	Feedback	Summary of Findings
			consumer trust, and loyalty	influences perceptions of corporate reputation, consumer trust, and loyalty.
Su et al. (2014)	Firms	CSR/Investors	Increased financial performance	In less developed markets, firms can signal their quality via their CSR efforts, resulting in positive financial performance.
Turban and Greening (1997)	Firms	Corporate social performance/Stakeholders	Corporate reputation and employee attraction	There is a positive relationship between a firm's corporate social performance, corporate reputation, and attractiveness as an employer.
Uyar et al. (2020)	Firms	CSR Reports/Stakeholders	Perceptions of a firm's CSR efforts	There is a positive relationship between the publication and frequency of CSR publications and a stakeholder's perceptions of a firm's CSR performance.
Zerbini (2017)	Firms	Ethics officers, ethics committees, code of ethics, training programs, incentive programs, corporate reports, press releases, websites, certifications, memberships, and ratings/Stakeholders	Competitive advantage	This literature review suggests that firms can use CSR initiatives such as ethics officers, ethics committees, code of ethics, training programs, incentive programs, corporate reports, press releases, websites, certifications, memberships, and ratings to signal their sustainability to investors, employees, consumers, and stakeholders.

The Role of Product Category

Research suggests that the level of information asymmetry facing consumers varies across three categories of goods and services: search, experience, and credence (Bloom & Reve, 1990). *Search products* are those in which information concerning the quality of the product is readily accessible in both the pre- and post- purchase stages (Bloom & Reve, 1990; Nelson, 1970). Thus, consumers can make an evaluation of the product prior to purchasing it (Bloom & Reve, 1990). Examples of such products include paper towels, simple household appliances, and food items (Bloom & Reve, 1990). *Experience products* are the those that consumers must experience to assess quality; therefore, consumers do not have a lot of information about the product in the pre-purchase stage but are able to confirm attributes of the product in the post-purchase stage (Bloom & Reve, 1990; Nelson, 1970). Restaurant meals, haircuts, and books are examples of experience products. Lastly, *credence products* are those that consumers have difficulty evaluating, as they possess many attributes that consumers lack the knowledge or ability to effectively evaluate (Bloom & Reve, 1990). For example, services provided by accountants or health professionals are considered credence goods (Bloom & Reve, 1990).

Research suggests that signaling is most effective for experience products, because consumers are unable to assess the quality of such products before purchase, therefore they rely on extrinsic signals to assess the product (Kirmani & Rao, 2000; Wells et al., 2011). Moreover, because consumers can confirm the quality of the product post-purchase, they are then able to confirm the validity of the signal (Kirmani & Rao, 2000; Wells et al., 2011). Kirmani and Rao (2000) argue that Signaling Theory is not necessarily considered as effective for search products or well-known products because information about such products is readily available; thus, the problem of information asymmetry is mitigated. Similarly, Signaling Theory for credence

products may be ineffective because consumers may find it difficult to assess the quality of the product even after use (Darby & Karni, 1973; Kirmani & Rao, 2000). In contrast, Bloom and Reve (1990) contend that signals are most important when marketing credence products, as the lack of information at both the pre and post stages necessitate the need for consumers to receive signals to infer quality. Bloom and Reve (1990) give an example of how consumers are unlikely to be able to assess the quality of a lawyer based on how they litigate a case, but nevertheless, still seek ways to infer quality based on signals, such as the cost of their office furniture or the prestigiousness of their office address.

The literature reviewed in this section has demonstrated the wide array of signals used by various types of signalers to communicate to receivers. However, the extent to which an apparel sustainability index (i.e., signal) can be used as a signal by brands (i.e., the signaler) to communicate quality, conceptualized as sustainability, to the consumer (i.e., the receiver) is underexplored. By adopting Signaling Theory, this dissertation investigated whether and how an apparel sustainability index results in a separation equilibrium, whereby brands with high sustainability scores are considered superior and to possess higher quality in terms of sustainability, compared to brands with low sustainability scores. Moreover, Signaling Theory was used to determine whether the separation equilibrium results in favorable consumer attitudes, brand equity, and brand resonance for firms displaying a higher apparel sustainability index rating. The next section describes these proposed relationships in more detail via the hypotheses that were tested.

Conceptual Model

The purpose of this dissertation was two-fold: (1) to explore consumers' preferred mode

of apparel sustainability communication, and (2) to investigate the effect of this mode on

consumer attitude, brand equity, and brand resonance. Based on the discussion of SRFC, apparel

labeling, CSR, brand equity, and Signaling Theory presented in this chapter, a conceptual

framework was developed to guide the study (see Figure 11). The conceptual model depicts

proposed relationships between the constructs, which will be tested via hypotheses H1 through

H13. A detailed explanation of each hypothesis and its rationale are provided following the

explanation of the figure.

Figure 11. Conceptual Model
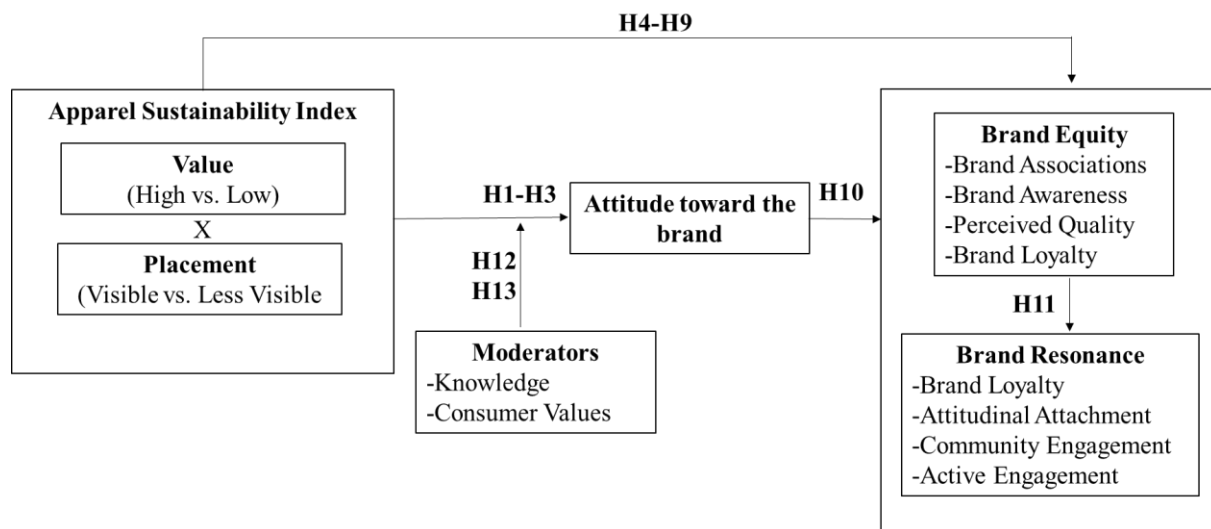
Based on the previously discussed literature, the conceptual model maps relationships

among the concepts of a sustainability index, brand equity, and brand resonance. Specifically,

that an apparel sustainability index's value and placement will affect the consumer's attitude

towards the brand, brand equity, and brand resonance. The model also proposes relationships

between attitude towards the brand and brand equity, as well as between brand equity and brand

resonance. Lastly, the model proposes that knowledge and values will moderate the relationship between the index and attitude towards the brand, attitude towards the brand and brand equity, and brand equity and brand resonance. In sum, the signaler is the brand utilizing the sustainability index. The sustainability index is the signal, and the receiver is the consumer of the brand. Feedback to the signaler will take the form of brand equity and brand resonance. Brand resonance will result from a brand's use of an apparel sustainability index that communicates a high sustainability index value via a visible placement. Furthermore, moderating effects of knowledge and values may influence consumers' attitudes towards a brand that uses a sustainability index.

Hypotheses Development

Based on the conceptual model, several hypotheses were developed which will be discussed in detail below.

The Effect of the Apparel Sustainability Index on Brand Attitudes

Signaling Theory maintains that a signaler can use a signal to communicate quality to a receiver (Spence, 1973). As noted by Connelly et al. (2011), quality is broadly construed as "…the underlying, unobservable ability of the signaler to fulfill the needs or demands of an outsider observing the signal" (p. 43). Indeed, prior research suggests that firms communicate aspects of quality using a variety of signals, including advertising (Kihlstrom & Riordan, 1984; Kirmani, 1990; Kirmani & Wright, 1989; Milgrom & Roberts, 1986; Nelson, 1974), warranties (Boulding & Kirmani, 1993), price (Akerlof, 1970; Milgrom & Roberts, 1986; Wolinsky, 1983), education (Spence, 1973), auditors (Balvers et al., 1988), dividends (Bhattacharrya, 1979), boards of directors (Certo, 2003), and brands (Erdem, 1998; Erdem & Swait, 1998; Wenerfelt, 1988). Moreover, past research noted an apparel firm's use of CSR to signal aspects of

sustainability to stakeholders, resulting in positive consumer attitudes (Jung & Seock, 2016; Lee & Lin, 2021). Research from other industries support similar findings, including footwear (Kang & Hustvedt, 2014), grocery retailers (Ailawadi et al., 2014), food (Ho, 2017; Pino et al., 2015), electronics (Lii & Lee, 2012), and laundry detergent (Rios et al., 2006).

Lastly, signal observability is how easy the signal is to detect, with more observable signals being more effective at communicating information (Connelly et al., 2011). In addition to the aforementioned literature, which notes a positive relationship between CSR and attitudes, prior research suggests that firms that are transparent about their supply chains in the apparel and footwear industry benefit from positive consumer attitudes (Hyllegard et al., 2012; Kang & Hustvedt, 2014; Lee & Lin, 2021; Ma et al., 2017; Yan et al., 2010), and brand equity (Dabija, 2018; Gupta & Hodges, 2012; James & Montgomery, 2017a; Kang & Hustvedt, 2014; Park & Kim, 2016). Thus, the following hypotheses were proposed:

H1: Participants who view a hangtag featuring an apparel sustainability index with a high value are more likely to display favorable attitudes toward the brand as compared to those who view a hangtag featuring an apparel sustainability index with a low value.

H2: Participants who view a hangtag with a more visible apparel sustainability index are more likely to display favorable attitudes toward the brand as compared to those who view a hangtag with a less visible apparel sustainability index.

H3: There will be an interaction effect between the value of an apparel sustainability index and its placement on attitude toward the brand. That is, participants who view a hangtag with a more visible, high-valued apparel sustainability index are more likely to display favorable attitudes toward the brand as compared to those who view a hangtag with a less visible, low-valued apparel sustainability index.

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The Effect of the Apparel Sustainability Index on Brand Evaluations

Previous research also supports a positive relationship between an apparel firm's CSR initiatives and dimensions of brand equity (Gupta & Hodges, 2012; Sharma & Jain, 2019; Woo, 2013). Findings are similar to other industries, including footwear (Kang & Namkung, 2017), retail (Park et al., 2017), hotels (Amare, 2020; Latif et al., 2020; Martinez & Del Bosque, 2013; Martinez & Nishiyama, 2019), consumer products (Creel, 2012; Cowan & Guzman, 2020), finance (Fatma et al., 2015; Huang, 2020; Salehzadeh et al., 2018), manufacturing (Lai et al., 2010), automotive (Muniz et al., 2019), food (Namkung & Jang, 2013), and airlines (Nshimiyima, 2018).

Other studies demonstrate that CSR signals (i.e., when a firm uses CSR messaging, or actions to engage in CSR) positively affect aspects of brand resonance, including consumer engagement (Saxton et al., 2019), and positive word of mouth (Dang et al., 2020; Kang & Hustvedt, 2014; Lii & Lee, 2012). Additionally, CSR signals have been determined to positively influence consumers' purchase intentions of apparel (Jung & Seock, 2016; Lee & Lee, 2015; Tian et al., 2011), consumer products (Dang et al., 2020; Ramesh et al., 2019), footwear (Kang & Hustvedt, 2014; Mohr & Webb, 2005), and cosmetics (Wang et al., 2021).

Similarly, apparel firms that are transparent regarding their production methods benefit from increased brand equity (Dabija, 2018; Gupta & Hodges, 2012; James & Montgomery, 2017a; Kang & Hustvedt, 2014; Park & Kim, 2016) and purchase intentions (Byrd & Su, 2021; Dickson, 2001; Hustvedt et al., 2008; Hustvedt & Bernard, 2008). Thus, based on the aforementioned literature, the following hypotheses were proposed:

H4: Participants who view a hangtag featuring an apparel sustainability index with a high value are more likely to display favorable brand equity evaluations toward the brand as measured by

(a) brand associations, (b) brand awareness, (c) perceived quality, and (d) brand loyalty, compared to those who view a hangtag featuring an apparel sustainability index with a low value.

H5: Participants who view a hangtag with a more visible apparel sustainability index are more likely to display favorable brand equity evaluations toward the brand as measured by (a) brand associations, (b) brand awareness, (c) perceived quality, and (d) brand loyalty, compared to those who view a hangtag with a less visible apparel sustainability index.

H6: There will be an interaction effect between an apparel sustainability index value and placement on brand equity, as participants who view a hangtag with a more visible, high-valued apparel sustainability index are more likely to display favorable brand equity evaluations toward the brand as measured by (a) brand associations, (b) brand awareness, (c) perceived quality, and (d) brand loyalty, compared to those who view a hangtag with a less visible, low-valued apparel sustainability index.

H7: Participants who view a hangtag featuring an apparel sustainability index with a high value are more likely to display favorable brand resonance toward the brand as measured by (a) behavioral loyalty, (b) attitudinal attachment, (c) community engagement, and (d) active engagement, compared to those who view a hangtag featuring an apparel sustainability index with a low value.

H8: Participants who view a hangtag with a more visible apparel sustainability index are more likely to display favorable brand resonance toward the brand as measured by (a) behavioral loyalty, (b) attitudinal attachment, (c) community engagement, and (d) active engagement, compared to those who view a hangtag with a less visible apparel sustainability index.

H9: There will be an interaction effect between an apparel sustainability index value and placement on brand resonance. That is, participants who view a hangtag with a more visible, high-valued apparel sustainability index are more likely to display favorable brand resonance toward the brand as measured by (a) behavioral loyalty, (b) attitudinal attachment, (c) community engagement, and (d) active engagement, compared to those who view a hangtag with a less visible, low-valued apparel sustainability index.

Relationship between Attitudes and Brand Equity

Previous studies note that CSR positively affects consumer attitudes, and subsequently, attitudes positively affect dimensions of brand equity. For instance, some studies have demonstrated that social, sustainable, and/or environmental apparel labels positively affect consumer attitudes towards the label, which then positively affects consumer purchase intentions of sustainably-labeled apparel (Hyllegard et al., 2012; Hyllegard et al., 2014; Ma et al., 2017; Yan et al., 2012). Conversely, negative CSR results in negative consumer attitudes of apparel brands, which subsequently reduces their purchase intention (Jung & Seock, 2016). A similar relationship exists in regards to footwear, as Kang and Hustvedt (2014) found that CSR positively affects consumer attitudes, and such attitudes then positively affect purchase intentions as well as consumer intentions to engage in positive word of mouth for footwear brands. Similarly, Ailawadi et al. (2014) found that CSR positively affects attitudes, which then affects behavioral loyalty for grocery retailers. For foods, prior research has demonstrated that CSR positively affects attitudes, which positively affects consumers' repeat patronage (Ho, 2017), and increased purchase intentions (Pino et al., 2015). Therefore, based on prior studies, the following hypothesis was proposed:

H10: There will be a relationship between consumers' attitude toward the brand and brand equity as measured in terms of (a) brand associations, (b) brand awareness, (c) perceived quality, and (d) brand loyalty.

Relationship between Brand Equity and Brand Resonance

As previously described, Aaker (1991) contended that brand equity results from five interrelated dimensions: brand loyalty, brand associations, brand awareness, perceived quality, and other proprietary assets. However, Keller (2001) conceptualized brand equity as resulting from a series of hierarchal steps. Nevertheless, a relationship between Aaker's (1991) brand equity dimensions and variables of Keller's (2001) brand equity model exists. For example, according to Keller (2001), the first step to brand equity is to achieve brand identity, wherein consumers can easily recognize and recall the brand. This concept is like Aaker's (1991) brand equity dimension of brand awareness. Keller (2001) maintained that the second step, brand meaning, reflects the associations consumers have made with a brand. This step is comparable to Aaker's (1991) brand equity dimension of brand associations. Keller's (2001) third step in the consumer-based brand equity model is for consumers to produce positive responses to the brand. Such responses can be feelings and judgements around such aspects as a brand's quality (Keller, 2001), which reflects Aaker's (1991) brand equity dimension of perceived quality. The last step, brand relationships, reflects a brand's resonance with consumers (Keller, 2001). This variable is largely measured using Aaker's (1991) dimension of brand loyalty as well as attitudinal attachment, sense of community, and active engagement (Keller, 2001). Prior research also suggests that dimensions of brand equity positively influence brand resonance (Duman et al., 2018; Frank & Watchravesringkan, 2016; Huang et al., 2014; Kim, 2012; Kim & Brandon,

2012). Thus, given that many of Aaker's (1991) brand equity dimensions comprise Keller's (2001) stages of brand equity, the following hypothesis was proposed:

H11: There will be a relationship between brand equity and brand resonance.

Moderating Effect of Knowledge and Values

Previous studies demonstrated a positive affect of knowledge on consumer attitudes towards socially and environmentally friendly apparel (Kozar & Connell, 2013; Oh & Abraham, 2015). Similarly, knowledge has been found to mitigate barriers associated with consuming environmentally-friendly textiles and apparel (Kang et al., 2013). Moreover, consumers with more knowledge regarding the ethical issues surrounding apparel production are more likely to purchase environmentally and socially responsible apparel (Blazquez et al., 2020; Cowan & Kinley, 2014; Diddi & Niehm, 2016; Goworek et al., 2012; Ko & Jin, 2017; Kozar & Connell, 2013; Okur & Saricam, 2018; Zheng & Chi, 2015). Thus, based on the literature, it was hypothesized that consumers' SRFC knowledge (i.e., consumers' level of understanding regarding the social implications of apparel production and consumption) will moderate the relationships indicated in H1, H2, and H3.

H12: Consumers' SRFC knowledge (i.e., consumers' level of understanding regarding the social implications of apparel production and consumption) will moderate the relationships proposed in H1, H2, and H3.

Prior research suggests that human values affect consumer behavior, as values are "a desirable transsituational goal varying in importance, which serves as a guiding principle in the life of a person or other social entity" (Schwartz, 1992, p. 21). Schwartz offers four dimensions of values organized across bi-polar scales: openness to change vs. conservation, and self-enhancement vs. self-transcendence. *Openness to change* and *self-enhancement* reflect an

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individual's emphasis on values such as stimulation, hedonism, success, and achievement (Schwartz, 1992). This contrasts with *conservation* and *self-transcendence*, which reflect values of security, concern for others, and benevolence (Schwartz, 1992). Self-transcendence values have been found to positively influence pro-environmental behavior (Diddi & Niehm, 2016; Karp, 1996; Schultz et al., 2005) as well as consumer attitudes towards pro-environmental behavior (Hansen et al., 2012; Manchiraju & Sadachar, 2014).

Stern et al. (1999), building off of Schwartz (1992), postulated that values of egoism, altruism and biospherism affect an individual's consumer behavior. Egoism is a derivative of Schwartz's (1992) self-enhancement and reflects an individual's concern for themselves. Biospherism and altruism are reflective of Schwartz's (1992) self-transcendence, and reflect an individual's concern for the environment and concern for others, respectively (Stern et al., 1999). Previous research suggests that those with high biospheric and altruistic values are more likely to act in environmentally friendly ways (de Groot & Steg, 2009; Kim & Seock, 2019; Lundblad & Davies, 2016; Stern et al., 1999; Stern, 2000; Stern & Dietz, 1994). Conversely, values of self-enhancement (Karp, 1996; Schultz et al., 2005) and egoism (de Groot & Steg, 2009; Stern et al., 1999; Stern & Dietz, 1994) are negatively related to pro-environmental behavior. Therefore, based on the literature, it was hypothesized that:

H13: Consumers' (a) altruistic, (b) biospheric, and (c) egoistic values will moderate the relationships indicated in H1, H2, and H3.

Summary

This chapter provided a review of the areas of literature relevant to the topic of the dissertation. Studies on SRFC, apparel labeling, CSR, brand equity, and Signaling Theory were

discussed. The conceptual model was explained and hypotheses were presented. The next

chapter provides a discussion of the research design that was implemented in the dissertation.

CHAPTER III: METHODOLOGY

As mentioned in Chapter I, the purpose of this dissertation was two-fold: (1) to explore consumers' preferred mode of apparel sustainability communication, and (2) to investigate the effect of this mode on their behavior, including their attitudes toward the brand, brand equity, and brand resonance. Five research objectives were developed to address the purpose:

1. To explore consumer interest in and preference for an apparel sustainability index.

2. To develop a hypothetical, consumer-facing sustainability index for apparel that communicates an item's production "costs."

3. To examine the extent to which the apparel sustainability index affects consumer attitude toward the brand and brand equity.

4. To investigate the effect of the apparel sustainability index on brand resonance.

5. To investigate the relationship between attitude toward the brand, brand equity, and brand resonance.

To address the purpose and objectives of this dissertation, a research design composed of two phases was implemented. The first phase was a preliminary study that featured a qualitative design to address the first and second objectives of this study (*to explore consumers' interest in and preference for an apparel sustainability index*, and *to develop a hypothetical, consumer-facing sustainability index for apparel that communicates an item's production "costs"*) respectively. A qualitative approach to addressing objectives one and two was deemed appropriate given that these objectives are exploratory (Denzin & Lincoln, 2000; Hodges, 2011). As illustrated in Figure 5 (see p. 26), information learned from Phase I enabled the creation of a mock apparel sustainability index, which was the stimulus used in Phase II, an experimental

study. The experimental study was designed to investigate the effects of an apparel sustainability index on consumers' attitudes toward the brand, brand equity and brand resonance, thereby addressing objectives three, four, and five (t*o examine the extent to which the apparel sustainability index affects consumer attitude toward the brand and brand equity, to investigate the effect of the apparel sustainability index on brand resonance* and *to investigate the relationship between attitude toward the brand, brand equity, and brand resonance*) respectively.

In this chapter, the methodology of the dissertation is presented in the following sections: (1) Phase I: Preliminary Study, (2) Phase II: Experimental Study, (3) Sample Selection and Data Collection Process, (4) Statistical Analysis, and (5) Summary.

Phase I: Preliminary Study

Given that little is known regarding the modes and methods of communication that consumers prefer regarding the sustainability of apparel, a qualitative design was utilized to address objectives one and two. Such an approach is ideal when there is an absence of information and therefore more insight is needed to better understand the phenomenon (Denzin & Lincoln, 2000; Hodges, 2011). Moreover, qualitative designs are suitable when the purpose of the research is to explore the phenomenon, rather than to predict outcomes (Denzin & Lincoln, 2000; Hodges, 2011). This section provides a description of the design of the preliminary qualitative study, including data collection as well as participant sample and recruitment. Next, the procedures followed for data analysis are presented. A brief summary of the findings of the preliminary qualitative study is then provided.

Data Collection

With Institutional Review Board (IRB) approval (see Appendix A), the preliminary study employed six mini-focus groups to better understand the modes and methods of communication consumers prefer regarding the sustainability of apparel. Mini-focus groups are characterized by a smaller number of participants who engage in a discussion around the questions asked by the interviewer (Liamputtong, 2011; Toner, 2009). While the recommended size of traditional focus groups is between six and twelve members, mini-focus groups have between two and six members (Liamputtong, 2011). The smaller number enables all participants the opportunity to engage and share their thoughts in detail, often leading to richer data collection (Liamputtong, 2011; Toner, 2009). Moreover, smaller focus groups create a sense of intimacy, enabling participants to feel more comfortable about sharing their opinions (Liamputtong, 2011; Toner, 2009). Additionally, smaller sized focus groups enable smoother transcription of data, as the likelihood of participants talking over one another is minimized (Liamputtong, 2011). Lastly, mini-focus groups also account for last minute participant cancellations, as the focus group can have as little as two participants, yet still yield rich data (Liamputtong, 2011).

The focus group approach in general was chosen for two reasons. One, this technique is ideal for topics that individuals may discuss in their everyday lives, but often do not (Macnaghten & Myers, 2004). Two, focus groups allow for a deeper understanding of the topic to emerge as a result of the interaction among the participants (Liamputtong, 2011). This interaction allows for multiple perspectives to be shared, enabling participants to refine their opinions and, in cases of disagreement, reflect upon and share their underlying beliefs, yielding information-rich data (Liamputtong, 2011).

A combination of in-person and virtual mini-focus groups were conducted to meet participants' scheduling needs. Moreover, due to the practice of social distancing because of the COVID-19 pandemic, many participants preferred to meet virtually instead of in-person. Virtual mini-focus groups were conducted through Zoom, and in-person mini-focus groups were conducted at a place convenient and comfortable to the participants (i.e., a participant's or the researcher's home). The interview was designed to allow participants to talk about their thoughts and opinions regarding how they preferred to receive information concerning the sustainability of apparel. Participants received an email two days before the agreed upon mini-focus group date that contained a consent form. For those that elected to participate in a virtual mini-focus group, a Zoom link was included. The Zoom link directed them to the virtual interview.

A semi-structured interview approach was utilized. This approach is characterized by a pre-determined list of questions to be explored, however, the wording or the order of the questions is not fixed ahead of time (Merriam & Tisdell, 2015). This process allows the interviewer to be flexible, enabling them to respond to participants as the interview evolves (Merriam & Tisdell, 2015). The interviews began with the researcher explaining the purpose of the study. To encourage participation, the interview began with grand tour questions (Rubin & Rubin, 2005), such as "*How should information regarding the sustainability of apparel be communicated to you*?" Participants were then shown a series of potential apparel sustainability labels that were created based on the literature (see Figures 12-15). Specifically, the design of the mock labels used in the preliminary study were based on previous findings that suggest consumers want to know the quality of the materials being used, the working conditions of laborers, and the environmental impact of apparel production (Amed et al., 2019; Ditty, 2020; Modi & Zhao, 2021; Sustainable Apparel Coalition, 2019; Williams & Hodges, 2022b).

Moreover, the mock labels were influenced by prior research that indicates that apparel sustainability information should be communicated in an explicit, concise, and easy-to-understand manner (Han et al., 2017; Hyllegard et al., 2012; Ma et al., 2017; McNeill & Moore, 2015; Williams & Hodges, 2020b; Yan et al., 2012). Lastly, the mock labels were designed based on past studies that suggest that apparel sustainability information can be delivered to consumers via narratives, logos, hangtags (Hyllegard et al., 2012; Lee et al., 2020; Li & Leonas, 2021; Sustainable Apparel Coalition, 2019) as well as social media, websites, product labels, or QR codes (Sustainable Apparel Coalition, 2019; Williams & Hodges, 2022b).

The first mock sustainability label (Figure 12) presents an index of an apparel item's sustainability that ranges from low (indicated by the color red and number one), to high (indicated by the color green and number five). For this label, the arrow is pointing to the number five, indicating that the sustainability of the garment is high. The label includes the text "this garment was made with little environmental costs and the employees were treated fairly."

Figure 12. Mock Apparel Sustainability Label #1
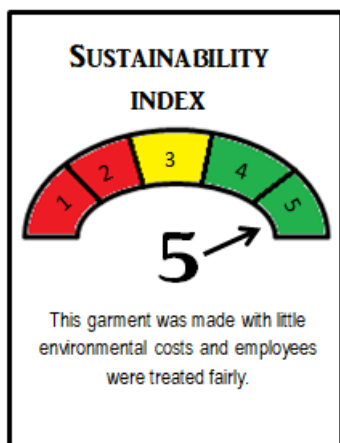
The second mock apparel sustainability apparel label (see Figure 13) is inspired by the traffic light label (Karamanos et al., 2019). This label features three ratings, one for

environmental sustainability, one for social sustainability and one for total sustainability, wherein total sustainability is the summation of an apparel item's environmental and social sustainability. The sustainability level of each rating (i.e., environmental, social, and total) is color coded, whereby red indicates the item was made with a high environmental cost, green indicates the item was made with a low environmental cost, and this totals a medium level of sustainability. This label also features a seal from a fictitious, third-party sustainability accreditation agency, as well as a QR code to allow consumers to find out the details regarding how the rankings were determined.

Figure 13. Mock Apparel Sustainability Label #2
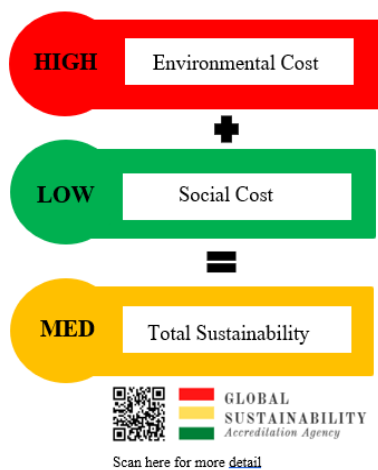
The third mock apparel sustainability label (see Figure 14) provides participants with detailed information regarding an apparel item's social and environmental costs of production alongside a picture of the apparel item. The bottom of the label provides a total environmental and social sustainability percentage. This label is inspired by a mock Higg Index label presented during the webinar entitled "Demystifying Sustainability Reporting," hosted by *Sourcing Journal* (Crawford et al., 2020).

Figure 14. Mock Apparel Sustainability Label #3

Lastly, the fourth mock apparel sustainability label (see Figure 15) provides a picture of

an apparel item with a price, alongside a picture of the item's producer. This label also provides

a narrative about the organization that supports these producers, and how purchasing the scarf

benefits the producer.

Figure 15. Mock Apparel Sustainability Index #4
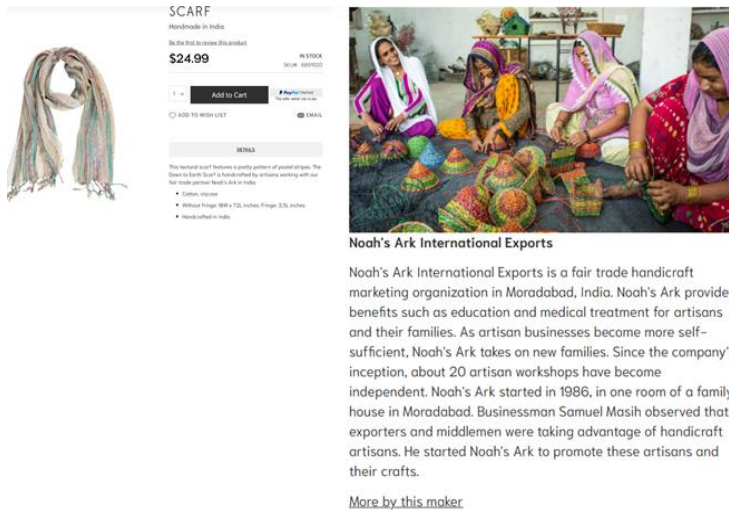
Note. Images and text are from: https://noahsarkindia.com/.

After the mock apparel sustainability apparel labels were presented and described to participants, participants were then asked, "*From the following sustainability labeling options, which one would you prefer and why: hangtag label, logo, index, or visual story?*" As participants began to feel more comfortable in engaging in the mini-focus group, questions then proceeded to be more complex (Rubin & Rubin, 2005) such as "*How would you improve upon sustainability labeling so that it attracts your attention?,*" "*How would you use the sustainability label?*" and *"Will these labels affect how you evaluate the brand?*" See Appendix B for a full list of the focus group questions. Responses were probed when necessary for clarity (Liamputtong, 2011). Mini-focus groups lasted between 42 and 84 minutes, for an average of 62 minutes. Mini-focus groups were video- and audio-recorded with the permission of the participants. Recording ensured that the data were accurate and easily retrieved (Rubin & Rubin, 1995).

Participant Sample and Recruitment

Purposive sampling was used to identify and recruit participants for the mini-focus groups. Purposive sampling is suitable for qualitative research when the purpose of the research is to explore, discover, and gain understanding (Merriam & Tisdell, 2015). Moreover, purposive sampling allows for the identification of participants that have the opportunity to offer an in-depth understanding of the topic at hand (Merriam & Tisdell, 2015). Specifically, this study selected a typical sample (Merriam & Tisdell, 2015), that is, everyday consumers were selected for participation in this study, as it is conceptualized that the apparel sustainability index will be available to all consumers. Thus, the only selection requirement necessary to participate in the mini-focus groups was that participants must be over the age of 18, as per the Institutional Review Board (IRB), this is the age of legal consent. A combination of convenience and snowball sampling techniques were utilized to identify participants. Participants that met the

sample criteria were invited by way of text message, social media post, or email to participate in the research study. Those participants that agreed were then asked if they knew of anyone else that might be interested in participating. This snowball sampling method resulted in homogeneous focus groups, wherein participants shared similar backgrounds, characteristics, and/or shared experiences (Liamputtong, 2011). According to Liamputtong (2011), this approach yields rich data, as individuals tend to feel comfortable sharing their experiences when they have something in common or feel that other participants can identify with them.

Participants were recruited until saturation was reached. That is, once similar themes continued to emerge and no new information was shared in the mini-focus group interviews (Denzin & Lincoln, 2000; Hodges, 2011). As seen in Table 10, a total of 22 individuals (14 females and 8 males) participated in a total of six mini-focus groups. Participants were between 18 and 56 years of age (average age of 34). Most participants (55%) were Caucasian, followed by African-American (23%), Asian (18%), and Latino (5%). The average salary reported by participants was $30,643, which is below the national average of $54,250 (Bureau of Labor Statistics, 2023). However, this sample included many students, which likely lowered the overall average. The mini-focus groups varied in size between two and five participants. Pseudonyms are used to protect confidentiality.

Table 10. Participant Characteristics

Pseudonym	Age	Race	Gender	Occupation	Income
Michelle	32	White	Female	Administrative Assistant	34,000
Lucy	50	South Asian	Female	Student	15,000
Clara	25	White	Female	Student	15,000
Sophia	38	Asian	Female	Student	>20,000
Ophelia	56	White	Female	Retail Store Manager	53,000
Helen	27	White	Female	Student	13,000
Violet	25	White	Female	Administrative Assistant	25,000
Maya	34	Japanese-American	Female	Receptionist/Artist	20,000

Pseudonym	Age	Race	Gender	Occupation	Income
Jocelyn	35	White	Female	Entrepreneur/Artist	50,000
Sawyer	31	African-American	Female	Housekeeper	36,000
Ana	42	White	Female	Self-Employed	75,000
Tabitha	37	White	Female	Clinical Social Worker	40,000
Delilah	35	White	Female	Stay-at-Home Parent/Artist	N/R
Teresa	39	African-American	Female	Healthcare Associate	N/R
Daniel	26	White	Male	Retail Associate	27,000
Liam	30	White	Male	Car Salesman	N/R
Thomas	18	African-American	Male	Unemployed	N/R
Justin	18	Latino	Male	Unemployed	N/R
Theo	37	African-American	Male	Receiver for Retailer	25,000
Bruno	36	African-American	Male	Government Employee	N/R
Dylan	39	White	Male	Software Sales	N/R
Jacob	39	Asian	Male	Student	15,000

Data Analysis

The focus group recordings were transcribed verbatim and then iteratively analyzed for common themes (Hodges, 2011; Spiggle, 1994). To begin the data analysis process, the entirety of each mini-focus group's transcript was read. Then, participants' responses to each question across mini-focus groups were read collectively. Throughout this process, responses that related to the objectives of this study were identified and coded (Merriam & Tisdell, 2015). After coding, the following heuristic process was followed: the data were categorized, categories were abstracted into larger themes, themes were dimensionalized to define their characteristics, and then themes were compared for similarities and differences (Spiggle, 1994). This cycle continued until each theme was defined.

To ensure validity and reliability of the analysis, triangulation was used, wherein the data from multiple focus groups were compared with one another for consistency and member checks were employed (Hodges, 2011). Member checks confirm whether the researcher analyzed and interpreted the participants' comments accurately (Hodges, 2011). In this study, after the mini-focus data were transcribed and interpreted, a final mock apparel sustainability label was created

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based on the data. All 22 participants were re-contacted to get their feedback on the mock

apparel sustainability label to ensure it represented the themes that emerged during the mini-

focus groups. Out of the 22 participants, 14 responded with feedback.

Thematic Interpretation

As a result of the data analysis process, interpretation of the data, or understanding what

the data mean in relation to the purpose of the study, is possible (Spiggle, 1994). Analysis

yielded six themes used to interpret the data: *Many Birds, One Seed*; *Show Me a Picture*; *Catch*

My Attention; *Earn My Trust*; *It's All Relative*; and *Increasing Sustainability*. The following

sections provide explanation of each, followed by a description of the final mock index that was

developed.

Many Birds, One Seed

A recurring theme prevalent across the interviews is that consumers have varying interest

in and knowledge of sustainability. Thus, an apparel sustainability label must enable those who

are not well versed on issues of sustainability to understand the information being communicated

on the label, while simultaneously meeting the needs of consumers who prefer more detailed

sustainability-related information. For instance, some participants preferred a big picture view of

sustainability, and did not want to be bothered with mundane details that they cannot relate to.

These participants are interested in knowing about how fairly apparel workers are treated and a

general view of how the environment was impacted because of apparel production. However,

they do not want to know specific statistics, such as the amount of carbon emissions necessary to

produce a garment. Other participants expressed interest in having access to such detailed

information regarding the sustainability of an apparel item, preferring complete transparency.

These participants would like to know the type of fiber used in the garment, the country the fiber

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was sourced from, how profits are reinvested, the environmental impact of the item's production, as well as to see pictures of the apparel production facility and its workers. Moreover, should a third party determine the sustainability of an apparel item, participants wanted access to how this was determined.

Beyond the varied interest in and knowledge of sustainability, participants also expressed differences regarding how they would access apparel sustainability information. For many that shop in-store, accessing the information via a hangtag is preferred. However, online shoppers question where apparel sustainability information would appear. As Delilah explains, "Where is it on the site? Is it next to each individual item, or is it just like, you know, a banner? I think translating it to a website has to be done."

Despite varying consumer needs, there were some commonalities among the participants. For instance, many participants noted the shifting attention American consumers are placing on domestic production as a result of the COVID-19 pandemic. As discount store manager Ophelia shared "During COVID though, you'd be surprised how many items I had returned when they'd [consumers] found out they were made in China. They weren't going to buy it, they wanted to return them because they weren't made in the United States." Similarly, Tabitha stated "Americans do want to know…like this is creating jobs here… but also they don't want to support the like regimes or whatever…it's very common now across I think political spectrums." Another point of shared interest for many participants was the importance that their children inherit a safe world.

Thus, despite participants being from different political affiliations with varying interests in sustainability, commonalities were found among them, such as their interest in an apparel item's country of origin and maintaining a world safe for their children. However, participants

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conveyed that an apparel sustainability label would need to simultaneously appeal to varying

consumer interests in and knowledge of sustainability.

Show Me a Picture

Many participants expressed that the way in which an apparel label can simultaneously

meet varying consumer needs is by providing basic sustainability information that separately

details an item's social and environmental production costs in visual ways. As such, a majority

of participants noted that they prefer icons and colors, as opposed to text, to communicate the

treatment of apparel workers and an apparel item's impact on the environment. Such a label will

satisfy the needs of those who are not interested in sustainability and/or have little background

knowledge concerning sustainability. To appeal to those consumers who desire more detailed

information, participants indicated that the label must have a source consumers can access for

more information, such as a visual QR code. This would allow access to detailed sustainability

information some consumers prefer, without overwhelming those who are not interested in such

information. For many participants, the choice of being able to look up information on their own

time, should they feel interested in doing so, is appealing.

Thus, participants prefer that apparel sustainability information be communicated in a

visual way, wherein the varied needs of consumers are met simultaneously. As Helen succinctly

put it:

> The icons...I think are the easiest way to communicate across information
>
> barriers, so that way you're communicating both to people [interested and
>
> uninterested in sustainability] without having to like really work at it… I think,
>
> like doing it on the hangtag, doing very condensed information like very
>
> pictorial…where at the same time that QR code lets you get more information,

more background information, even not only on the information on the tag, but on

the company giving you that information.

Given this information, it is not surprising that when participants were shown the mock

labels and asked which they prefer, the majority of participants chose label number one and two

(see Figures 12 and 13). For many, label number one (see Figure 12) was preferred, as Clara

explained:

> Just because it's easier to read and there aren't so many words, because, like when
>
> you're looking through clothing at a store and let's say, for example, like this is on
>
> like a tag, it's easier to like look at it at first glance, and see that the arrow is
>
> pointing towards green, you're like 'Oh that's pretty sustainable.' And then, if you
>
> see it pointing towards the red, you're like 'Oh it's not sustainable,' like it's easier
>
> to see that, like right off.

As such, many participants noted that mock apparel label number one, an apparel

sustainability index label (see Figure 12) is simple, easy and quick to understand. However, other

participants indicated that they want more information than provided by the index. Thus, label

number two (see Figure 13) was also preferred by participants, as it provides more detail

concerning the social and environmental costs of an apparel item's production as well as offers a

QR code as well as a logo indicating that the process was conducted by a third party.

Nevertheless, this label was also criticized for being difficult to understand, as participants

expressed they would not take the time to understand that the environmental and social costs

were to be summed to equal a total score of sustainability. Moreover, leading off the label with a

ranking in red (i.e., low sustainability), followed by a green ranking (i.e., high sustainability),

was confusing. For some, red made them immediately stop reading the label.

For the third label (see Figure 14), many participants conveyed that this type of information was not appealing to them, and maybe even too technical. As Michelle explained

I don't like it at all, as someone who doesn't do research in sustainability, is not extremely familiar with sustainability at all, when I look at this I'm like no, done, I don't even want to buy the dress. Like I'm so turned off with this little paragraph with numbers and words and I don't know what it means. I'm done, so I just skipped right over that.

Lastly, for the fourth label (see Figure 15), participants overwhelmingly agreed that they are interested in the background story of an apparel item. For example, they want to know and see who made the garment, where and how the garment was produced, as well as details of the brand that made the garment, such as whether it is a family-owned operation. However, many participants indicated that they do not want all of this information on the tag at the time of purchase, as it would be too much information to absorb.

In sum, participants expressed interest in an apparel sustainability label that quickly and clearly communicates basic aspects of an apparel item's sustainability (e.g., the social and environmental costs of production) in pictorial form. To appease a diverse range of consumer needs, participants noted that an apparel sustainability label should include a QR code, thus giving them the option to conveniently access more detailed sustainability information regarding the garment. As such, participants concluded that an apparel sustainability label should be a combination of mock label number one, the index label (see Figure 12), and mock label number two, the traffic light inspired apparel sustainability label (see Figure 13). Combining these two labels would provide baseline sustainability information (e.g., social and environmental cost of

production) to participants in a visual, easy to understand way, while providing the option to continue to learn more about the garment's sustainability via a QR code.

Catch My Attention

Many participants preferred sustainability information to be color coded, especially in the colors of red, yellow and green. In the United States, these colors are "…already a tradition in like the lights. Green means go, I feel like it already makes sense, it's self-explanatory" (Justin). For Sawyer, it would make the process of acquiring apparel easier because

> If you roll up on some garments, it's like a 4, you're like, alright it's still green,
>
> but that's kind of closer to the yellow than the 5. But then you get a yellow,
>
> you're going to be like, hold on now. So, I feel like those colors kind of let you
>
> know, alright, if I got a one, this is a red, no, this is off limits. Their workers are
>
> overworked, ain't no telling what this material is made out of.

However, some participants were concerned about the connotations such colors signaled. Ophelia expressed that if a label began with something in red, she would not read anything more, even if the label included positive aspects of sustainability, as anything in red would make her stop reading. Tabitha raised an interesting point, in that consumers who purchase apparel items ranked red in sustainability may feel ashamed. As Ana noted, many consumers cannot afford to purchase items that would be considered green, and should not be made to feel ashamed for that. Moreover, the stopping power of red could be reduced the more consumers saw the color red. Therefore, many participants expressed that the meaning of the colors must be clear to consumers.

To attract consumer attention, most participants noted that such a label needs to be placed next to the price tag because "…it's the first place you look at" (Liam). Daniel, a retail store

employee suggested that the label should be affixed to a hangtag, as labels on stickers are easily removed by consumers. Nevertheless, a handful of participants expressed that they would prefer such information to be on the tag that indicates the size of the garment. Such a label would make consumers conscious (Ophelia) and be difficult to ignore (Dylan).

Moreover, participants noted that apparel sustainability labeling must be communicated in a relatable way that makes them care. For instance, participants like knowing if their purchase benefits others, such as the way buying a pair of Toms shoes ensures another pair is gifted to someone in need. Sustainability information also needs to be communicated in ways that consumers can better understand how their consumption decisions affect society and/or the environment more broadly. For example, Michelle stated:

> If you purchased this jacket once a year, as opposed to one other thing once a year, how does that make a difference? That it helps this many workers? That it produces this much more money in their pocket? It helps prevent this much you know, whatever CO_2 emissions? If I can see that broken out where I know, even though I'm doing a little it's still making a difference, that would probably make me make me think more.

Similarly, Tabitha shared:

> How does this benefit me or at what personal cost to me? Why should I care and like who's being impacted…so one shirt isn't going to make a difference, but if everybody's buying shirts, it makes a difference, and so collectively, how does that make a difference?

Delilah also noted that understanding the wider impact of her consumption decisions is important, as she needs a "…little push to get me to care about it…you know this is affecting so many more places than I'm thinking about."

Earn My Trust

Overwhelmingly, participants indicated that they would be hesitant to trust information presented on an apparel sustainability label, as many participants noted that they "…don't actually trust brands to give this information" (Jocelyn). Similarly, participants discussed that brands with poor sustainability would not voluntarily release such information. As such, a majority of participants prefer that a neutral, third party be responsible for determining and communicating an apparel item's sustainability to consumers. Moreover, consumers must become knowledgeable about the accreditation process for them to trust it. As Lucy detailed:

> Having a like sort of an accreditation agency gives it sort of legitimacy. But
>
> then…people need to know that there is such a thing…So, that knowledge…has
>
> to be advertised to people now. When we think about organic, we know that,
>
> okay, organic there is some sort of, there are certifications…that are going
>
> through it and people believe in it. So, there has to be work that was actually
>
> giving the accreditation agency alleged legitimacy and then afterwards telling
>
> people what the label means… the thing is, the accreditation agency is important,
>
> just having this label wouldn't make sense to me, I wouldn't believe in it.

It's All Relative

Many participants noted that the sustainability rankings on garments would affect their purchase intentions. For some participants, they would be more affected by garments labeled as red for sustainability as opposed to green, such as Ana, who explained:

I would tend to say I'm not going to like be like oh 'Show me all the green' or

'Show me the brand with all the fives', but I think 'Tell me about the brands that

are ones and twos so I can kind of try to stay away from them' if I can.

Similarly, Dylan stated "I would run from red, I would get, I don't know if I would buy it

because it was green, but I would definitely try to avoid red if possible." Sawyer agreed, stating:

Why am I gonna purchase from this brand when clearly they're not making the

material out of something safe, or you know, environmental friendly, and then, if

that's the case, then how are they treating their staff?...Why would I want to put

money into this company instead of putting money into a company that treats

their employees right and is using environmental friendly stuff?

Others explained that if they liked a garment, they may be willing to purchase it if it is

rated as a three or four out of five for sustainability because "… at least it's not going to be the

bad color" (Violet). Similarly, Lucy explained that she would not feel bad about purchasing an

apparel item labeled as red or yellow for sustainability, if she saw that the brand had many items

in green as the brand was "…trying to do the right thing."

Participants noted that an apparel sustainability label would similarly affect their attitudes

towards a brand. For some, brands with apparel items (i.e., high sustainability) consistently

ranked green would create a sense of loyalty, as they would associate sustainability with the

brand. However, again, participants seemed to feel more negatively towards brands with red

rankings (i.e., low sustainability) for apparel sustainability, as opposed to those with green

rankings. As Ana explains:

I mean, for me it would be like oh it's good to know that such and such brand is

green and I would prefer to look for clothes in that brand if I like them and if

they're what I need and if it's at a [good] price point. But if I see clothes that are

consistently red and even if they are in the things that I need, I probably would try

to stay away from them.

Others noted that items in red would incentivize them to switch to brands with green ranked apparel, as Dylan explained,

I mean if I picked up a garment and like there was one next to it, it was green and

this one was red and it constantly was red and everything's red, yeah I'll start

making decisions about leaving that, I think that can motivate me to leave.

However, other participants commented that their attitude towards brands with a range of sustainability scores would not be affected as much by positive or negative apparel sustainably labeling. As Michelle stated:

If I went into Target and they were all red, I'd be like, maybe I need to rethink my

habits. But, if it were like half red, half yellow and green I probably wouldn't, it

wouldn't bother me, but if everywhere I looked was red and I kind of knew what

was going into this, I would rethink it.

Similarly, many participants noted that it would be hard to displace their attitudes towards brands that they already have experience with. For example, Sophia explains:

If I went into the Zara store and I see one of the items with this index [high

sustainability ranking], I would not really buy it because I already have a prior

brand image about, you know, the unsustainable, you know the whole practice.

For others, if they were to learn that a favorite brand was not sustainable, it would be difficult for them to stop supporting the brand. As Sawyer expressed,

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It's a part, of the lifestyle now… So, I feel like it depends on when I find out

about it because I feel like if I've been supporting it and it's been there, then I'm

not fittin' to go out my way to find another great company for another good price.

In sum, participants expressed positive purchase intentions of and attitudes towards

brands with high sustainability rankings broadly. However, participants also conveyed that they

would be more affected by negative sustainability scores than positive ones, as such information

would cause an aversion to the brand. Nevertheless, participants also shared that their opinions of

brands that they already have experience with, or an image of, would be difficult to displace, at

least initially, through apparel sustainability labels, whether positive or not. Moreover,

participants suggested that brands that offered a portfolio of apparel items, ranging in

sustainability values from low to high, would result in more positive attitudes and brand

evaluations than brands that solely offered apparel with low sustainability values.

Increasing Sustainability

As noted previously, some participants questioned the ability of all consumers to

purchase apparel with high sustainability rankings, as they believe such purchases to be more

expensive than less sustainable options. Thus, participants shared potential solutions to increase

the sustainability of items, even those identified as red. For instance, Tabitha explained that a

company should have to pay a tax based on the sustainability ranking of apparel items. This tax

would then go to offset the negative effects of the apparel item's production to increase its

sustainability. Alternatively, an apparel sustainability label could communicate ways to increase

an apparel item's sustainability during the use, maintenance, and disposal stages. For instance

"…a buyback program or like recycling… by wearing it this number of times and X amount of,

if you wore it, re-used it and re-wore it multiple times" (Tabitha).

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In sum, mini-focus group interviews offered in-depth insight regarding communication preferences. The first theme, *Many Birds, One Seed*, indicates that brands should develop a two-sided apparel sustainability label featuring an index to meet various consumer needs for information. Participants noted that the front of the label could visually signal the overall sustainability of an apparel item using a color-based index, thereby appealing to those least interested in sustainability-related details. The back of the label could then visually expand upon the categories that contributed to the overall sustainability rating (e.g., energy usage, chemicals in fibers, work conditions and wages) using a color-based index. This information, in addition to a QR code, would satisfy those consumers interested in more sustainability information, without overwhelming those who are not.

The second theme, S*how Me a Picture*, indicates that participants overwhelmingly prefer that brands signal the sustainability of an apparel item via images, specifically icons or symbols, as opposed to text. The third theme, *Catch My Attention*, suggests that participants prefer sustainability information to be quick and easy to understand. As such, an apparel sustainability index should use colors to signal to consumers on a scale of green to red how sustainable an item is. Lastly, the fourth theme, *Earn My Trust*, indicates that participants would be more inclined to trust information on an apparel sustainability label should such details come from a neutral, verification third-party as the signaler, rather than the brand or company that made the garment. Thus, the label should include the verification party's logo as well as a QR code to facilitate the consumer's access to the details of the verification process. Table 11 provides a summary of participants' preferred apparel sustainability label attributes.

Table 11. Participants' Preferred Attributes of an Apparel Sustainability Label

What should be included?	Why?	How?
An Index	To meet varying consumer needs and interests.	Include an index (i.e., numeric rating) on a two-sided apparel sustainability label. The front side should feature a "Total Sustainability" index, and the back side should feature an index for each of the dimensions (i.e., energy usage, chemicals in fibers, work conditions and wages) that contributes to the total sustainability index.
Colors	To attract consumer attention.	The index should feature a green (i.e., sustainable) to red (i.e., unsustainable) gradient.
Icons	To make sustainability information easy to understand.	Use pictorial representations of the sustainability-related information being communicated.
A Third-Party	To gain consumer trust.	Use a logo and QR code on the apparel sustainability label.
A QR Code	To meet varying consumer needs and interests and to gain consumer trust.	Include a QR code on the apparel sustainability label linked to a website with additional information.

The mini-focus groups also provided detail regarding how such an apparel sustainability label might potentially affect consumer behavior. Many participants indicated that apparel items with high sustainability rankings would lead to positive brand feelings and purchase intentions. Several participants suggested that low sustainability rankings would affect their purchase intentions and attitudes toward the brand more than high sustainability rankings, as participants would avoid unsustainable brands and seek out sustainable ones. However, participants expressed that their attitudes toward and purchase intentions of brands that are already familiar to them, or brands with a range of sustainability rankings for their apparel items, would not be as affected by apparel sustainability labels.

An Apparel Sustainability Index Label

As the final phase of the qualitative preliminary study, an apparel sustainability index was then created by a professional graphic design company based on the findings of the mini-focus group data. The apparel sustainability index label (see Figure 16) features two sides. The front of the label displays how sustainable an apparel item is on a green to red continuum, with green being sustainable and red being unsustainable. The inclusion of the green and red colors is based on the mini-focus group data, wherein participants expressed preference for such colors because they communicate information quickly. An arrow is used to convey where on the continuum an apparel item is classified (the left-hand side of Figure 16 indicates a sustainable apparel item, whereas the right-hand side indicates an unsustainable item). A logo featuring the earth with a t-shirt containing an icon of a plant as well as the text "Apparel Sustainability Index" is on the center of the label. The inclusion of these items is to communicate to consumers that a neutral, third party assessed the sustainability of this item. The front of the label also features a QR code so those who want to learn more about the sustainability of the item can do so should they scan the code on the label (note, the QR code is fictitious, and does not lead to a website), and is included on the label, because many participants in the mini-focus group noted their preference for a QR code.

Figure 16. The Apparel Sustainability Index Label

Front of Label
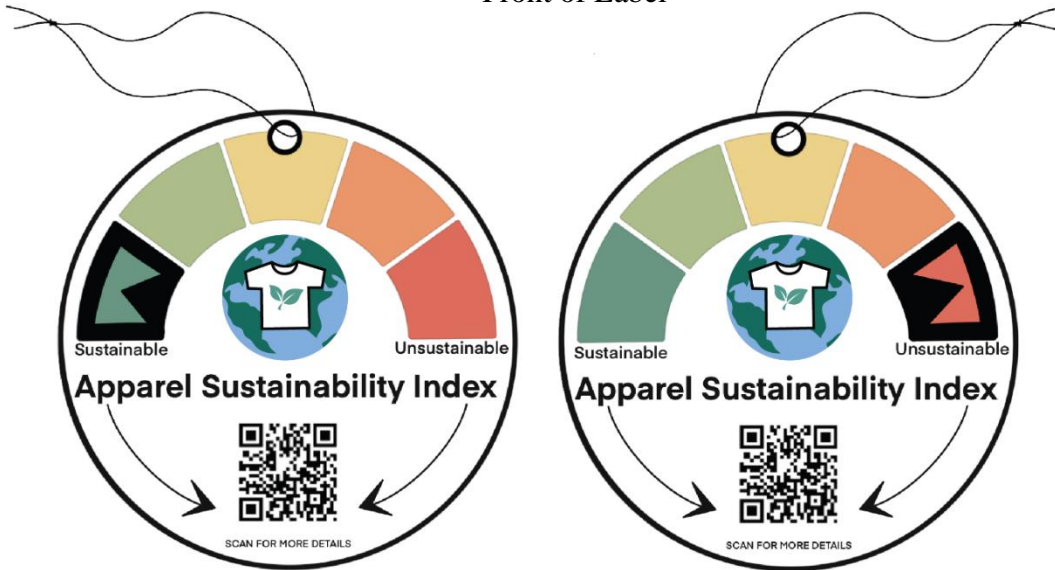
Back of Label
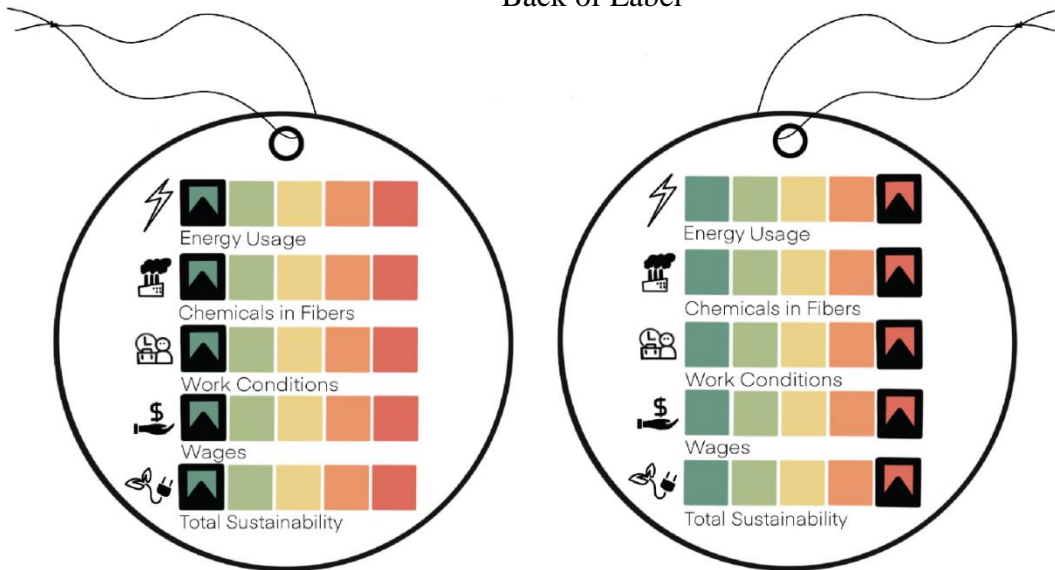
The back of the label delineates how sustainable an apparel item is along the following dimensions: energy usage, chemicals in fibers, work conditions, wages, and total sustainability. These categories were included, as data from Phase I indicated the desire to know more about these facets of apparel production. As with the front of the label, a green-to-red continuum (sustainable to unsustainable respectively) is used to reflect how sustainable an item is, along with an icon for each category. The icon as well as the green-to-red continuum were used because participants noted a strong preference for images and colors to communicate information rather than words. The completed index label was used in Phase II of data collection of the main dissertation, which is discussed in the next section.

Phase 2: Experimental Study

To address objectives three, four, and five (*to examine the extent to which the apparel sustainability index affects brand equity*, *to investigate the effect of the apparel sustainability index on brand resonance*, and *to investigate the relationship between attitude toward the brand, brand equity, and brand resonance*), an experimental research design was employed. An experimental approach is useful to determine whether there is a causal relationship between two variables (Price et al., 2015). In this study, a causal relationship is proposed between a sustainability index, attitude toward the brand, brand equity, and brand resonance.

Phase 2 investigated the effects of the apparel sustainability index label and its placement on consumers' attitude toward the brand, brand equity (i.e., brand associations, brand awareness, perceived quality, and brand loyalty), and brand resonance. Additionally, testing the moderating effect of consumers' SRFC knowledge and values (i.e., altruistic, biospheric, and egoistic) on consumers' attitude toward the brand and brand equity (i.e., brand associations, brand awareness, perceived quality, and brand loyalty) was necessary to better understand the effectiveness of the

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apparel sustainability index label. Table 12 provides an overview of the variables that required

additional testing.

Table 12. Variables to Test

Independent Variables	Dependent Variables
Sustainability index value (i.e., high or low).	Consumers' attitude toward the brand.
Sustainability index placement (i.e., visible or less visible).	Brand equity (i.e., brand associations, brand awareness, perceived quality, and brand loyalty).
Consumers' knowledge of socially responsible fashion consumption (i.e., social and environmental implications of fashion production and consumption).	Brand resonance (i.e., behavioral loyalty, attitudinal attachment, sense of community, and active engagement).
Consumers' human values (i.e., altruistic, biospheric, and egoistic values).	

Experiment

The experiment was based on a 2x2 between subjects design with the following

independent variables: (1) sustainability index value (high vs. low), and (2) index placement

(visible vs. less visible) to determine the effect of the apparel sustainability index label on the

following dependent variables: consumer attitude towards the brand, brand equity (brand

awareness, brand loyalty, brand associations, and perceived quality), and brand resonance.

Varying the index value was based on the concept of transaction cost as part of Signaling Theory

(discussed in Chapter II) and helped to determine the effect of positive and negative signals on

brand equity and brand resonance (Connelly et al., 2011; Spence, 1973). Varying the index's

placement was based on the concept of signal observability as part of Signaling Theory (as

discussed in Chapter II). That is, those signals that are more visible are more likely to be acted upon by the receiver (Connelly et al., 2011).

Scenario

Participants in this experiment were exposed to the following prompt:

Thinking about your preferred clothing brand, imagine you are shopping for clothing for an upcoming social event. You find an outfit that you like from your preferred brand. When you go to check the price, you notice the following tag.

Participants were then exposed to the experiment stimuli as described in the next section.

Stimuli

Participants were exposed to a hangtag that featured a total of four images: the apparel sustainability index along with three additional symbols for clothing care. The three symbols were as follows: a symbol indicating that the ideal washing temperature for the garment is 30 degrees Fahrenheit, a symbol indicating that no bleach should be used, and a symbol indicating that it is okay to use an iron on the garment. While the apparel sustainability index label is intended to have a front and back, because of the 2D nature of the experiment, only the front side of the apparel sustainability index label was featured on the hangtag. All participants were exposed to a hangtag that featured the apparel sustainability index label and the three additional care symbols, however, the degree of the item's sustainability (i.e., index value) via the index label and the placement of the index varied by treatment group, as described in Table 13 (and as shown in Figures 17-20).

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Table 13. Treatment Group Descriptions

Treatment Group	Treatment Description
Group 1	**Low sustainability index value, visible index.** The hangtag features an enlarged apparel sustainability index (i.e., accounts for 75% of the hangtag space), while the three symbols for clothing care are smaller in relation to the index (i.e., clothing care symbols account for 25% of the space). The apparel sustainability index label features a low sustainability index value (see Figure 17).
Group 2	**Low sustainability index value, less visible index.** The hangtag features an apparel sustainability index and three clothing care symbols that are all proportionally sized to one another. The apparel sustainability index label features a low sustainability index value (see Figure 18).
Group 3	**High sustainability index value, visible index.** The hangtag features an enlarged apparel sustainability index (i.e., accounts for 75% of the hangtag space), while the three symbols for clothing care are smaller in relation to the index (i.e., clothing care symbols account for 25% of the space). The apparel sustainability index label features a high sustainability index value (see Figure 19).
Group 4	**High sustainability index value, less visible index.** The hangtag features an apparel sustainability index and three clothing care symbols that are all proportionally sized to one another. The apparel sustainability index label features a high sustainability index value (see Figure 20).

Figure 17. Low Sustainability Index Value, Visible Index Stimulus
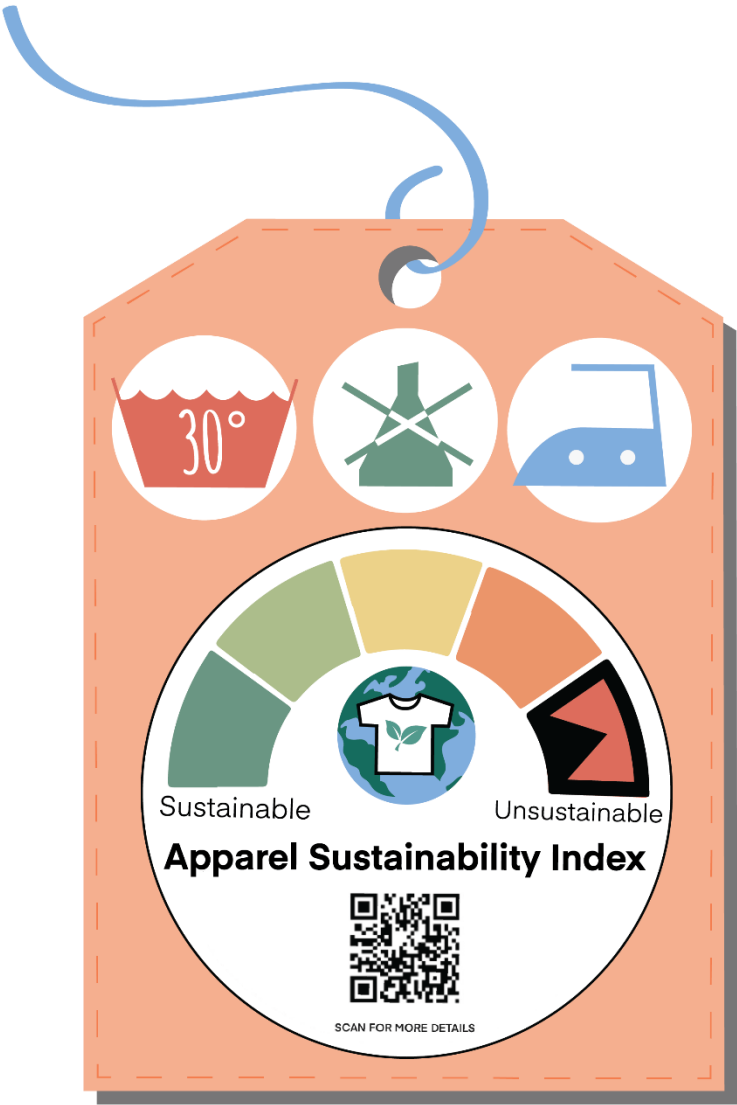
Figure 18. Low Sustainability Index Value, Less Visible Index Stimulus

Figure 19. High Sustainability Index Value, Visible Index Stimulus
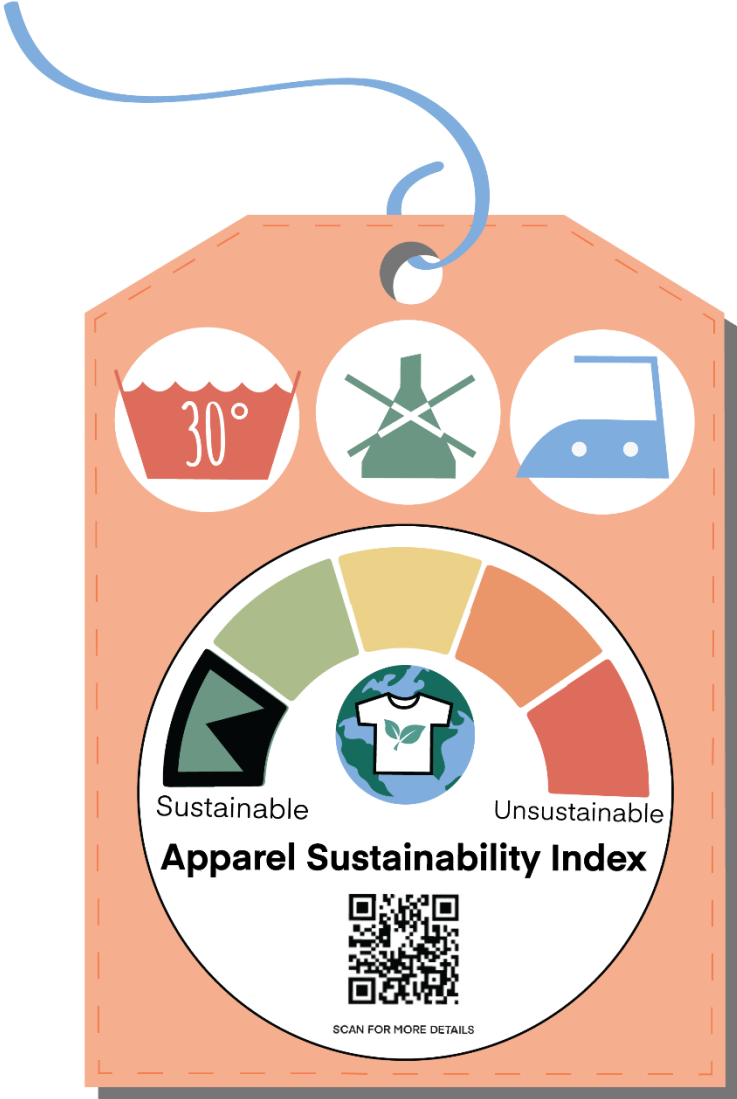
Figure 20. High Sustainability Index Value, Less Visible Index Stimulus

After exposure to the stimuli, participants were then asked to complete a survey developed to measure their attitudes towards the brand, brand equity, brand resonance, knowledge of socially responsible fashion consumption, and their values. While completing the survey, the treatment stimulus that each participant was exposed to remained static at the top of the survey. Prior to beginning the survey, participants were asked to type in the name of their favorite apparel brand. At the end of the survey, participants answered a series of manipulation checks as well as demographic questions.

Instrument Development

An online, structured questionnaire was developed using items taken from the extant literature. The questionnaire was comprised of items testing the following variables: attitude towards the brand, brand equity, brand resonance, SRFC knowledge, and human values. A series of manipulation check items as well as demographic items were also included in the survey. The major constructs that were investigated are discussed below.

Attitude

Attitude toward the brand is conceptualized as consumers' lasting evaluation of the brand (Solomon, 2017). To assess this construct, semantic-differential scales developed by Spears and Singh (2004) (composite reliability = 0.94) were adapted. Participants were asked to describe their evaluation of their preferred brand using the following polarized anchored statements on a six-point scale: (1) = very unappealing/ (6) = very appealing, (1) = bad/ (6) = good, (1) = unpleasant/ (6) = pleasant, (1) = unfavorable/ (6) = favorable, and (1) = unlikeable/ (6) = likeable.

Brand Equity

As described in Chapter II, brand equity reflects five dimensions: brand loyalty, brand associations, brand awareness, perceived quality, and other proprietary assets (Aaker, 1991). In the dissertation, other proprietary assets were not measured, as explained in Chapter II. Thus, the survey utilized a six-point Likert scale anchored by (1) = strongly disagree and (6) = strongly agree to measure all brand equity (e.g., brand loyalty, perceived quality, brand awareness, brand associations, and overall brand equity) items.

Brand loyalty is conceptualized as a consumer's attachment to a brand (Aaker, 1991). To measure brand loyalty, the survey included two items adapted from Yoo and Donthu (2001) (e.g., "My favorite brand is one of my top choices for clothing"), and two items adapted from Bobâlcă et al. (2012) (e.g., "I will buy my favorite brand instead of other brands"). Yoo and Donthu (2001) report acceptable reliability (Cronbach's alpha ≥ 0.70) as do Bobâlcă et al. (2012) (Cronbach's alpha = 0.92).

Perceived quality is defined as "…the customer's perception of the overall quality or superiority of a product/service with respect to its intended purpose relative to alternatives" (Aaker, 1991, p. 85). Thus, for the purposes of this dissertation, it was conceptualized as consumers' perceived quality of a brand. To measure perceived quality, two items were adapted from Yoo and Donthu (2001) (e.g., "The quality of my favorite clothing brand is extremely high"). Yoo and Donthu report acceptable reliability for these items (Cronbach's alpha ≥ 0.70). Two items from Pappu et al. (2005) were also included to measure this construct (e.g., "My favorite clothing brand's products are very durable"). Pappu et al. (2005) also report acceptable reliability (Cronbach's alpha ≥ 0.70).

Brand awareness is conceptualized as the consumers' ability to recall or recognize a brand (Aaker, 1991). Two items from Yoo and Donthu (2001) were adapted to measure brand awareness (e.g., "I can recognize my favorite clothing brand among other competing brands"). Two additional items from Sasmita and Suki (2015) were adapted to measure this construct (e.g., "I know where to buy my favorite clothing brand"). Sasmita and Suki (2015) report sufficient reliability (Cronbach's alpha ≥ 0.68).

Brand associations reflect anything consumers link with the brand (Aaker, 1991). Two items from Yoo and Donthu (2001) were adapted to measure brand associations (e.g., "Some characteristics of my favorite clothing brand come to my mind quickly") (Cronbach's alpha ≥ 0.70). Lastly, two additional items were adapted from Dwivedi et al. (2015) to measure brand associations (e.g., "I trust this brand as a manufacturer of clothing"). Dwivedi et al. (2015) also report acceptable reliability of these scale items (Cronbach's alpha = 0.74).

Brand Resonance

As described in Chapter II, brand resonance reflects a consumer's overall relationship and identification with a brand (Keller, 2001). Four dimensions comprise brand resonance: positive consumer behavioral loyalty, attitudinal attachment, sense of community, and active engagement (Keller, 2001). Behavioral loyalty is conceptualized as the frequency and volume of consumer purchases of a brand (Keller, 2001) and is not to be confused with brand loyalty, which is characterized by consumers' willingness to purchase the brand (Aaker, 1999). Attitudinal attachment reflects the consumer's perception that the brand is something special. Sense of community is characterized by a consumer's perceived bond with others associated with the brand (Keller, 2001). Lastly, active engagement reflects a consumer's willingness to

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invest resources into the brand, beyond those necessary to purchase and consume the brand (i.e., time, money, etc.) (Keller, 2001).

Scales developed by Kakati and Choudhury (2013), Bobâlcă et al. (2012) and Raut et al. (2020) were adapted to measure the dimensions of brand resonance. Kakati and Choudhury (2013) and Raut et al. (2020) each report sufficient reliability (Cronbach's alpha ≥ 0.80) as do Bobâlcă et al. (2012) (Cronbach's alpha= 0.65). Specifically, one item from Kakati and Choudhury (2013), one item from Bobâlcă et al. (2012), and two items from Raut et al. (2020) were adapted to measure behavioral loyalty (e.g., "I will likely buy this brand the next time I buy clothing"). Two items from Kakati and Choudury (2013) and two items from Raut et al. (2020) were used to measure attitudinal attachment (e.g., "I will feel good when I use this brand"). Four items from Raut et al. (2020) were adapted to measure sense of community (e,g., "I identify with people who use this brand"). Lastly, four items from Raut et al. (2020) were adapted to measure active engagement (e.g., "I will talk about this brand to others"). Responses to all items were based on a six-point Likert scale anchored by (1) = strongly disagree and (6) = strongly agree.

Socially Responsible Fashion Consumption Knowledge

To measure SRFC knowledge, two scales were adapted to reflect both the social and environmental dimensions of apparel production: the Apparel Social Issues Scale (Dickson, 1999) and the Environmental Apparel Knowledge Scale (Kim & Damhorst, 1998). Dickson (1999) reports sufficient reliability (Cronbach's alpha ranging from 0.57 to 0.93), as do Kim and Damhorst (1998) (Cronbach's alpha = 0.60). Moreover, these scales were adopted by Connell and Kozar (2012) and Kozar and Connell (2013) and demonstrated an acceptable scale reliability (Cronbach's alpha ≥ 0.62).

SRFC social knowledge is conceptualized as a consumer's level of understanding regarding the social effects of apparel production. Four items from Dickson (1999) were used to measure this construct (e.g., "Use of child labor is a general practice among clothing manufacturers"). When measuring this construct, one attention check item was added (e.g., "If you read this statement, select strongly agree"). All items were measured using a six-point Likert scale anchored by (1) = strongly disagree and (6) = strongly agree.

SRFC environmental knowledge reflects a consumer's level of understanding regarding the environmental effects of apparel production. Five items from Kim and Damhorst (1998) were adopted to measure this construct (e.g., "Chemical pollutants are produced during manufacturing of synthetic or manufactured fibers such as polyester"). All items were measured using a six-point Likert scale anchored by (1) = strongly disagree and (6) = strongly agree.

Values

As discussed in Chapter II, common human values examined to assess environmental concern include self-transcendence or altruism, self-enhancement or egoism, and biospherism (de Groot & Steg, 2009; Kim & Seock, 2019; Lundblad & Davies, 2016; Stern et al., 1999; Stern, 2000; Stern & Dietz, 1994). The survey adopted four items from Stern et al. (1999) to measure egoism, or consumers' concern for themselves (e.g., "Social power: control over others, dominance"). Stern et al. (1999) and de Groot and Steg (2008) both report acceptable reliability for the scales measuring egoism (Cronbach's alpha=0.69 and Cronbach's alpha=0.65, respectively).

Initially, Stern et al. (1999) did not make a distinction between biospheric and altruistic values, arguing that there is not an empirical distinction between altruism towards humans and altruism towards other species. Thus, Stern et al.'s (1999) scales include seven total items to

measure altruism. However, further analysis by de Groot and Steg (2008) determined that the seven items used to measure altruism assessed by Stern et al. (1999) can be further divided into biospheric (i.e., four items to measure concern for the ecosystem or biosphere as a whole), and altruistic (i.e., three items to measure concern for other humans) values. To balance the number of altruistic and biospheric items, de Groot and Steg (2008) introduced a fourth item for altruism (e.g., "Helpful: working for the welfare of others"). De Groot and Steg (2008) report acceptable reliability for altruistic items (Cronbach's alpha = 0.72) and biospheric items (Cronbach's alpha= 0.83). As such, four items from Stern et al. (1999) were adopted to measure biospherism, or consumers' concern for the ecosystem or biosphere (e.g., "Preventing pollution: conserving natural resources"). A total of four items, three from Stern et al. (1999) and one from de Groot and Steg (2008), were used to measure altruism, or consumers' concern for other humans (e.g., "Social justice: correcting injustice, care for the weak"). To measure these items, participants were asked to rate the importance of each value as a guiding principle of their lives on a six-point semantic differential scale anchored by the poles of (1) = very unimportant and (6) = very important.

Manipulation Checks

To ensure that the manipulation of the stimuli were correctly interpreted by participants, and that participants paid attention to the stimuli, the survey included four manipulation check items. Participants were asked to evaluate the following based on the tag they viewed: the degree to which they believe their favorite brand is sustainable, the degree to which the apparel sustainability index label was visible, the degree to which their favorite brand was transparent about the sustainability of their clothing, and the degree to which the tag they viewed changed

their opinion of their favorite brand. All items were measured using a six-point Likert scale of

(1) strongly disagree to (6) strongly agree,

Table 14 provides a summary of each construct including its conceptualization, items

used to measure the construct, and the source of the construct.

Table 14. Sources of Scales

Construct	Conceptualization	Items	Source
Attitude	Consumers' evaluation of the brand.	**Based on the tag you viewed, featured above, please answer the following questions.**	
		ATT1: To what extent do you think your favorite brand is: Very unappealing/ very appealing.	Spears and Singh (2004)
		ATT2: To what extent do you feel your favorite brand is: Very bad/ very good.	
		ATT3: To what extent do you feel your favorite brand is: Very unpleasant/ very pleasant.	
		ATT4: To what extent do you feel your favorite brand is: Very unfavorable/ very favorable.	
		ATT5: To what extent do you feel your favorite brand is: Very unlikable/ very likable.	
Brand equity-Brand loyalty	Consumers' attachment to a brand.	**Based on the tag you viewed, featured above, please indicate the extent to which you agree with the following statements.**	

		BEL1: My preferred brand is one of my top choices for clothing.	Yoo and Donthu (2001)
		BEL2: I like my preferred brand more than other brands.	
		BEL3: I will buy my preferred brand instead of other brands.	Bobâlcă et al. (2012)
		BEL4: I am more interested in my preferred clothing brand than other brands.	
Brand equity-Perceived quality	Consumers' perceived quality of a brand.	**Based on the tag you viewed, featured above, please indicate the extent to which you agree with the following statements.**	
		BEPQ1: The quality of my preferred clothing brand is extremely high.	Yoo and Donthu (2001)
		BEPQ2: My preferred clothing brand's products are very functional.	
		BEPQ3: My preferred clothing brand's products are very reliable.	Pappu et al. (2005)
		BEPQ4: My preferred clothing brand's products are very durable.	
Brand equity-Brand awareness	Consumers' ability to recall or recognize a brand.	**Based on the tag you viewed, featured above, please indicate the extent to which you agree with the following statements.**	
		BEBAW1: I can recognize my preferred clothing brand among other competing brands.	Yoo and Donthu (2001)
		BEBAW2: I can quickly recall the symbol or logo of my preferred clothing brand.	

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		BEBAW3: I will remember my preferred clothing brand when I shop.	Sasmita and Suki (2015)
		BEBAW4: I know what my preferred clothing brand's logo looks like.	Raut et al. (2020)
Brand equity-Brand associations	Consumers' affiliation of other items with the brand.	**Based on the tag you viewed, featured above, please indicate the extent to which you agree with the following statements.**	
		BEBAS1: Some characteristics of my preferred clothing brand come to my mind quickly.	Yoo and Donthu (2001)
		BEBAS2: I have difficulty in imagining my preferred clothing brand in my mind [R].	
		BEBAS3: I trust this brand as a manufacturer of clothing.	Dwivedi et al. (2015)
		BEBAS4: I feel proud to own this brand.	
Brand resonance-Brand loyalty	Consumers' behavioral loyalty measured as the frequency and volume of purchases.	**Based on the tag you viewed, featured above, please indicate the extent to which you agree with the following statements.**	
		BRBL1: I will likely buy this brand the next time I buy clothing.	Kakati and Choudhury (2013)
		BRBL2: I intend to buy other products from this brand.	Bobâlcă et al. (2012)
		BRBL3: This is the one clothing brand I prefer to buy.	Raut et al. (2020)
		BRBL4: I will buy this clothing brand whenever I can.	

Brand resonance-Attitudinal attachment	Consumers' attitudinal attachment reflected as the degree to which the brand is perceived as something special.	**Based on the tag you viewed, featured above, please indicate the extent to which you agree with the following statements.**	
		BRAA1: I will feel good when I use this brand. BRAA2: This brand makes me happy. BRAA3: I will really miss this brand if it went away. BRAA4: This brand is special to me.	Kakati and Choudhury (2013) Raut et al. (2020)
Brand resonance-Community engagement	Consumers' sense of community reflected as the sense of connection consumers have with others associated with the brand.	**Based on the tag you viewed, featured above, please indicate the extent to which you agree with the following statements.**	
		BRCE1: I identify with people who use this brand. BRCE2: I feel as if I almost belong to a club with other users of this brand. BRCE3: This is a brand used by people like me. BRCE4: I feel a connection with others who use this brand.	Raut et al. (2020)
Brand resonance-Active engagement	Consumers' active engagement measured as their willingness to expend resources other than what is necessary to consume the product.	**Based on the tag you viewed, featured above, please indicate the extent to which you agree with the following statements.**	
		BRAE1: I will talk about this brand to others. BRAE2: I am interested in learning more about this brand. BRAE3: I would like others to know that I use this brand.	Raut et al. (2020)

		BRAE4: I would like to visit the website for this brand.	
SRFC knowledge-Social	Consumers' level of understanding regarding the social implications of apparel production and consumption.	**Please indicate the extent to which you personally agree with the following statements.**	
		SRFC-S1: Use of child labor is a general practice among some clothing manufacturers. SRFC-S2: Often clothing manufacturers do not pay their employees at least the local wage. SRFC-S3: If you read this statement, select strongly agree [Attention Check]. SRFC-S4: All clothing manufacturers have their employees work no more than 40 hours per week [R]. SRFC-S5: All clothing manufacturers generally provide non-hazardous workplaces for their employees [R].	Dickson (1999)
SRFC knowledge-Environment	Consumers' level of understanding regarding the environmental implications of apparel production and consumption.	**Please indicate the extent to which you personally agree with the following statements.**	
		SRFC-E1: Chemical pollutants are produced during manufacturing of synthetic fibers such as polyester. SRFC-E2: Water pollution occurs during common dye processes of textiles. SRFC-E3: Textile dyeing and finishing processes use a lot of water.	Kim and Damhorst (1998)

		SRFC-E4: Special finishes on fabrics often create problems for recycling. SRFC-E5: Natural fibers such as cotton are usually biodegradable.	
Values-Biospherism	Consumers' concern for the ecosystem.	**Please rate the importance of each of the values below as a guiding principle of your life.**	
		BIO1: Preventing pollution: conserving natural resources. BIO 2: Unity with nature: fitting into nature. BIO 3: Respecting the earth: harmony with other species. BIO 4: Protecting the environment: preserving nature.	Stern et al. (1999)
Values-Egoism	Consumers' concern for themselves.	**Please rate the importance of each of the values below as a guiding principle of your life.**	
		EGO1: Social power: control over others, dominance. EGO2: Influential: having an impact on people and events. EGO3: Wealth: material possessions, money. EGO4: Authority: the right to lead or command.	Stern et al. (1999)
Values-Altruism	Consumers' concern for other humans.	**Please rate the importance of each of the values below as a guiding principle of your life.**	

		ALT1: Social justice: correcting injustice, care for the weak.	Stern et al. (1999)
		ALT2: Equality: equal opportunity for all.	
		ALT3: A world of peace: free of war and conflict.	
		ALT4: Helpful: working for the welfare of others.	de Groot and Steg (2008)
Manipulation check	To measure respondents' attention to the advertisement and perception of the stimuli manipulation.	MC1: Based on the tag I viewed, my preferred brand is sustainable.	
		MC2: The apparel sustainability index label was visible on the tag I viewed.	
		MC3: Based on the tag I viewed, my preferred brand was transparent about the sustainability of their clothing.	
		MC4: The tag I viewed changed my opinion of my preferred brand.	

Demographic Information

Demographic information was also collected in terms of (1) age, (2) ethnicity, (3) gender, (4) state of residence, (5) highest degree earned, (6) yearly household income, and (7) current employment status.

Instrument Pretest

Prior to disseminating the survey to the sample population, a pretest was performed with a sample of 102 participants. Between 25 and 26 participants were assigned to each treatment condition. Pretest respondents were asked to evaluate the clarity of the questionnaire, including the wording and content of questions, sequence of questions, the questionnaire form and layout, as well as difficulty in understanding the questionnaire and its instructions. Adjustments were

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made to the questionnaire based on the comments of the respondents. The final questionnaire was comprised of seven main sections: (1) attitudes toward the brand, (2) dimensions of brand equity, (3) dimensions of brand resonance, (4) social and environmental SRFC knowledge, (5) biospheric, egoistic, and altruistic values, (6) manipulation check items, and (7) demographic information.

Sample Selection and Data Collection Process

The target sample of this study was an inference sample of the general population comprised of consumers that were 18 or older, as a wide target sample has the greatest implications for generalizations to the actual population (Lee, 2011). A total of 150 to 200 participants were recruited via an online participant research platform, as such platforms are sufficient for experimental methodology (Berinsky et al., 2012) and contain a population that is at least as demographically diverse and more representative than non-college samples (Buhrmester et al., 2011). Specifically, the platform Prolific was used, as this source provides high data quality (Peer et al., 2021).

With IRB approval (see Appendix C), the experiment and final survey (see Appendix D), were posted on Prolific. Participation criteria included the following: participants must be a United States resident that is 18 years old or older, participants must take the survey on a desktop or laptop computer due to the use of images in the survey, and last, participants must have a historic survey completion rate of 80% or higher. The latter requirement was to ensure quality responses. To encourage participation, an incentive of $1.60 was offered, as this is in alignment with Prolific's recommendation that respondents should be paid $12.00 per hour for quality data responses (Denison, 2023). That is, the survey was estimated to take 8 minutes to complete. Therefore, to pay $12.00 per hour, respondents needed to be paid $0.20 per minute (i.e., $0.20

times 8 minutes to take the survey=$1.60 payment). A standard informed consent form informing the participant of the objectives of the study, confidentiality, and researcher's contact information was included at the beginning of the survey. Participants were also notified that they can stop the survey at any point by leaving the website.

Statistical Analysis

Once the data were collected, the surveys were edited to remove ambiguous and incomplete responses and scales were standardized (Aacker & Kumar, 1995). The electronic data set was then analyzed visually using histograms, scatterplots, and boxplots to establish univariate normality as well as to identify and remove outliers (Hair et al., 2010). Multicollinearity of the independent variables was also assessed using the variance inflation factor (VIF) and correlation (Kline, 2016). VIF values greater than 10, and R^2 values greater than 0.90 are indicative of high multicollinearity (Kline, 2016). In these instances, the variables were standardized to reduce the multicollinearity to an acceptable value (Kline, 2016).

To ensure the quality of the data, reliability and validity was assessed. Reliability of the data was assessed using Cronbach's alpha (Peter, 1979). Internal validity was measured using manipulation check questions in the survey.

A series of analysis of variance (ANOVA) and multivariate analysis of variance (MANOVA) statistical analyses were used to examine whether the means of the experimental treatment groups were significantly different as a result of the independent variables (i.e., index value and index placement) (Rencher & Christensen, 2012), thereby affecting the dependent variables (i.e., participants' attitudes toward the brand, brand equity, and brand resonance). Specifically, ANOVA was used to assess the relationship between the index value and consumers' attitude toward the brand (H1), and the index placement on consumers' attitude

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toward the brand (H2). ANOVA was also used to determine the interaction effect of the index placement and index value on attitude toward the brand (H3). MANOVA was used to assess the relationship between the index value and brand equity (H4a-H4d) and brand resonance (H7a-H7d). Similarly, MANOVA was used to determine the relationship between the index placement and brand equity (H5a-H5d) and brand resonance (H8a-H8d). Lastly, MANOVA was used to determine the interaction effect between the sustainability index value and placement on brand equity (H6a-H6d), and the interaction effect between the sustainability index value and placement on brand resonance (H9a-H9d). The Wilks' lambda test statistic was used to determine whether there was a significant difference among the treatment group variances (Rencher & Christensen, 2012). If significant differences were found, follow up, one-way univariate ANOVA between groups analyses was conducted for further examination (Rencher & Christensen, 2012). In these instances, the F-statistic was used to identify significant differences among the means (Howell, 2010).

A series of simple linear regressions was used to test the relationship between consumers' attitude toward the brand and brand equity (H10a-H10d), and the relationship between brand equity and brand resonance (H11). Pearson's correlation coefficients were used to assess the strength and direction of the relationships among the variables (Schneider et al, 2010). R values equal to ± 1 indicate a perfect linear relationship among the variables, whereas r values equal to 0 indicate no relationship, thus the closer the r value to ± 1, the stronger the relationship between the variables (Schneider et al., 2010). R values that are negative indicate a negative, inverse relationship, whereas positive r values reflect a positive relationship (Schneider et al., 2010). The coefficient of determination (r^2) was used to determine the amount of variance in the dependent variable (i.e., dimensions of brand equity, and brand resonance) that is explained by the

independent variable (i.e., the value of the apparel sustainability index and the placement of the apparel sustainability index), wherein higher values of r^2 indicate a larger percentage of variance explained by the independent variable (Schneider et al., 2010).

Lastly, to test whether consumers' SRFC knowledge (H12) and consumers' values (H13a-H13c) moderate hypotheses H1, H2, and H3, per Baron and Kenny's (1986) recommendation, an interaction effect between the moderating and predicting variables was determined via ANOVA.

Summary

This chapter discussed the research design developed to achieve the purpose and objectives of the dissertation. A discussion of Phase I (preliminary qualitative research design and development of a mock apparel sustainability index) and Phase II (experimental design to test the effect of the mock apparel sustainability index on consumer attitudes and brand evaluations) were provided. The sample and data collection procedures were outlined, and the statistical approaches to analysis were described. The next chapter provides the statistical data analysis and results of the hypotheses testing. First, the characteristics of the sample are provided. The analysis of the manipulation checks and measures are then discussed. Then, results of the hypotheses testing are provided. Concluding the chapter is a summary of the results of each hypothesis.

CHAPTER IV: DATA ANALYSIS AND RESULTS

This chapter provides the results of the statistical analysis employed for testing

Hypotheses 1-13. In the first part of the chapter, an overview of the sample characteristics is

provided. Next, analysis of the manipulation checks is presented. Analysis of the measures is

then discussed. Finally, the results of the hypotheses testing are provided, along with a summary

of the results of each hypothesis.

Sample Characteristics

The demographic characteristics of the sample are summarized in Table 15. Of the 250

total responses collected, seven were removed due to incompleteness, resulting in 243 usable

responses. Of these, the majority of the sample, 58.4%, was between 18 and 35 years old (n =

142). Approximately 67.5% (n = 164) were Caucasian, 13.2% (n = 32) Asian, 7% (n = 17)

biracial or multiracial, 6.6% (n = 16) African-American, 4.9% (n = 12) Latinx or Hispanic, and

0.8% (n = 2) Native Hawaiian or Pacific Islander. A total of 54.7% (n = 133) of the respondents

identified as male, 42% (n = 102) female, 2.1% (n = 5) non-binary or third gender, and 1.2% (n =

3) preferred not to identify their gender. All but eight states (Arkansas, Maine, Montana, New

Hampshire, North Dakota, Oklahoma, Rhode Island, and Wyoming) in the U.S. were

represented, with California and Florida having the most representation at 12.76% (n = 31) each.

The majority of the sample, 70%, earned a bachelor's degree (n = 102) or attended some college

(n = 68). Of the total, 38.7% (n = 94) earned between $50,001 and $100,000 yearly, while 21.4%

(n = 52) earned between $25,000 and $50,000. The majority of the sample, 52.7% (n = 128), was

employed full-time. Of the 16.2% (n = 15) that selected "other" for employment status, 3.3% (n

= 8) reported being self-employed, 2.50% (n = 6) reported being a stay-at-home parent, and 0.4%

(n = 1) reported being both employed and a student.

Table 15. Sample Characteristics

Demographic Variable	Frequency	Percent
Age		
18-25	60	24.7
26-35	82	33.7
36-45	49	20.2
46-55	25	10.3
56-65	20	8.2
66-75	7	2.9
Ethnicity		
Caucasian	164	67.5
Asian	32	13.2
Biracial or Multiracial	17	7.0
African-American	16	6.6
Latinx or Hispanic	12	4.9
Native Hawaiian or Pacific Islander	2	0.8
Gender		
Male	133	54.7
Female	102	42.0
Non-Binary/Third Gender	5	2.1
Prefer Not to Say	3	1.2
State		
Alabama	3	1.23
Arizona	4	1.65
California	31	12.76
Colorado	4	1.65
Connecticut	1	0.41
Delaware	1	0.41
Florida	31	12.76
Georgia	10	4.12
Hawaii	1	0.41
Idaho	1	0.41
Illinois	5	2.06
Indiana	7	2.88
Iowa	7	2.88
Kansas	4	1.65
Kentucky	3	1.23
Louisiana	1	0.41

Demographic Variable	Frequency	Percent
Maryland	2	0.82
Massachusetts	4	1.65
Michigan	9	3.70
Minnesota	3	1.23
Mississippi	3	1.23
Missouri	4	1.65
Nebraska	1	0.41
Nevada	2	0.82
New Jersey	5	2.06
New Mexico	1	0.41
New York	11	4.53
North Carolina	9	3.70
Ohio	8	3.29
Oregon	3	1.23
Pennsylvania	13	5.35
South Carolina	9	3.70
South Dakota	1	0.41
Tennessee	9	3.70
Texas	13	5.35
Utah	2	0.82
Vermont	1	0.41
Virginia	4	1.65
Washington	7	2.88
West Virginia	2	0.82
Wisconsin	3	1.23
Highest Level of Education		
Some High School	3	1.2
High School	31	12.8
Some College	68	28.0
Trade School	10	4.1
Bachelor's Degree	102	42.0
Graduate Degree	29	11.9
Yearly Household Income		
Less than $25,000	36	14.8
$25,000-$50,000	52	21.4
$50,001-$100,000	94	38.7
$100,001-$200,000	45	18.5
$200,001-$250,000	11	4.5
$250,001-$300,000	3	1.2
Greater than $300,000	2	0.8

Demographic Variable	Frequency	Percent
Current Employment Status		
Employed Part-Time	30	12.3
Employed Full-Time	128	52.7
Seeking Opportunities	34	14
On Disability	6	2.5
In School/College	20	8.2
Retired	10	4.1
Other	15	6.2

Manipulation Checks

To verify that participants accurately perceived the manipulated variables, a series of

manipulation checks was performed. A summary of the means (all of which were measured on a

six-point Likert scale) related to such checks is presented in Table 16. Regarding the

sustainability value manipulation, independent sample t-test results revealed that the extent to

which participants agreed, based on the hangtag they viewed, that their preferred brand was

sustainable (anchored by strongly disagree and strongly agree) was significantly different. The

Levene's test was significant, therefore the following t-test results reflect unequal variances

$(t_{(169.68)} = -14.10, p < 0.001)$. The mean for those that viewed the hangtag with an apparel

sustainability index with a low value ($M_{LSustainability} = 2.73, SD = 1.72$) was lower than those that

viewed the hangtag with an apparel sustainability index with a high value ($M_{HSustainability} = 5.19,$

$SD = 0.82$). This finding suggests that those that viewed the hangtag with a higher sustainability

value apparel sustainability index were more likely to agree that their preferred brand was

sustainable. Moreover, for the influence of the hangtag on consumers' brand opinion

manipulation, independent t-test results revealed that the extent to which participants agreed that

the hangtag they viewed changed their opinion of their preferred brand was significantly

different. The Levene's test was significant, therefore the following t-test results reflect unequal

variance $(t_{(239.75)} = 2.22, p < 0.05)$. The mean of those that viewed the hangtag with an apparel

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sustainability index with a low sustainability value ($M_{LSustainability}$ = 3.83, SD = 1.54) was higher than those that viewed the hangtag with an apparel sustainability index with a high sustainability value ($M_{HSustainability}$ = 3.41, SD = 1.47). This finding indicates that those that viewed the hangtag with an apparel sustainability index with a low sustainability value were more likely to agree that their opinion of their preferred brand was changed based on the hangtag they viewed.

Regarding the visibility manipulation, independent t-test results revealed that the extent to which participants agreed, based on the hangtag they viewed, that the apparel sustainability index was visible was not significantly different ($t_{(241)}$ = -0.86, p = 0.39). However, the mean differences between the less visible and visible conditions indicate that the manipulation was correctly perceived, as the mean of those that viewed the hangtag with a less visible apparel sustainability index ($M_{LessVisible}$ = 5.27, SD = 0.71) was lower than those that viewed the hangtag with a more visible apparel sustainability index ($M_{Visible}$ = 5.35, SD = 0.80). This finding suggests that those that viewed the hangtag with the more visible apparel sustainability index were more likely to agree that the apparel sustainability index was visible. Lastly, independent t-test results for the transparency manipulation revealed that the extent to which participants agreed, based on the hangtag they viewed, that their preferred brand was transparent about the sustainability of their clothing was not significantly different ($t_{(241)}$ = -0.49, p = 0.63). However, the mean differences between the less visible and visible conditions indicate that the manipulation was correctly perceived, as the mean of those that viewed the hangtag with a less visible apparel sustainability index ($M_{LessVisible}$ = 4.92, SD = 0.89) was lower than those that viewed the hangtag with a more visible apparel sustainability index ($M_{Visible}$ = 4.98, SD = 1.00). This result suggests that those that viewed the hangtag with a less visible apparel sustainability index were less likely to agree, based on the hangtag they viewed, that their preferred brand was transparent about the

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sustainability of their clothing. Table 16 provides a summary of the means and standardizations

for each of the manipulation check items described above.

Table 16. Manipulation Check Results

Manipulated Variable	Mean (SD)	
	Low Sustainability	**High Sustainability**
Sustainability Value		
Preferred brand was sustainable.**	2.73 (1.72)	5.19 (0.82)
Opinion of preferred brand was changed.*	3.83 (1.54)	3.41 (1.47)
Visibility	Less Visible	Visible
Apparel sustainability index was visible.	5.27 (0.71)	5.35 (0.80)
Preferred brand was transparent.	4.92 (0.89)	4.98 (1.00)

Notes.*indicates $p < .05$; **indicates $p < .001$

Evaluation of Measures

Prior to hypothesis testing, reliability checks via SPSS Statistics 28.0 were used for

analysis of all dependent variables, including attitude (ATT) and the dimensions of brand equity,

which includes brand loyalty (BEBL), perceived quality (BEPQ), brand awareness (BEBAW),

and brand associations (BEBAS). Variables to measure brand resonance, including behavioral

loyalty (BRBL), attitudinal attachment (BRAA), community engagement (BRCE), and active

engagement (BRAE), were also analyzed. Lastly, the reliability of the moderating variables,

which include SRFC social knowledge, SRFC environmental knowledge, biospheric values,

egoistic values, and altruistic values, were evaluated. The reliability of each multi-item scale was

calculated using Cronbach's alpha, which is an acceptable metric for analyzing the reliability of

a psychometrically developed scale (Hair et al., 2010). According to Hair (2010), a higher

Cronbach's alpha value indicates a higher reliability, and the minimum value for acceptable

reliability is 0.70. Overall, reliability measures for all scales used in this study were above this

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0.70 baseline, except for the scale used to measure brand associations (Cronbach's $\alpha = 0.60$).

Table 17 presents scale items, descriptive statistics (means and standard deviations), and item reliability.

Table 17. Descriptive Statistics and Item Reliability of Dependent Variables

Item ID	Item Description	Mean (SD)
Attitude (ATT), Cronbach's $\alpha = 0.97$		
ATT1	To what extent do you think your preferred brand is: Very unappealing/ very appealing.	4.21 (1.24)
ATT2	To what extent do you feel your preferred brand is: Very bad/ very good.	4.31 (1.26)
ATT3	To what extent do you feel your preferred brand is: Very unpleasant/ very pleasant.	4.29 (1.20)
ATT4	To what extent do you feel your preferred brand is: Very unfavorable/ very favorable.	4.32 (1.30)
ATT5	To what extent do you feel your favorite brand is: Very unlikable/ very likable.	4.37 (1.25)
Brand equity brand loyalty (BRBL), Cronbach's $\alpha = 0.95$		
BEBL1	My preferred brand is one of my top choices for clothing.	4.65 (1.17)
BEBL2	I like my preferred brand more than other clothing brands.	4.56 (1.18)
BEBL3	I will buy my preferred brand instead of other brands.	4.44 (1.20)
BEBL4	I am more interested in my preferred clothing brand than other brands.	4.44 (1.26)
Brand equity perceived quality (BEPQ), Cronbach's $\alpha = 0.93$		
BEPQ1	The quality of my preferred clothing brand is extremely high.	4.38 (1.16)
BEPQ2	My preferred clothing brand's products are very functional.	4.77 (1.03)
BEPQ3	My preferred clothing brand's products are very reliable.	4.65 (1.09)
BEPQ4	My preferred clothing brand's products are very durable.	4.56 (1.09)

Item ID	Item Description	Mean (SD)
	Brand equity brand awareness (BEBAW), Cronbach's α = 0.90	
BEBAW1	I can recognize my preferred clothing brand among other competing brands.	4.52 (1.07)
BEBAW2	I can quickly recall the symbol or logo of my preferred clothing brand.	4.83 (1.15)
BEBAW3	I will remember my preferred clothing brand when I shop.	4.96 (0.88)
BEBAW4	I know what my preferred clothing brand's logo looks like.	4.94 (1.08)
	Brand equity brand associations (BEBAS), Cronbach's α = 0.60	
BEBAS1	Some characteristics of my preferred clothing brand come to my mind quickly.	4.68 (0.93)
BEBAS2	I have difficulty in imagining my preferred clothing brand in my mind [Reversed item].	4.51 (1.32)
BEBAS3	I trust this brand as a manufacturer of clothing.	4.46 (1.19)
BEBAS4	I feel proud to own this brand.	4.12 (1.24)
	Brand resonance behavioral loyalty, Cronbach's α = 0.92	
BRBL1	I will likely buy this brand the next time I buy clothing.	4.47 (1.23)
BRBL2	I intend to buy other products from this brand.	4.53 (1.22)
BRBL3	This is the one clothing brand I prefer to buy.	4.22 (1.26)
BRBL4	I will buy this clothing brand whenever I can.	4.11 (1.30)
	Brand resonance attitudinal attachment (BRAA), Cronbach's α = 0.91	
BRAA1	I will feel good when I use this brand.	4.32 (1.32)
BRAA2	This brand makes me happy.	4.35 (1.19)
BRAA3	I will really miss this brand if it went away.	4.42 (1.31)
BRAA4	This brand is special to me.	3.88 (1.33)
	Brand resonance community engagement (BRCE), Cronbach's α = 0.90	
BRCE1	I identify with people who use this brand.	3.50 (1.30)

Item ID	Item Description	Mean (SD)
BRCE2	I feel as if I almost belong to a club with other users of this brand.	2.89 (1.35)
BRCE3	This is a brand used by people like me.	3.87 (1.24)
BRCE4	I feel a connection with others who use this brand.	3.21 (1.34)

	Brand resonance active engagement (BRAE), Cronbach's α = 0.89	
BRAE1	I will talk about this brand to others.	3.73 (1.30)
BRAE2	I am interested in learning more about this brand.	3.71 (1.33)
BRAE3	I would like others to know that I use this brand.	3.26 (1.33)
BRAE4	I would like to visit the website for this brand.	4.12 (1.25)

	SRFC knowledge-Social (SRFC-S), Cronbach's α = 0.74	
SRFC-S1	Use of child labor is a general practice among some clothing manufacturers.	4.23 (1.29)
SRFC-S2	Often clothing manufacturers do not pay their employees at least the local wage.	4.51 (1.14)
SRFC-S3	If you read this statement, select strongly agree [Attention Check].	6.00 (0.00)
SRFC-S4	All clothing manufacturers have their employees work no more than 40 hours per week [Reversed item].	4.66 (1.30)
SRFC-S5	All clothing manufacturers generally provide non-hazardous workplaces for their employees [Reversed item].	4.34 (1.22)

	SRFC knowledge-Environment (SRFC-E), Cronbach's α = 0.88	
SRFC-E1	Chemical pollutants are produced during manufacturing of synthetic fibers such as polyester.	4.72 (0.87)
SRFC-E2	Water pollution occurs during common dye processes of textiles.	4.74 (0.91)
SRFC-E3	Textile dyeing and finishing processes use a lot of water.	4.83 (0.89)
SRFC-E4	Special finishes on fabrics often create problems for recycling.	4.70 (0.91)
SRFC-E5	Natural fibers such as cotton are usually biodegradable.	4.54 (0.92)

Item ID	Item Description	Mean (SD)
	Values-Biospherism (BIO), Cronbach's α = 0.92	
BIO1	Preventing pollution: conserving natural resources.	5.08 (0.93)
BIO2	Unity with nature: fitting into nature.	4.73 (1.19)
BIO3	Respecting the earth: harmony with other species.	5.04 (1.08)
BIO4	Protecting the environment: preserving nature.	5.23 (0.94)
	Values- Egoism (EGO), Cronbach's α = 0.83	
EGO1	Social power: control over others, dominance.	2.28 (1.30)
EGO2	Influential: having an impact on people and events.	3.40 (1.47)
EGO3	Wealth: material possessions, money.	3.43 (1.35)
EGO4	Authority: the right to lead or command.	2.79 (1.39)
	Values-Altruism, Cronbach's α = 0.87	
ALT1	Social justice: correcting injustice, care for the weak.	4.81 (1.26)
ALT2	Equality: equal opportunity for all.	5.12 (1.04)
ALT3	A world of peace: free of war and conflict.	5.22 (0.95)
ALT4	Helpful: working for the welfare of others.	5.14 (0.93)

Hypothesis Testing

The Effect of the Apparel Sustainability Index on Brand Attitudes

Hypotheses 1 through 3 are related to the effect of the apparel sustainability index on respondents' attitudes toward their preferred brands. Hypotheses 1 postulated that respondents that viewed the hangtag with an apparel sustainability index with a high sustainability value would be more likely to display favorable attitudes toward the brand as compared to those that

viewed the hangtag featuring an apparel sustainability index with a low value. To test Hypothesis 1, a one-way analysis of variance (ANOVA) was conducted with sustainability value (i.e., high vs. low) as the independent variable (i.e., between-group variable), and attitude as the dependent variable. ANOVA results revealed a significant main effect for sustainability value on brand attitude ($F_{(1,241)} = 79.65$, $p < 0.001$, and $\eta^2 = 0.248$). The Levene's test of equality of error variances was performed and results were significant ($F_{(1,241)} = 49.37$, $p < 0.001$), indicating that the variances between the two treatment groups were not equal. Since the assumption of homogeneity of variance was not met, a Welch's adjusted F ratio was computed (Lix et al., 1996). The Welch's test was significant (Welch's $F_{(1,195.19)} = 78.74$, $p < 0.001$), indicating that there is a significant difference among the groups, as the group that viewed the hangtag with a high sustainability value apparel sustainability index had more positive attitudes toward the brand ($M_{\text{HSustainability}} = 4.88$, $SD = 0.75$) than those that viewed the hangtag with an apparel sustainability index with a low sustainability value ($M_{\text{LSustainability}} = 3.70$, $SD = 1.24$). Thus, Hypothesis 1 was supported.

Hypothesis 2 proposed that respondents that viewed the hangtag with a more visible apparel sustainability index placement were more likely to display favorable attitudes toward the brand as compared to those that viewed the hangtag with a less visible apparel sustainability index placement. To test Hypothesis 2, a one-way ANOVA was conducted with visibility placement (i.e., visible versus less visible) as the independent variable (i.e., between-group variable), and attitude as the dependent variable. ANOVA results revealed an insignificant main effect for visibility on consumer brand attitude ($F_{(1,241)} = 0.045$, $p = 0.83$, and $\eta^2 = 0.00$). The Levene's test of equality of error variances was performed and results were significant ($F_{(1,241)} = 9.04$, $p < 0.01$), indicating that the variances between the two groups were not equal. Since the

assumption of homogeneity of variance was not met, a Welch's adjusted F ratio was computed (Lix et al., 1996). The Welch's test was insignificant (Welch's $F_{(1,237.18)} = 0.045$, p = 0.83), further supporting that there is not a significant difference regarding participants' attitudes toward the brand based on visibility, as the group that viewed the hangtag with a more visible apparel sustainability index placement ($M_{Visible} = 4.28$, $SD = 1.27$) had a similar mean to those that viewed the hangtag with a less visible apparel sustainability index placement ($M_{LessVisible} = 4.31$, $SD = 1.09$). Thus, Hypothesis 2 was not supported.

Lastly, Hypothesis 3 posited that there would be an interaction effect between the sustainability value of an apparel sustainability index and the visibility of the apparel sustainability index on attitude toward the brand. To test Hypothesis 3, a two-way ANOVA was conducted to determine whether there was an interaction effect of sustainability value and consumer attitude toward the brand. ANOVA results revealed a significant interaction effect for sustainability value and visibility on consumer brand attitude ($F_{(1,239)} = 8.52$, $p < 0.01$, and $\eta^2 = 0.034$). The Levene's test of equality of error variances was performed and results were significant ($F_{(3.239)} = 13.87$, $p < 0.001$), indicating that the variances between the two treatment groups were not equal. When the Levene's test is significant, an alpha level lower than 0.05 should be used to evaluate the univariate ANOVAs (Allen & Bennett, 2008).

Pairwise comparisons indicated a significant difference between those that viewed the hangtag with a low sustainability valued apparel sustainability index that was less visible and those that viewed the hangtag with a low sustainability valued apparel sustainability index that was visible (Pairwise $p < 0.05$). Similarly, there was a marginally significant difference between those that viewed the hangtag with a high valued apparel sustainability index that was less visible and those that viewed the hangtag with a high valued apparel sustainability index that was

visible (Pairwise $p = 0.06$). Further analysis of the means indicated that the group that viewed the hangtag with an apparel sustainability index with a higher sustainability value and more visible placement ($M_{\text{HSustainability, Visible}} = 5.05$, $SD = 0.79$) had more positive consumer attitudes toward the brand than the group that viewed an apparel sustainability index with a higher sustainability value and less visible placement ($M_{\text{HSustainability, LessVisible}} = 4.70$, $SD = 0.68$). These groups also had more positive consumer attitudes toward the brand than the group that viewed the hangtag with an apparel sustainability index with a lower sustainability value and less visible placement ($M_{\text{LSustainability, LessVisible}} = 3.91$, $SD = 1.27$) and the group that viewed the hangtag with an apparel sustainability index with a lower sustainability value and more visible placement ($M_{\text{LSustainability, Visible}} = 3.50$, $SD = 1.19$).

There was also a significant difference between the group that viewed the hangtag with a less visible apparel sustainability index with a low sustainability value and the group that viewed the hangtag with a less visible apparel sustainability index with a high sustainability value (Pairwise $p < 0.001$). That is, the group that viewed the hangtag with a less visible apparel sustainability index with a high sustainability value ($M_{\text{LessVisible, HSustainability}} = 4.70$, $SD = 0.68$) had more positive consumer attitudes toward the brand as compared with the group that viewed the hangtag with a less visible apparel sustainability index with a low sustainability value ($M_{\text{LessVisible, LSustainability}} = 3.91$, $SD = 1.27$). Similarly, there was a significant difference between the group that viewed the hangtag with a more visible apparel sustainability index with a high sustainability value and the group that viewed the hangtag with a more visible apparel sustainability index with a low sustainability value (Pairwise $p < 0.001$). That is, the group that viewed the hangtag with a visible apparel sustainability index with a high sustainability value ($M_{\text{Visible, HSustainability}} = 5.05$, $SD = 0.79$) had more positive consumer attitudes toward the brand as

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compared with the group that viewed the hangtag with a visible apparel sustainability index with

a low sustainability value ($M_{\text{Visible, LSustainability}}$ = 3.50, SD = 1.19). Thus, Hypothesis 3 was

supported. Table 18 provides a summary of the ANOVA results regarding the effect of

sustainability value and index placement on attitude.

Table 18. ANOVA Results of Effects of Sustainability Value and Index Placement on

Attitude

Independent Variable	Mean (SD)
	Attitude
Sustainability Value	
Low Sustainability	3.70 (1.24)
High Sustainability	4.88 (0.75)
Welch *F*-value	**78.74*****
Partial eta squared	**0.248**
Visibility Placement	
Less Visible	4.31 (1.09)
Visible	4.28 (1.27)
Welch *F*-value	**0.045**
Partial eta squared	**0.00**
Sustainability Value x Visibility Placement	
High Sustainability, Visible	5.05 (0.79)
High Sustainability, Less Visible	4.70 (0.68)
Low Sustainability, Visible	3.50 (1.19)
Low Sustainability, Less Visible	3.91 (1.27)
***F*-value**	**8.52****
Partial eta squared	**0.034**

Notes.**p < 0.01, *** p < 0.001

The Effect of the Apparel Sustainability Index on Brand Evaluations

Hypotheses 4-9 involved testing the effect of the apparel sustainability index on brand

evaluations. Hypothesis 4 posited that respondents that viewed the hangtag featuring an apparel

sustainability index with a high value were more likely to display favorable brand equity

evaluations toward the brand as measured by (a) brand associations, (b) brand awareness, (c)

perceived quality, and (d) brand loyalty, compared to those that viewed the hangtag featuring an apparel sustainability index with a low sustainability value (i.e., unsustainable). To test Hypothesis 4, a one-way multivariate analysis of variance (MANOVA) was performed. MANOVA results revealed a significant main effect for sustainability, however, the Box's M test, which tests for equality of multiple variance-covariance matrices, was significant (Box M = 56.71, $p < 0.001$), indicating that the covariance matrices between the treatment groups differ. When Box M is significant, a more robust statistic, Pillai's Trace, should be used to evaluate the MANOVA results (Tabachnick & Fidell, 2007). Furthermore, if group sizes are over 30, then the MANOVA procedure is considered robust against violations of the homogeneity of variance-covariance matrices assumption (Allen & Bennett, 2008). In this case, both the unsustainable group (n = 120) and sustainable group (n = 123) met the requirement, thus, it was appropriate to use the MANOVA procedure (Allen & Bennett, 2008). To test for homogeneity of variance for the dependent variables, Levene's tests were conducted and were insignificant for brand awareness ($F_{(1,241)} = 0.11$, $p = 0.75$) and brand associations ($F_{(1,241)} = 0.29$, $p = 0.59$), indicating that these treatment groups have similar variances. However, the Levene's tests were significant for brand loyalty ($F_{(1,241)} = 10.39$, $p = 0.001$) and perceived quality $F_{(1,241)} = 13.83$ $p < 0.001$), indicating that these treatment groups did not have similar variances. When the Levene's test is significant, an alpha level lower than 0.05 should be used to evaluate the univariate ANOVAs (Allen & Bennett, 2008). Pillai's Trace was significant (Pillai's Trace = 0.16, $F_{(4,238)} = 11.27$, $p < 0.001$, and $\eta^2 = 0.16$).

The main effect of sustainability value was significant on brand loyalty ($F_{(1, 241)} = 34.72$, $p < 0.001$, and $\eta^2 = 0.13$), as the group that viewed the hangtag with an apparel sustainability index that had a higher sustainability value had more positive brand loyalty evaluations

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($M_{\text{HSustainability}} = 4.92$, $SD = 0.88$) than the group that viewed the hangtag with an apparel

sustainability index with a lower sustainability value ($M_{\text{LSustainability}} = 4.12$, $SD = 1.21$). Similarly,

the main effect of sustainability value was significant on perceived quality ($F_{(1,241)} = 28.37$, $p < $

0.001, and $\eta^2 = 0.11$), as the group that viewed the hangtag with a higher sustainable apparel

sustainability index value had more positive perceived quality evaluations ($M_{\text{HSustainability}} = 4.91$,

$SD = 0.77$) than the group that viewed the hangtag with a lower apparel sustainability index

value ($M_{\text{LSustainability}} = 4.26$, $SD = 1.09$). The main effect of sustainability was also significant on

brand awareness ($F_{(1,241)} = 4.58$, $p < 0.05$, and $\eta^2 = 0.20$), as the group that viewed the hangtag

with a higher apparel sustainability index value had more positive brand awareness evaluations

($M_{\text{HSustainability}} = 4.94$, $SD = 0.93$) than the group that viewed the hangtag with an apparel

sustainability index with a lower value ($M_{\text{LSustainability}} = 4.69$, $SD = 0.90$). Lastly, the main effect

of sustainability value was significant on brand associations ($F_{(1,241)} = 28.70$, $p < 0.001$, and $\eta^2 = $

0.11), as the group that viewed the hangtag with an apparel sustainability index with a higher

sustainability value had more positive brand association evaluations ($M_{\text{HSustainability}} = 4.70$, $SD = $

0.75) than the group that viewed the hangtag with an apparel sustainability index with a lower

value ($M_{\text{LSustainability}} = 4.18$, $SD = 0.75$). Thus, Hypothesis 4 was supported.

Hypothesis 5 proposed that respondents that viewed the hangtag with a more visible

apparel sustainability index were more likely to display favorable brand equity evaluations

toward the brand as measured by (a) brand associations, (b) brand awareness, (c) perceived

quality, and (d) brand loyalty, compared to those that viewed the hangtag with a less visible

apparel sustainability index. To test Hypotheses 5, a one-way MANOVA was performed.

MANOVA results revealed an insignificant main effect for visibility (Wilks' Lambda = 0.97,

$F_{(4,238)} = 1.97$, $p < 0.10$ and $\eta^2 = 0.03$). The Box's M test, which was insignificant (Box M =

17.89, $p = 0.06$), indicated that the covariance matrices between the two treatment groups did not differ. Furthermore, Levene's tests were insignificant for brand loyalty ($F_{(1,241)} = 1.40$, $p = 0.24$), perceived quality ($F_{(1,241)} = 2.80$, $p = 0.10$), and brand awareness ($F_{(1,241)} = 2.21$, $p = 0.14$), indicating homogeneity of variance. However, the Levene's test was significant for brand associations ($F_{(1,241)} = 5.50$, $p < 0.05$). When the Levene's test is significant, an alpha level lower than 0.05 should be used to evaluate the univariate ANOVAs (Allen & Bennett, 2008). Although Wilks' Lambda was insignificant for the main effect, univariate ANOVAs demonstrated a significant effect of visibility placement on brand awareness ($F_{(1, 241)} = 6.98$, $p < 0.01$, and $\eta^2 = 0.28$) and brand associations ($F_{(1, 241)} = 3.83$, $p < 0.05$, and $\eta^2 = 0.16$). That is, the group that viewed the hangtag with a more visible apparel sustainability index had more positive brand awareness evaluations ($M_{\text{Visible}} = 4.97$, $SD = 0.83$) than the group that viewed the hangtag with a less visible apparel sustainability index ($M_{\text{LessVisible}} = 4.66$, $SD = 0.99$). Similarly, the group that viewed the hangtag with a more visible apparel sustainability index had more positive brand association evaluations ($M_{\text{Visible}} = 4.54$, $SD = 0.85$) than the group that viewed the hangtag with a less visible apparel sustainability index ($M_{\text{LessVisible}} = 4.34$, $SD = 0.72$).

The main effect of visibility was insignificant on brand loyalty ($F_{(1,241)} = 0.42$, $p = 0.52$, $\eta^2 = 0.002$) and perceived quality ($F_{(1,241)} = 0.78$, $p = 0.38$, $\eta^2 = 0.003$). As such, the group that viewed the hangtag with a more visible apparel sustainability index had similar brand loyalty evaluations ($M_{\text{Visible}} = 4.57$, $SD = 1.16$) as compared to the group that viewed the hangtag with a less visible apparel sustainability index ($M_{\text{LessVisible}} = 4.48$, $SD = 1.10$). Similarly, the group that viewed the hangtag with a more visible apparel sustainability index had similar perceived quality brand associations evaluations ($M_{\text{Visible}} = 4.65$, $SD = 1.09$) as compared to the group that viewed the hangtag with a less visible apparel sustainability index ($M_{\text{LessVisible}} = 4.53$, $SD = 0.89$). Thus,

Hypothesis 5 was partially supported, as Hypothesis 5(a) and Hypothesis 5(b) were supported, while Hypothesis 5(c) and Hypothesis 5(d) were not.

Hypothesis 6 postulated that there would be an interaction effect between an apparel sustainability index value and placement on brand equity, as participants that viewed the hangtag with a more visible, high-valued apparel sustainability index were more likely to display favorable brand equity evaluations toward the brand as measured by (a) brand associations, (b) brand awareness, (c) perceived quality, and (d) brand loyalty, compared to those that viewed the hangtag with a less visible, low-valued apparel sustainability index. To test Hypothesis 6, a two-way MANOVA was used. MANOVA results revealed an insignificant interaction effect for sustainability value and visibility placement (Wilks' Lambda $= 0.98$, $F_{(4,236)} = 1.15$, $p = 0.34$, and $\eta^2 = 0.02$). However, because the Box's M test was significant (Box's M $= 91.14$, $p < 0.001$), the Pillai's Trace statistic was used. The Pillai's Trace was insignificant for the interaction effect (Pillai's Trace $= 0.02$, $p = 0.34$, and $\eta^2 = 0.02$). Thus, there was no main interaction effect of sustainability value and visibility on perceived quality ($F_{(1,239)} = 1.11$, $p = 0.29$, $\eta^2 = 0.005$), brand awareness ($F_{(1,239)} = 0.001$, $p = 0.97$, $\eta^2 = 0.00$), and brand associations ($F_{(1,239)} = 0.76$, $p = 0.38$, $\eta^2 = 0.003$). However, a univariate ANOVA demonstrated a significant interaction effect for brand loyalty ($F_{(1,239)} = 3.99$, $p = 0.05$, $\eta^2 = 0.16$).

Specifically, for brand loyalty, based on pairwise comparisons, there were marginally significant differences between the group that viewed the hangtag with an apparel sustainability index with a high sustainability value and visible placement and the group that viewed the hangtag with an apparel sustainability index with a high sustainability value and less visible index placement (Pairwise $p = 0.06$). That is, the group that viewed the hangtag with an apparel sustainability index with a high value and visible placement ($M_{\text{HSustainability, Visible}} = 5.10$, $SD =$

0.92) had more positive brand loyalty evaluations as compared to the group that viewed the hangtag with an apparel sustainability index with a high value and less visible placement ($M_{HSustainability, LessVisible} = 4.73$, $SD = 0.79$). However, based on pairwise comparisons, there were no significant differences between the group that viewed the hangtag with an apparel sustainability index with a low sustainability value and visible placement and the group that viewed the hangtag with an apparel sustainability index with a low sustainability value and less visible placement (Pairwise $p = 0.36$). That is, the group that viewed the hangtag with an apparel sustainability index with a low value and visible placement ($M_{LSustainability, Visible} = 4.03$, $SD = 1.13$) had brand loyalty evaluations similar to the group that viewed the hangtag with an apparel sustainability index with a low value and less visible placement ($M_{LSustainability, LessVisible} = 4.21$, $SD = 1.30$).

Furthermore, there were significant differences between the group that viewed the hangtag with a less visible apparel sustainability index with a low sustainability value and the group that viewed the hangtag with a less visible apparel sustainability index with a high sustainability value (Pairwise $p < 0.01$). That is, the group that viewed the hangtag with a less visible apparel sustainability index with a high sustainability value ($M_{LessVisible, HSustainability} = 4.73$, $SD = 0.79$) had more positive brand loyalty evaluations as compared to the group that viewed the hangtag with a less visible apparel sustainability index with a low sustainability value ($M_{LessVisible, LSustainability} = 4.21$, $SD = 1.30$). Similarly, there was a significant difference between the group that viewed the hangtag with a more visible apparel sustainability index with a high sustainability value and the group that viewed the hangtag with a more visible apparel sustainability index with a low sustainability value (Pairwise $p < 0.001$). That is, the group that viewed the hangtag with a visible apparel sustainability index with a high value ($M_{Visible,}$

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HSustainability = 5.10, *SD* = 0.92) had more positive brand loyalty evaluations as compared to the group that viewed the hangtag with a visible apparel sustainability index with a low sustainability value ($M_{\text{Visible, LSustainability}}$ = 4.03, *SD* = 1.13).

For perceived quality, based on pairwise comparisons, there were no significant differences between the group that viewed the hangtag with an apparel sustainability index with a high sustainability value that had a visible index placement and the group that viewed the hangtag with an apparel sustainability index with a high sustainability value with a less visible index placement (Pairwise *p* = 0.16). That is, the mean of the group that viewed the hangtag with an apparel sustainability index with a high sustainability value and visible index placement ($M_{\text{HSustainability, Visible}}$ = 5.03, *SD* = 0.84) had similar perceived quality evaluations as compared to the group that viewed the hangtag with an apparel sustainability index with a high sustainability value and less visible index placement ($M_{\text{HSustainability, LessVisible}}$ = 4.79, *SD* = 0.68). Similarly, pairwise comparisons indicate no significant difference between the group that viewed the hangtag with an apparel sustainability index with a low value and visible index placement and the group that viewed the hangtag with an apparel sustainability index with a low value and less visible index placement (Pairwise *p* = 0.94). That is, the group that viewed the hangtag with the apparel sustainability index with a low sustainability value and visible index placement ($M_{\text{LSustainability, Visible}}$ = 4.26, *SD* = 1.18) had similar perceived quality evaluations as the group that viewed the hangtag with an apparel sustainability index with a low value and less visible index placement ($M_{\text{LSustainability, LessVisible}}$ = 4.27, *SD* = 1.00).

Likewise, for brand awareness, pairwise comparisons indicate that there were no significant differences between the group that viewed the hangtag with an apparel sustainability index with a high value and visible index placement and the group that viewed the hangtag with

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an apparel sustainability index with a high value and less visible index placement (Pairwise $p =$ 0.06). That is, the group that viewed the apparel sustainability index with a high value and visible index placement ($M_{\text{HSustainability, Visible}} = 5.09$, $SD = 0.88$) had similar brand awareness evaluations as the group that viewed the hangtag with an apparel sustainability index with a high value and less visible index placement ($M_{\text{HSustainability, LessVisible}} = 4.78$, $SD = 0.96$). Similarly, pairwise comparisons indicated no significant differences between the group that viewed the hangtag with an apparel sustainability index with a low value and visible index placement and the group that viewed the hangtag with an apparel sustainability index with a low value and less visible index placement (Pairwise $p = 0.06$). That is, the group that viewed the apparel sustainability index with a low sustainability value and visible index placement ($M_{\text{LSustainability,}}$ $_{\text{Visible}} = 4.84$, $SD = 0.77$) had similar brand awareness evaluations as the group that viewed the hangtag with an apparel sustainability index with a low value and less visible index placement ($M_{\text{LSustainability, LessVisible}} = 4.53$, $SD = 1.00$).

Lastly, even though a univariate ANOVA demonstrated an insignificant interaction effect of the apparel sustainability index's visibility and sustainability value on respondent's brand associations ($F_{(1,239)} = 0.76$, $p = 0.38$, $\eta^2 = 0.003$), based on pairwise comparisons, there was a significant difference between the group that viewed the hangtag with an apparel sustainability index with a high value and visible index placement and the group that viewed the hangtag with an apparel sustainability index with a high value and less visible index placement (Pairwise $p <$ 0.05). That is, the group that viewed the hangtag with an apparel sustainability index with a high sustainability value and visible index placement ($M_{\text{HSustainability, Visible}} = 4.83$, $SD = 0.78$) had more positive brand association evaluations than the group that viewed the hangtag with an apparel sustainability index with a high value and less visible placement ($M_{\text{HSustainability, LessVisible}} = 4.55$,

$SD = 0.69$). However, there were no significant differences between the group that viewed the

hangtag with an apparel sustainability index with a low value and visible index placement and

the group that viewed the hangtag with an apparel sustainability index with a low value and less

visible index placement (Pairwise $p = 0.40$). That is, the group that viewed the hangtag with an

apparel sustainability index with a low sustainability value and visible index placement

($M_{\text{LSustainability,Visible}} = 4.24$, $SD = 0.81$) had similar brand association evaluations compared to the

group that viewed the hangtag with an apparel sustainability index with a low value and less

visible index placement ($M_{\text{LSustainability, LessVisible}} = 4.12$, $SD = 0.68$).

There was also a significant difference between the group that viewed the hangtag with a

less visible apparel sustainability index with a low sustainability value and the group that viewed

the hangtag with a less visible apparel sustainability index with a high sustainability value

(Pairwise $p < 0.01$). That is, the group that viewed the hangtag with a less visible apparel

sustainability index with a high sustainability value ($M_{\text{LessVisible, HSustainability}} = 4.55$, $SD = 0.69$) had

more positive brand association evaluations as compared with the group that viewed the hangtag

with a less visible apparel sustainability index with a low sustainability value ($M_{\text{LessVisible,}}$

$_{\text{LSustainability}} = 4.12$, $SD = 0.68$). Similarly, there was a significant difference between the group

that viewed the hangtag with a more visible apparel sustainability index with a high

sustainability value and the group that viewed the hangtag with a more visible apparel

sustainability index with a low sustainability value (Pairwise $p < 0.001$). That is, the group that

viewed the hangtag with a visible apparel sustainability index with a high value ($M_{\text{Visible,}}$

$_{\text{HSustainability}} = 4.83$, $SD = 0.78$) had more positive brand association evaluations as compared with

the group that viewed the hangtag with a visible apparel sustainability index with a low

sustainability value ($M_{\text{Visible, LSustainability}} = 4.24$, $SD = 0.81$). Thus, Hypothesis 6 was partially

supported, as Hypothesis 6(d) was supported while Hypothesis 6(a), Hypothesis 6(b) and

Hypothesis 6(c) were not. Table 19 provides a summary of the MANOVA results regarding the

effects of sustainability and visibility on the dimensions of brand equity.

Table 19. MANOVA Results of Effects of Sustainability Value and Index Placement on Dimensions of Brand Equity

Independent Variable	Mean (SD)				Result of the Main and Interaction Effect
	BEBL	BEPQ	BEBAW	BEBAS	
Sustainability Value					Pillai's Trace= 0.16 Hypothesis df = 4 Multivariate F = 11.27*** Partial eta squared = 0.16
Low Sustainability	4.12 (1.21)	4.26 (1.09)	4.69 (0.90)	4.18 (0.75)	
High Sustainability	4.92 (0.88)	4.91 (0.77)	4.94 (0.93)	4.70 (0.75)	
***F*-value**	**34.72*****	**28.37*****	**4.58***	**28.70*****	
Partial eta squared	**0.13**	**0.11**	**0.20**	**0.11**	
Visibility Placement					Wilks' Lambda= 0.97 Hypothesis df = 4 Multivariate F = 1.97** Partial eta squared = 0.03
Less Visible	4.48 (1.10)	4.53 (0.89)	4.66 (0.99)	4.34 (0.72)	
Visible	4.57 (1.16)	4.65 (1.09)	4.97 (0.83)	4.54 (0.85)	
***F*-value**	**0.42**	**0.78**	**6.98****	**3.83***	
Partial eta squared	**0.002**	**0.003**	**0.28**	**0.16**	
Sustainability Value x Visibility Placement					Pillai's Trace= 0.02 Hypothesis df = 4 Multivariate F = 1.15 Partial eta squared = 0.02

	BEBL	BEPQ	BEBAS	BEBAW
High Sustainability, Visible	5.10	5.03	5.09	4.83
	(0.92)	(0.84)	(0.88)	(0.78)
High Sustainability, Less Visible	4.73	4.79	4.78	4.55
	(0.79)	(0.68)	(0.96)	(0.69)
Low Sustainability, Visible	4.03	4.26	4.84	4.24
	(1.13)	(1.18)	(0.77)	(0.81)
Low Sustainability, Less Visible	4.21	4.27	4.53	4.12
	(1.30)	(1.00)	(1.00)	(0.68)
F-value	**3.99***	**1.11**	**0.001**	**0.76**
Partial eta squared	**0.16**	**0.005**	**0.00**	**0.003**

Notes. BEBL= Brand equity- Brand loyalty, BEPQ= Brand equity- Perceived quality, BEBAS= Brand equity- Brand associations, and

BEBAW= Brand equity- Brand awareness. *$p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.*

Hypothesis 7 proposed that respondents that viewed the hangtag featuring an apparel

sustainability index with a high value were more likely to display favorable brand resonance

toward the brand as measured by (a) behavioral loyalty, (b) attitudinal attachment, (c)

community engagement, and (d) active engagement, compared to those that viewed the hangtag

featuring an apparel sustainability index with a low value. To test Hypothesis 7, a one-way

MANOVA was performed. MANOVA results revealed a significant main effect for

sustainability, however, the Box's M test was significant (Box M = 26.98, $p < 0.01$), indicating

that the covariance matrices between the two treatment groups differ. When Box M is

significant, a more robust statistic, Pillai's Trace, should be used to evaluate the MANOVA

results (Tabachnick & Fidell, 2007). Furthermore, if group sizes are over 30, then the MANOVA

procedure is considered robust against violations of the homogeneity of variance-covariance

matrices assumption (Allen & Bennett, 2008). In this case, both the unsustainable group (n =

120) and the sustainable group (n = 123) met the requirements, thus, it was appropriate to use the

MANOVA procedure (Allen & Bennett, 2008). To test for homogeneity of variance for the

dependent variables, Levene's tests were conducted. Levene's tests were insignificant for

attitudinal attachment ($F_{(1,241)} = 2.38$, $p = 0.12$), community engagement ($F_{(1,241)} = 0.79$, $p =$

0.78), and active engagement ($F_{(1,241)} = 0.62$, $p = 0.43$), indicating that the treatment groups have

similar variances. However, the Levene's tests were significant for behavioral loyalty ($F_{(1,241)} =$

7.27, $p < 0.01$). When the Levene's test is significant, an alpha level lower than 0.05 should be

used to evaluate the univariate ANOVAs (Allen & Bennett, 2008). Pillai's Trace was significant

(Pillai's Trace = 0.14, $F_{(4,238)} = 9.51$, $p < 0.001$, and $\eta^2 = 0.14$). The main effect of sustainability

was significant on behavioral loyalty ($F_{(1, 241)} = 29.18$, $p < 0.001$, and $\eta^2 = 0.11$), as the group

that viewed the hangtag with an apparel sustainability index that had a higher sustainability value

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had more positive behavioral loyalty evaluations ($M_{\text{HSustainability}} = 4.70$, $SD = 0.87$) than the group that viewed the hangtag with an apparel sustainability index with a lower sustainability value ($M_{\text{LSustainability}} = 3.96$, $SD = 1.24$).

Similarly, the main effect of sustainability value was significant on attitudinal attachment ($F_{(1,241)} = 34.48$, $p < 0.001$, and $\eta^2 = 0.13$), as the group that viewed the hangtag with a higher sustainable apparel sustainability index value had more positive attitudinal attachment evaluations ($M_{\text{HSustainability}} = 4.64$, $SD = 0.98$) than the group that viewed the hangtag with a lower apparel sustainability index value ($M_{\text{LSustainability}} = 3.83$, $SD = 1.17$).

The main effect of sustainability approached significance on community engagement ($F_{(1,241)} = 3.22$, $p = 0.07$, and $\eta^2 = 0.01$). Analysis of the means indicated that the group that viewed the hangtag with a higher apparel sustainability index value had more positive community engagement evaluations ($M_{\text{HSustainability}} = 3.50$, $SD = 1.13$) than the group that viewed the hangtag with an apparel sustainability index with a lower value ($M_{\text{LSustainability}} = 3.24$, $SD = 1.15$).

Lastly, the main effect of sustainability value was significant on active engagement ($F_{(1,241)} = 10.28$, $p < 0.001$, and $\eta^2 = 0.41$), as the group that viewed the hangtag with an apparel sustainability index with a higher sustainability value had more positive active engagement evaluations ($M_{\text{HSustainability}} = 3.93$, $SD = 1.14$), than the group that viewed the hangtag with an apparel sustainability index with a lower sustainability value ($M_{\text{LSustainability}} = 3.48$, $SD = 1.07$). Thus, Hypothesis 7 was partially supported, as Hypothesis 7(a), Hypothesis 7(b) and Hypothesis 7(d) were significant, but Hypothesis 7(c) was only marginally significant.

Hypothesis 8 proposed that respondents that viewed the hangtag with a more visible apparel sustainability index were more likely to display favorable brand resonance toward the

brand as measured by (a) behavioral loyalty, (b) attitudinal attachment, (c) community engagement, and (d) active engagement, compared to those that viewed the hangtag with a less visible apparel sustainability index. To test Hypothesis 8, a one-way MANOVA was performed. MANOVA results revealed a significant main effect for visibility (Wilks' Lambda = 0.95, $F_{(4,238)}$ = 2.89, $p < 0.05$, and $\eta^2 = 0.05$). The Box's M test, which was insignificant (Box M = 11.69, $p = 0.32$), indicated that the covariance matrices between the treatment groups did not differ. To test for homogeneity of variance for the dependent variables, Levene's tests were conducted. Levene's tests were insignificant for behavioral loyalty ($F_{(1,241)} = 3.73$, $p = 0.06$), attitudinal attachment ($F_{(1,241)} = 1.31$, $p = 0.25$), community engagement ($F_{(1,241)} = 0.51$, $p = 0.48$), and active engagement ($F_{(1,241)} = 0.80$, $p = 0.78$), indicating that these treatment groups have similar variances. The main effect of visibility placement was significant only on community engagement ($F_{(1, 241)} = 6.31$, $p < 0.01$, and $\eta^2 = 0.03$) and active engagement ($F_{(1,241)} = 10.09$, $p < 0.01$, and $\eta^2 = 0.04$). Analysis of the means indicated that the group that viewed the hangtag with a more visible apparel sustainability index had more positive community engagement evaluations ($M_{\text{Visible}} = 3.55$, $SD = 1.16$) than the group that viewed the hangtag with a less visible apparel sustainability index ($M_{\text{LessVisible}} = 3.18$, $SD = 1.10$). Similarly, the group that viewed the hangtag with a more visible apparel sustainability index had more positive active engagement evaluations ($M_{\text{Visible}} = 3.93$, $SD = 1.09$) than the group that viewed the hangtag with a less visible apparel sustainability index ($M_{\text{LessVisible}} = 3.48$, $SD = 1.12$).

The main effect of visibility was insignificant on behavioral loyalty ($F_{(1,241)} = 0.91$, $p = 0.34$, $\eta^2 = 0.004$) and attitudinal attachment ($F_{(1,241)} = 2.01$, $p = 0.16$, $\eta^2 = 0.008$). Investigation of the means indicated that the group that viewed the hangtag with a more visible apparel sustainability index had similar behavioral loyalty evaluations ($M_{\text{Visible}} = 4.40$, $SD = 1.19$) as the

group that viewed the hangtag with a less visible apparel sustainability index ($M_{LessVisible} = 4.26$, $SD = 1.06$). Similarly, the group that viewed the hangtag with a more visible apparel sustainability index had attitudinal attachment evaluations ($M_{Visible} = 4.34$, $SD = 1.17$) similar to the group that viewed the hangtag with a less visible apparel sustainability index ($M_{LessVisible} = 4.14$, $SD = 1.11$). Thus, Hypothesis 8 was partially supported, as Hypothesis 8(c) and Hypothesis 8(d) were supported, but Hypothesis 8(a) and Hypothesis 8(b) were not.

Hypothesis 9 postulated that there would be an interaction effect between the value of the apparel sustainability index and the visibility of the apparel sustainability index on brand resonance as measured by (a) behavioral loyalty, (b) attitudinal attachment, (c) community engagement, and (d) active engagement. That is, respondents that viewed the hangtag with a high sustainability value, more visible apparel sustainability index were more likely to display favorable brand resonance toward the brand as compared to those that viewed the hangtag with a low sustainability value, less visible apparel sustainability index. To test Hypothesis 9, a two-way MANOVA was used. MANOVA results revealed a marginally significant interaction effect for sustainability value and visibility placement (Wilks' Lambda = 0.97, $F_{(4,236)} = 2.13$, $p = 0.08$, and $\eta^2 = 0.04$) on brand resonance. The Box's M test was insignificant (Box's M = 48.23, $p = 0.3$). To test for homogeneity of variance for the dependent variables, Levene's tests were conducted. Levene's tests were insignificant for attitudinal attachment ($F_{(1,241)} = 2.49$, $p = 0.06$), community engagement ($F_{(1,241)} = 0.97$, $p = 0.41$), and active engagement ($F_{(1,241)} = 0.03$, $p = 0.99$), indicating that these treatment groups had similar variances. However, the Levene's test was significant for behavioral loyalty ($F_{(1,241)} = 3.23$, $p < 0.05$). When the Levene's test is significant, then it is appropriate to use an alpha level lower than 0.05 to evaluate the univariate ANOVAs (Allen & Bennett, 2008). Univariate ANOVAs demonstrated a significant interaction

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effect on behavioral loyalty ($F_{(1,239)} = 4.71$, $p < 0.05$, $\eta^2 = 0.02$) and community engagement ($F_{(1,239)} = 5.11$, $p < 0.05$, $\eta^2 = 0.02$).

Specifically, for behavioral loyalty, pairwise comparisons indicated a significant difference (Pairwise $p < 0.05$) between the group that viewed the hangtag with an apparel sustainability index with a high value and visible index placement, which had more positive behavioral loyalty evaluations ($M_{\text{HSustainability, Visible}} = 4.91$, $SD = 0.91$) than the group that viewed the hangtag with an apparel sustainability index with a high value and less visible index placement ($M_{\text{HSustainability, LessVisible}} = 4.48$, $SD = 0.78$). These two groups also had more positive behavioral loyalty evaluations than the group that viewed the hangtag with an apparel sustainability index with a low value and visible index placement ($M_{\text{LSustainability, Visible}} = 3.88$, $SD = 1.22$), and the group that viewed the hangtag with an apparel sustainability index with a low value and less visible index placement ($M_{\text{LSustainability, LessVisible}} = 4.04$, $SD = 1.26$). Based on pairwise comparisons, there was no significant difference between these latter two groups (Pairwise $p = 0.42$).

There was also a significant difference between the group that viewed the hangtag with a less visible apparel sustainability index with a low sustainability value and the group that viewed the hangtag with a less visible apparel sustainability index with a high sustainability value (Pairwise $p < 0.05$). That is, the group that viewed the hangtag with a less visible apparel sustainability index with a high sustainability value ($M_{\text{LessVisible, HSustainability}} = 4.48$, $SD = 0.78$) had more positive behavioral loyalty evaluations as compared to the group that viewed the hangtag with a less visible apparel sustainability index with a low sustainability value ($M_{\text{LessVisible, LSustainability}} = 4.04$, $SD = 1.26$). Similarly, there was a significant difference between the group that viewed the hangtag with a more visible apparel sustainability index with a high

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sustainability value and the group that viewed the hangtag with a more visible apparel

sustainability index with a low sustainability value (Pairwise $p < 0.001$). That is, the group that

viewed the hangtag with a visible apparel sustainability index with a high sustainability value

($M_{\text{Visible, HSustainability}} = 4.91$, $SD = 0.91$) had more positive behavioral loyalty evaluations as

compared to the group that viewed the hangtag with a visible apparel sustainability index with a

low sustainability value ($M_{\text{Visible, LSustainability}} = 3.88$, $SD = 1.22$).

Similarly, for community engagement, pairwise comparisons indicated a significant

difference (Pairwise $p < 0.001$) between the group that viewed the hangtag with an apparel

sustainability index with a high sustainability value and visible index placement, which had more

positive community engagement evaluations ($M_{\text{HSustainability, Visible}} = 3.84$, $SD = 1.17$) than the

group that viewed the hangtag with an apparel sustainability index with a high sustainability

value and less visible index placement ($M_{\text{HSustainability, LessVisible}} = 3.15$, $SD = 1.10$). These two

groups also had more positive community engagement evaluations than the group that viewed

the hangtag with an apparel sustainability index with a low value and visible index placement

($M_{\text{LSustainability, Visible}} = 3.25$, $SD = 1.09$), and the group that viewed the hangtag with an apparel

sustainability index with a low value and less visible index placement ($M_{\text{LSustainability, LessVisible}} =$

3.22, $SD = 1.22$). Based on pairwise comparisons, there is no significant difference between the

latter two groups (Pairwise $p = 0.85$).

Likewise, there was a significant difference between the group that viewed the hangtag

with a more visible apparel sustainability index with a high sustainability value and the group

that viewed the hangtag with a more visible apparel sustainability index with a low sustainability

value (Pairwise $p < 0.01$). That is, the group that viewed the hangtag with a visible apparel

sustainability index with a high sustainability value ($M_{\text{Visible, HSustainability}} = 3.84$, $SD = 1.17$) had

more positive community engagement evaluations as compared to the group that viewed the hangtag with a visible apparel sustainability index with a low sustainability value ($M_{Visible, LSustainability}$ = 3.25, SD = 1.09). However, there was not a significant difference between the group that viewed the hangtag with a less visible apparel sustainability index with a low sustainability value and the group that viewed a less visible apparel sustainability index with a high sustainability value (Pairwise p = 0.75). That is, the group that viewed the hangtag with a less visible apparel sustainability index with a high sustainability value ($M_{LessVisible, HSustainability}$ = 3.15, SD = 0.99) had similar community engagement evaluations as compared to the group that viewed the hangtag with a less visible apparel sustainability index with a low sustainability value ($M_{LessVisible, LSustainability}$ = 3.22, SD = 1.22).

The interaction effect approached significance on active engagement ($F_{(1,239)}$ = 3.66, p = 0.06, η^2 = 0.02). Pairwise comparisons indicated a significant difference (Pairwise $p < 0.001$) between the group that viewed the hangtag with an apparel sustainability index with a high sustainability value and visible index placement, which had more positive active engagement evaluations ($M_{HSustainability, Visible}$ = 4.28, SD = 1.04) than the group that viewed the hangtag with an apparel sustainability index with a high sustainability value and less visible index placement ($M_{HSustainability, LessVisible}$ = 3.57, SD = 1.13). These two groups had more positive active engagement evaluations than the group that viewed the hangtag with an apparel sustainability index with a low value and visible index placement ($M_{LSustainability, Visible}$ = 3.57, SD = 1.02), and the group that viewed the hangtag with an apparel sustainability index with a low value and less visible index placement ($M_{LSustainability, LessVisible}$ = 3.38, SD = 1.11). Based on pairwise comparisons, there is no significant difference between the latter two groups (Pairwise p = 0.35).

There was no interaction effect on attitudinal attachment ($F_{(1,239)} = 1.86$, $p = 0.17$, $\eta^2 =$ 0.008). However, pairwise comparisons indicated a significant difference (Pairwise $p < 0.05$) between the group that viewed the hangtag with an apparel sustainability index with a high sustainability value and visible index placement, which had more positive attitudinal attachment evaluations ($M_{\text{HSustainability, Visible}} = 4.84$, $SD = 1.05$) than the group that viewed the hangtag with an apparel sustainability index with a high sustainability value and less visible index placement ($M_{\text{HSustainability, LessVisible}} = 4.44$, $SD = 0.85$). Based on pairwise comparisons, there is no significant difference (Pairwise $p = 0.91$) between the group that viewed the hangtag with an apparel sustainability index with a low value and visible index placement ($M_{\text{LSustainability, Visible}} = 3.84$, $SD = 1.07$), and the group that viewed the hangtag with an apparel sustainability index with a low value and less visible index placement ($M_{\text{LSustainability, LessVisible}} = 3.82$, $SD = 1.26$). Thus Hypothesis 9 was partially supported, as Hypothesis 9(a) and 9(c) were supported, 9(d) approached marginal significance, and Hypothesis 9(b) was not supported. Table 20 provides a summary of the MANOVA results regarding the effects of sustainability and visibility on brand resonance.

Table 20. MANOVA Results of Effects of Sustainability Value and Index Placement on Dimensions of Brand Resonance

Independent Variable	Mean (SD)				Result of the Main and Interaction Effect
	BRBL	BRAA	BRCE	BRAE	
Sustainability Value					Pillai's Trace= 0.14 Hypothesis df = 4 Multivariate F = 9.51*** Partial eta squared = 0.14
Low Sustainability	3.96 (1.24)	3.83 (1.17)	3.24 (1.15)	3.48 (1.07)	
High Sustainability	4.70 (0.87)	4.64 (0.98)	3.50 (1.13)	3.93 (1.14)	
F-value	**29.18*** **	**34.48*** **	**3.22(Mar)**	**10.28** **	
Partial eta squared	**0.11**	**0.13**	**0.01**	**0.41**	
Visibility Placement					Wilks' Lambda= 0.95 Hypothesis df = 4 Multivariate F = 2.89* Partial eta squared = 0.05
Less Visible	4.26 (1.06)	4.14 (1.11)	3.18 (1.10)	3.48 (1.12)	
Visible	4.40 (1.19)	4.34 (1.17)	3.55 (1.16)	3.93 (1.09)	
F-value	**0.91**	**2.01**	**6.31** **	**10.09** **	
Partial eta squared	**0.004**	**0.008**	**0.03**	**0.04**	
Sustainability Value x Visibility Placement					Wilks' Lambda= 0.97 Hypothesis df = 4 Multivariate F = 2.13(mar) Partial eta squared = 0.04

	BRBL	BRAA	BRCE	BRAE
High Sustainability, Visible	4.91	4.84	3.84	4.28
	(0.91)	(1.05)	(1.17)	(1.04)
High Sustainability, Less Visible	4.48	4.44	3.15	3.57
	(0.78)	(0.85)	(1.10)	(1.13)
Low Sustainability, Visible	3.88	3.84	3.25	3.57
	(1.22)	(1.07)	(1.09)	(1.02)
Low Sustainability, Less Visible	4.04	3.82	3.22	3.38
	(1.26)	(1.26)	(1.22)	(1.11)
F-value	**4.71***	**1.86**	**5.11***	**3.66(Mar)**
Partial eta squared	**0.02**	**0.008**	**0.02**	**0.02**

Notes. BRBL= Brand resonance- Behavioral loyalty, BRAA= Brand resonance- Attitudinal attachment, BRCE= Brand resonance-

Community engagement, and BRAE= Brand resonance- Active engagement. *< 0.05, **< 0.01, *** $p < 0.001$, mar = approaching

significance (marginal).

Relationship between Attitudes and Brand Equity

Additional hypotheses were postulated regarding the relationship between attitude and brand equity. Specifically, Hypothesis 10 posited that a relationship exists between consumers' attitude toward the brand and brand equity as measured in terms of (a) brand associations, (b) brand awareness, (c) perceived quality, and (d) brand loyalty.

To test Hypothesis 10, a series of simple regressions were conducted, with attitude serving as the independent variable and the dimensions of brand equity (i.e., brand loyalty, perceived quality, brand associations, and brand awareness) as the dependent variables. The test of regression for the relationship between attitude and brand loyalty was significant ($F_{(1,241)} = 329.81$, $p < 0.001$), as was the relationship between attitude and perceived quality ($F_{(1,241)} = 219.56$, $p < 0.001$), attitude and brand associations ($F_{(1,241)} = 171.17$, $p < 0.001$), and attitude and brand awareness ($F_{(1,241)} = 37.23$, $p < 0.001$). These results indicate that attitude assisted in predicting the dimensions of brand equity.

R^2 values indicate the percentage of the dependent variable that can be explained by the independent variable. Attitude was found to account for approximately 58% of brand loyalty ($R^2 = 0.58$), 48% of perceived quality ($R^2 = 0.48$), 42% of brand associations ($R^2 = 0.42$), and 13% of brand awareness ($R^2 = 0.13$). Results further revealed that attitude toward the brand positively influenced dimensions of brand equity, including brand loyalty ($\beta = 0.76$, t-value $= 18.16$, $p < 0.001$), perceived quality ($\beta = 0.69$, t-value $= 14.82$, $p < 0.001$), brand associations ($\beta = 0.64$, t-value $= 13.08$, $p < 0.001$), and brand awareness ($\beta = 0.37$, t-value $= 6.10$, $p < 0.001$). Thus, Hypothesis 10 was supported. Table 21 provides a summary of the regression results for the effect of attitude on brand equity.

Table 21. Regression Results of the Effects of Attitude on Brand Equity

Dependent Variable	Standardized β	t-value	R^2	Adjusted R^2	F
BEBL	0.76	18.16***	0.58	0.58	329.81***
BEPQ	0.69	14.82***	0.48	0.48	219.56***
BEBAS	0.64	13.08***	0.41	0.41	171.17***
BEBAW	0.37	6.10***	0.13	0.13	37.23***

Notes. BEBL= Brand equity- Brand loyalty, BEPQ= Brand equity- Perceived quality, BEBAS= Brand equity- Brand associations, and BEBAW= Brand equity- Brand awareness. *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

Hypothesis 11 proposed that there is a relationship between brand equity and brand resonance. To test Hypothesis 11, a series of simple regressions were conducted with the dimensions of brand equity (i.e., brand loyalty, perceived quality, brand associations, and brand awareness) serving as the independent variable and the dimensions of brand resonance (i.e., behavioral loyalty, attitudinal attachment, community engagement, and active engagement) as the dependent variables.

Behavioral Loyalty

Results of regression analysis of the relationship between brand loyalty and behavioral loyalty were significant ($F_{(1,241)} = 356.93$, $p < 0.001$), as was the relationship between perceived quality and behavioral loyalty ($F_{(1,241)} = 270.63$, $p < 0.001$), brand associations and behavioral loyalty ($F_{(1,241)} = 229.15$, $p < 0.001$), and brand awareness and behavioral loyalty ($F_{(1,241)} = 61.48$, $p < 0.001$). This finding indicates that the dimensions of brand equity assist in predicting behavioral loyalty.

Analysis of the R^2 provide additional understanding regarding the extent to which the dimensions of brand equity explain the dependent variable of behavioral loyalty. Brand loyalty

was found to account for approximately 60% of behavioral loyalty ($R^2 = 0.60$), perceived quality for approximately 54% of behavioral loyalty ($R^2 = 0.54$), brand associations for approximately 49% of behavioral loyalty ($R^2 = 0.49$), and brand awareness for approximately 20% of behavioral loyalty ($R^2 = 0.20$). Results further revealed that the dimensions of brand equity positively influence behavioral loyalty, including brand loyalty ($\beta = 0.77$, t-value = 4.40, $p < 0.001$), perceived quality ($\beta = 0.73$, t-value =18.13, $p < 0.001$), brand associations ($\beta = 0.70$, t-value = 15.14, $p < 0.001$), and brand awareness ($\beta = 0.45$, t-value = 7.84, $p < 0.001$).

Attitudinal Attachment

Results of regression analysis of the relationship between brand loyalty and attitudinal attachment were significant ($F_{(1,241)} = 328.79$, $p < 0.001$), as was the relationship between perceived quality and attitudinal attachment ($F_{(1,241)} = 265.27$, $p < 0.001$), brand associations and attitudinal attachment ($F_{(1,241)} = 269.51$, $p < 0.001$), and brand awareness and attitudinal attachment ($F_{(1,241)} = 77.10$, $p < 0.001$). These results indicate that the dimensions of brand equity assist in predicting attitudinal attachment.

Analysis of the R^2 provide additional understanding regarding the extent to which the dimensions of brand equity explain the dependent variable of attitudinal attachment. Brand loyalty was found to account for approximately 58% of attitudinal attachment ($R^2 = 0.58$), perceived quality for approximately 52% of attitudinal attachment ($R^2 = 0.52$), brand associations for approximately 53% of attitudinal attachment ($R^2 = 0.53$), and brand awareness for approximately 24% of attitudinal attachment ($R^2 = 0.24$). Results further revealed that dimensions of brand equity positively influence attitudinal attachment, including brand loyalty ($\beta = 0.76$, t-value = 18.13, $p < 0.001$), perceived quality ($\beta = 0.72$, t-value = 16.23, $p < 0.001$),

brand associations ($\beta = 0.73$, t-value $=16.42$, $p < 0.001$), and brand awareness ($\beta = 0.49$, t-value $= 8.78$, $p < 0.001$).

Community Engagement

Results of regression analysis of the relationship between brand loyalty and community engagement were significant ($F_{(1,241)} = 38.73$, $p < 0.001$), as was the relationship between perceived quality and community engagement ($F_{(1,241)} = 40.31$, $p < 0.001$), brand associations and community engagement ($F_{(1,241)} = 38.97$, $p < 0.001$), and brand awareness and community engagement ($F_{(1,241)} = 29.45$, $p < 0.001$). These results indicate that the dimensions of brand equity assist in predicting community engagement.

Analysis of the R^2 provide additional understanding regarding the extent to which the dimensions of brand equity explain the dependent variable of community engagement. Brand loyalty accounts for approximately 14% of community engagement ($R^2 = 0.14$), perceived quality for approximately 14% of community engagement ($R^2 = 0.14$), brand associations for approximately 14% of community engagement ($R^2 = 0.14$), and brand awareness for approximately 11% of community engagement ($R^2 = 0.11$). Results further revealed that dimensions of brand equity positively influence community engagement, including brand loyalty ($\beta = 0.37$, t-value $= 6.22$, $p < 0.001$), perceived quality ($\beta = 0.38$, t-value $= 6.35$, $p < 0.001$), brand associations ($\beta = 0.37$, t-value $= 6.24$, $p < 0.001$), and brand awareness ($\beta = 0.33$, t-value $= 5.43$, $p < 0.001$).

Active Engagement

Lastly, results of the regression analysis of the relationship between brand loyalty and active engagement were significant ($F_{(1,241)} = 64.48$, $p < 0.001$), as was the relationship between perceived quality and active engagement ($F_{(1,241)} = 70.70$, $p < 0.001$), brand associations and

active engagement ($F_{(1,241)}$ = 68.99, $p < 0.001$), and brand awareness and active engagement

($F_{(1,241)}$ = 45.27, $p < 0.001$). These results indicate that the dimensions of brand equity assist in

predicting active engagement.

Analysis of the R^2 provide additional understanding regarding the extent to which the

dimensions of brand equity explain the dependent variable of active engagement. Brand loyalty

was found to account for approximately 21% of active engagement (R^2 = 0.21), perceived quality

for approximately 22% of active engagement (R^2 = 0.22), brand associations for approximately

22% of active engagement (R^2 = 0.22), and brand awareness for approximately 16% of active

engagement (R^2 = 0.16). Results further revealed that dimensions of brand equity positively

influence active engagement, including brand loyalty (β = 0.46, t-value = 8.03, $p < 0.001$),

perceived quality (β = 0.48, t-value = 8.41, $p < 0.001$), brand associations (β = 0.47, t-value =

8.31, $p < 0.001$), and brand awareness (β = 0.40, t-value = 6.72, $p < 0.001$). Thus, Hypothesis 11

was supported. Table 22 provides a summary of the regression results of the effects of the

dimensions of brand equity on brand resonance.

Table 22. Regression Results of the Dimensions of Brand Equity on Brand Resonance

Behavioral Loyalty					
Dependent Variable	Standardized β	t-value	R^2	Adjusted R^2	F
BEBL	0.77	4.40***	0.60	0.60	356.93***
BEPQ	0.73	16.72***	0.54	0.54	279.63***
BEBAS	0.70	15.14***	0.49	0.49	229.15***
BEBAW	0.45	7.84***	0.20	0.20	61.48***
Attitudinal Attachment					
BEBL	0.76	18.13***	0.58	0.58	328.79***
BEPQ	0.72	16.23***	0.52	0.52	265.27***
BEBAS	0.73	16.42***	0.53	0.53	269.51***
BEBAW	0.49	8.78***	0.24	0.24	77.10***
Community Engagement					
BEBL	0.37	6.22***	0.14	0.14	38.73***
BEPQ	0.38	6.35***	0.14	0.14	40.31***

BEBAS	0.37	6.24***	0.14	0.14	38.97***
BEBAW	0.33	5.43***	0.11	0.11	29.45***
Active Engagement					
BEBL	0.46	8.03***	0.21	0.21	64.48***
BEPQ	0.48	8.41***	0.23	0.23	70.70***
BEBAS	0.47	8.31***	0.22	0.22	68.99***
BEBAW	0.40	6.72***	0.16	0.16	45.27***

Notes. BEBL= Brand equity- Brand loyalty, BEPQ= Brand equity- Perceived quality, BEBAS= Brand equity- Brand associations, and BEBAW= Brand equity- Brand awareness. *** $p < 0.001$.

Moderating Effect of Knowledge and Values

The remaining hypotheses involved testing the moderating effect of SRFC knowledge (social and environmental) and consumer values (biospheric, egoistic, and altruistic) on attitude toward the brand as outlined in Hypothesis 1, Hypothesis 2, and Hypothesis 3. Specifically, Hypothesis 12 posited that SRFC knowledge (i.e., consumers' level of understanding regarding the social and environmental implications of apparel production and consumption) will moderate the relationships proposed in Hypothesis 1 (i.e., that an apparel sustainability index with a high sustainability value will result in more favorable consumer attitudes toward the brand than an apparel sustainability index with a low value), Hypothesis 2 (i.e., that a more visible apparel sustainability index will result in more favorable consumer attitudes toward the brand than a less visible apparel sustainability index) and Hypothesis 3 (i.e., that there will be an interaction effect between sustainability value and visibility placement on consumer attitude toward the brand).

Moderating Effect of SRFC Social Knowledge

Using the median split technique, the mean score of SRFC social knowledge was used to divide the respondents into two groups: high SRFC social knowledge ($M \geq 4.43$) and low SRFC social knowledge ($M < 4.43$). To determine whether SRFC social knowledge moderated the relationship proposed in Hypothesis 1, a 2-way ANOVA with sustainability value and SRFC

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social knowledge as the independent variables and attitude as the dependent variable was conducted. The Levene's test of equality of error variances was performed and results were significant ($F_{(3,239)} = 12.90$, $p < 0.001$), indicating that the variances between the two treatment groups were not equal. When the Levene's test is significant, an alpha level lower than 0.05 should be used to evaluate the univariate ANOVAs (Allen & Bennett, 2008). ANOVA results revealed that the 2-way interaction of sustainability value and SRFC social knowledge was significant ($F_{(1, 239)} = 4.93$, $p < 0.05$, $\eta^2 = 0.02$). Pairwise comparisons indicated a significant difference between those that viewed the hangtag with an apparel sustainability index with a low sustainability value based on their level of SRFC social knowledge (Pairwise $p < 0.01$). Specifically, those that had a low level of SRFC social knowledge had more positive attitudes toward the brand ($M_{\text{LSustainability, LSRFCSKnowledge}} = 3.99$, $SD = 1.14$) than those that had a high level of SRFC social knowledge ($M_{\text{LSustainability, HSRFCSKnowledge}} = 3.42$, $SD = 1.24$). There was not a significant difference between those with low and high levels of SRFC knowledge that viewed the hangtag with a high sustainability valued apparel sustainability index (Pairwise $p = 0.98$). Analysis of the means indicated that those that had a low level of SRFC social knowledge ($M_{\text{HSustainability, LSRFCSKnowledge}} = 4.87$, $SD = 0.78$) had similar attitudes towards the brand as those that had a high level of SRFC social knowledge ($M_{\text{HSustainability, HSRFCSKnowledge}} = 4.88$, $SD = 0.73$).

To determine whether SRFC social knowledge moderated the relationship proposed in Hypothesis 2, a 2-way ANOVA with visibility and SRFC social knowledge as the independent variables and attitude as the dependent variable was conducted. The Levene's test of equality of error variances was performed and results were significant ($F_{(3,239)} = 4.72$, $p < 0.01$), indicating that the variances between the two treatment groups were not equal. When the Levene's test is significant, an alpha level lower than 0.05 should be used to evaluate the univariate ANOVAs

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(Allen & Bennett, 2008). ANOVA results revealed that the 2-way interaction of visibility and SRFC social knowledge was insignificant ($F_{(1, 239)} = 0.04$, $p = 0.84$, $\eta^2 = 0.00$). Pairwise comparisons indicated that there was no significant difference between the group that viewed the hangtag with a less visible apparel sustainability index and had a low level of SRFC social knowledge and those that had a high level of SRFC social knowledge (Pairwise $p = 0.32$). Analysis of the means indicated that those that viewed the hangtag with a less visible apparel sustainability index and had a low level of SRFC social knowledge ($M_{\text{LessVisible, LSRFCSKnowledge}} = 4.43$, $SD = 0.95$) had similar attitudes towards the brand as those that viewed the hangtag with a less visible apparel sustainability index and had a high level of SRFC social knowledge ($M_{\text{LessVisible, HSRFCSKnowledge}} = 4.21$, $SD = 1.20$). Similarly, pairwise comparisons indicated that there was not a significant difference between those that viewed the hangtag with a visible apparel sustainability index and had a low level of SRFC social knowledge and those that had a high level of SRFC social knowledge (Pairwise $p = 0.19$). Specifically, those that viewed the hangtag with a visible apparel sustainability index and had a low level of SRFC social knowledge ($M_{\text{Visible, LSRFCSKnowledge}} = 4.42$, $SD = 1.19$) had similar attitudes towards the brand as those that viewed the hangtag with a visible apparel sustainability index and had a high level of SRFC social knowledge ($M_{\text{Visible, HSRFCSKnowledge}} = 4.15$, $SD = 1.33$).

To determine whether SRFC social knowledge moderated the relationship proposed in Hypothesis 3, a 3-way interaction between sustainability value, visibility placement, and SRFC social knowledge, ANOVA was employed. The Levene's test of equality of error variances was performed and results were significant ($F_{(7,235)} = 6.19$, $p < 0.001$), indicating that the variances between the two treatment groups were not equal. When the Levene's test is significant, an alpha level lower than 0.05 should be used to evaluate the univariate ANOVAs (Allen & Bennett,

2008). ANOVA results revealed that the 3-way interaction of sustainability value, visibility and SRFC social knowledge was insignificant ($F_{(1, 234)} = 0.52$, $p = 0.47$, $\eta^2 = 0.002$). However, pairwise comparisons indicated that there was a significant difference between those that viewed the hangtag with an apparel sustainability index with a low sustainability value, that was less visible and that had a low level of SRFC social knowledge, and those that had a high level of SRFC social knowledge (Pairwise $p = 0.08$). Analysis of the means indicated that those that viewed the hangtag with a low valued apparel sustainability index, that was less visible and that had low levels of SRFC social knowledge ($M_{\text{LSustainability, LessVisible, LSRFCSKnowledge}} = 4.15$, $SD = 1.10$) had more positive attitudes towards the brand than those that viewed the hangtag with a low valued apparel sustainability index, that was less visible and that had high levels of SRFC social knowledge ($M_{\text{LSustainability, LessVisible, HSRFCSKnowledge}} = 3.69$, $SD = 1.40$).

Similarly, pairwise comparisons indicated that there was significant difference between those that viewed the hangtag with a low valued apparel sustainability index that was visible and that had a low level of SRFC social knowledge and those that had a high level of SRFC social knowledge (Pairwise $p = 0.008$). Specifically, those that viewed the hangtag with a low valued apparel sustainability index, that was visible and that had low levels of SRFC social knowledge ($M_{\text{LSustainability, Visible, LSRFCSKnowledge}} = 3.85$, $SD = 1.18$) had more positive attitudes towards the brand than those that viewed the hangtag with a low valued apparel sustainability index, that was visible and that had high levels of SRFC social knowledge ($M_{\text{LSustainability, Visible, HSRFCSKnowledge}} = 3.17$, $SD = 1.12$). Pairwise comparisons indicated no significant difference between the group that viewed the hangtag with an apparel sustainability index with a high sustainability value, that was less visible and that had low SRFC social knowledge and those that had high SRFC social knowledge (Pairwise $p = 0.83$). Specifically, those that viewed the hangtag with a high

sustainability valued apparel sustainability index, that was less visible and that had low levels of

SRFC social knowledge ($M_{\text{HSustainability, LessVisible, LSRFCSKnowledge}} = 4.73$, $SD = 0.63$) had similar

attitudes towards the brand as those that viewed the hangtag with a high valued apparel

sustainability index, that was less visible and that had high levels of SRFC social knowledge

($M_{\text{HSustainability, LessVisible, HSRFCSKnowledge}} = 4.68$, $SD = 0.73$). Lastly, pairwise comparisons indicated

no significant difference between the groups that viewed the hangtag with an apparel

sustainability index with a high value, that was visible and that had low SRFC social knowledge

and those that had high SRFC social knowledge (Pairwise $p = 0.71$). Specifically, those that

viewed the hangtag with a high valued apparel sustainability index, that was visible and that had

low levels of SRFC social knowledge ($M_{\text{HSustainability, Visible, LSRFCSKnowledge}} = 5.00$, $SD = 0.89$) had

similar attitudes towards the brand as those that viewed the hangtag with a high valued apparel

sustainability index, that was visible and that had high levels of SRFC social knowledge

($M_{\text{HSustainability, Visible, HSRFCSKnowledge}} = 5.09$, $SD = 0.69$).

Moderating Effect of SRFC Environmental Knowledge

Similar to SRFC social knowledge, using the median split technique, the mean score of

SRFC environmental knowledge was used to divide the participants into two groups: high SRFC

environmental knowledge ($M \geq 4.71$) and low SRFC environmental knowledge ($M < 4.71$). To

determine whether SRFC environmental knowledge moderated the relationship proposed in

Hypothesis 1, a 2-way ANOVA with sustainability value and SRFC environmental knowledge as

the independent variables and attitude as the dependent variable was conducted. The Levene's

test of equality of error variances was performed and results were significant ($F_{(3,239)} = 21.95$, $p <$

0.001), indicating that the variances between the two treatment groups were not equal. When the

Levene's test is significant, an alpha level lower than 0.05 should be used to evaluate the

univariate ANOVAs (Allen & Bennett, 2008). ANOVA results revealed that the 2-way interaction of sustainability value and SRFC environmental knowledge was insignificant ($F_{(1, 239)}$ = 1.42, $p = 0.23$, $\eta^2 = 0.006$). Pairwise comparisons indicated no significant difference between the group that viewed the hangtag with a low valued apparel sustainability index and that had a low level of SRFC environmental knowledge and those that had a high level of SRFC environmental knowledge (Pairwise $p = 0.54$). That is, those that viewed the hangtag with an apparel sustainability index with a low sustainability value and had a low level of SRFC environmental knowledge ($M_{\text{LSustainability, LSRFCEKnowledge}} = 3.77$, $SD = 1.04$) had similar attitudes towards the brand as those that viewed the hangtag with an apparel sustainability index with a low value and had a high level of SRFC environmental knowledge ($M_{\text{LSustainability, HSRFCEKnowledge}}$ = 3.65, $SD = 1.38$). Similarly, pairwise comparisons indicated no significant difference between those that viewed the hangtag with an apparel sustainability index with a high sustainability value and had low levels of SRFC environmental knowledge and those that had high levels of SRFC environmental knowledge (Pairwise $p = 0.28$). That is, those that viewed the hangtag with a high sustainability valued apparel sustainability index and that had a low level of SRFC environmental knowledge ($M_{\text{HSustainability, LSRFCEKnowledge}} = 4.77$, $SD = 0.80$) had similar attitudes towards the brand as those that had a high level of SRFC environmental knowledge ($M_{\text{HSustainability, HSRFCEKnowledge}} = 4.97$, $SD = 0.70$).

To determine whether SRFC environmental knowledge moderated the relationship proposed in Hypothesis 2, a 2-way ANOVA with visibility and SRFC environmental knowledge as the independent variables and attitude as the dependent variable was conducted. The Levene's test of equality of error variances was performed and results were significant ($F_{(3,239)} = 4.91$, $p < 0.01$), indicating that the variances between the two treatment groups were not equal. When the

Levene's test is significant, an alpha level lower than 0.05 should be used to evaluate the univariate ANOVAs (Allen & Bennett, 2008). ANOVA results revealed that the 2-way interaction of visibility and SRFC environmental knowledge was insignificant ($F_{(1, 239)} = 0.63$, $p = 0.43$, $\eta^2 = 0.03$). Pairwise comparisons indicated no significant difference between those that viewed the hangtag with a less visible apparel sustainability index and had a low level of SRFC environmental knowledge and those that had a high level of SRFC environmental knowledge (Pairwise $p = 0.61$). That is, those that viewed the hangtag with a less visible apparel sustainability index and had a low level of SRFC environmental knowledge ($M_{\text{LVisible, LSRFCSKnowledge}} = 4.25$, $SD = 0.92$) had similar attitudes towards the brand as those that viewed the hangtag with a less visible apparel sustainability index and had a high level of SRFC environmental knowledge ($M_{\text{Less,Visible, HSRFCEKnowledge}} = 4.36$, $SD = 1.21$). Similarly, pairwise comparisons indicated no significant difference between those that viewed the hangtag with an apparel sustainability index that was visible and had low levels of SRFC environmental knowledge and those that had high levels of SRFC environmental knowledge (Pairwise $p = 0.55$). That is, those that viewed the hangtag with a visible apparel sustainability index and had a low level of SRFC environmental knowledge ($M_{\text{Visible, LSRFCEKnowledge}} = 4.34$, $SD = 1.16$) had similar attitudes as those that viewed the hangtag with a visible apparel sustainability index and had a high level of SRFC environmental knowledge ($M_{\text{Visible, HSRFCEKnowledge}} = 4.22$, $SD = 1.35$).

To determine whether SRFC environmental knowledge moderated the relationship proposed in Hypothesis 3, a 3-way interaction between sustainability value, visibility placement, and SRFC environmental knowledge, ANOVA was employed. The Levene's test of equality of error variances was performed and results were significant ($F_{(7,235)} = 8.52$, $p < 0.001$), indicating that the variances between the two treatment groups were not equal. When the Levene's test is

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significant, an alpha level lower than 0.05 should be used to evaluate the univariate ANOVAs (Allen & Bennett, 2008). ANOVA results revealed that the 3-way interaction of sustainability value, visibility, and SRFC environmental knowledge was not significant ($F_{(1, 235)} = 0.94$, $p = 0.33$, $\eta^2 = 0.004$). Pairwise comparisons indicated no significant difference between the group that viewed the hangtag with an apparel sustainability index that was less visible and had a low level of SRFC environmental knowledge and those that had a high level of SRFC environmental knowledge (Pairwise $p = 0.65$). That is, those that viewed the hangtag with a low valued apparel sustainability index, that was less visible and that had low levels of SRFC environmental knowledge ($M_{\text{LSustainability, LessVisible, LSRFCEKnowledge}} = 3.98$, $SD = 1.11$) had similar attitudes towards the brand as those that viewed the hangtag with a low valued apparel sustainability index, that was less visible and that had high levels of SRFC environmental knowledge ($M_{\text{LSustainability, LessVisible, HSRFCEKnowledge}} = 3.86$, $SD = 1.39$).

Similarly, pairwise comparisons indicated no significant difference between those that viewed the hangtag with an apparel sustainability index with a low value, that was visible and had low levels of SRFC environmental knowledge and those that had high levels of SRFC environmental knowledge (Pairwise $p = 0.55$). That is, those that viewed the hangtag with a low valued apparel sustainability index, that was visible and that had low levels of SRFC environmental knowledge ($M_{\text{LSustainability, Visible, LSRFCESKnowledge}} = 3.59$, $SD = 0.97$) had similar attitudes towards the brand as those that viewed the hangtag with a low valued apparel sustainability index, that was visible and that had high levels of SRFC environmental knowledge ($M_{\text{LSustainability, Visible, HSRFCEKnowledge}} = 3.43$, $SD = 1.36$). Similarly, pairwise comparisons indicated no significant difference between those groups that viewed the hangtag with an apparel sustainability index with a high sustainability value, that was less visible and had low levels of

SRFC environmental knowledge and those that had high levels of SRFC environmental knowledge (Pairwise $p = 0.08$). That is, those that viewed the hangtag with a high valued apparel sustainability index, that was less visible and that had low levels of SRFC environmental knowledge ($M_{\text{HSustainability, LessVisible, LSRFCEKnowledge}} = 4.47$, $SD = 0.67$) had similar attitudes towards the brand than those that viewed the hangtag with a high valued apparel sustainability index, that was less visible and that had high levels of SRFC environmental knowledge ($M_{\text{HSustainability, LessVisible, HSRFCEKnowledge}} = 4.93$, $SD = 0.63$). Lastly, pairwise comparisons indicated no significant difference between those that viewed the hangtag with an apparel sustainability index with a high sustainability value, that was visible and that had low levels of SRFC environmental knowledge and those that had high levels of SRFC environmental knowledge (Pairwise $p = 0.76$). That is, those that viewed the hangtag with a high valued apparel sustainability index, that was visible and that had low levels of SRFC environmental knowledge ($M_{\text{HSustainability, Visible, LSRFCEKnowledge}} = 5.09$, $SD = 0.81$) had similar attitudes towards the brand as those that viewed the hangtag with a high valued apparel sustainability index, that was visible and that had high levels of SRFC environmental knowledge ($M_{\text{HSustainability, Visible, HSRFCEKnowledge}} = 5.01$, $SD = 0.77$). Thus, Hypothesis 12 was partially supported, as there was a significant moderating effect of participants' SRFC social knowledge and an apparel sustainability index's sustainability value on their attitude toward the brand, however, there was no significant moderating effect of participants' SRFC environmental knowledge and an apparel sustainability index's sustainability value on their attitude toward the brand, nor was there a significant moderating effect of the apparel sustainability index's visibility and participants' SRFC social knowledge and an apparel sustainability index's visibility and participants' SRFC environmental knowledge on their attitude toward the brand. Lastly, there was no significant moderating effect of the apparel

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sustainability index's sustainability value, an apparel sustainability index's visibility and

participants' SRFC social knowledge and an apparel sustainability index's sustainability value,

an apparel sustainability index's visibility and participants' SRFC environmental knowledge on

their attitude toward the brand. Table 23 provides a summary of ANOVA results.

Table 23. ANOVA Results for the Moderating Effect of SRFC Knowledge on Attitude

Independent Variable	Mean (SD)
Sustainability Value x SRFC Social Knowledge	
High Sustainability, High SRFC Social Knowledge	4.88 (0.73)
High Sustainability, Low SRFC Social Knowledge	4.87 (0.78)
Low Sustainability, High SRFC Social Knowledge	3.42 (1.24)
Low Sustainability, Low SRFC Social Knowledge	3.99 (1.14)
F-value	**4.93***
Partial eta squared	**0.02**
Visibility x SRFC Social Knowledge	
Visible, High SRFC Social Knowledge	4.15 (1.33)
Visible, Low SRFC Social Knowledge	4.42 (1.19)
Less Visible, High SRFC Social Knowledge	4.21 (1.20)
Less Visible, Low SRFC Social Knowledge	4.43 (0.95)
F-value	**0.04**
Partial eta squared	**0.00**
Sustainability Value x Visibility Placement x SRFC Social Knowledge	
High Sustainability, Visible, High SRFC Social Knowledge	5.09 (0.69)
High Sustainability, Visible, Low SRFC Social Knowledge	5.00 (0.89)
High Sustainability, Less Visible, High SRFC Social Knowledge	4.68 (0.73)
High Sustainability, Less Visible, Low SRFC Social Knowledge	4.73 (0.63)
Low Sustainability, Visible, High SRFC Social Knowledge	3.17 (1.12)
Low Sustainability, Visible, Low SRFC Social Knowledge	3.85 (1.18)
Low Sustainability, Less Visible, High SRFC Social Knowledge	3.69 (1.40)
Low Sustainability, Less Visible, Low SRFC Social Knowledge	4.15 (1.10)
F-value	**0.52**
Partial eta squared	**0.002**
Sustainability Value X SRFC Environmental Knowledge	
High Sustainability, High SRFC Environmental Knowledge	4.97 (0.70)
High Sustainability, Low SRFC Environmental Knowledge	4.77 (0.80)
Low Sustainability, High SRFC Environmental Knowledge	3.65 (1.38)
Low Sustainability, Low SRFC Environmental Knowledge	3.77 (1.04)

Independent Variable	Mean (SD)
F-value	**1.42**
Partial eta squared	**0.006**
Visibility X SRFC Environmental Knowledge	
Visible, High SRFC Environmental Knowledge	4.22 (1.35)
Visible, Low SRFC Environmental Knowledge	4.34 (1.16)
Less Visible, High SRFC Environmental Knowledge	4.36 (1.21)
Less Visible, Low SRFC Environmental Knowledge	4.25 (0.92)
F-value	**0.63**
Partial eta squared	**0.03**
Sustainability Value X Visibility Placement X SRFC Environmental Knowledge	
High Sustainability, Visible, High SRFC Environmental Knowledge	5.01 (0.77)
High Sustainability, Visible, Low SRFC Environmental Knowledge	5.09 (0.81)
High Sustainability, Less Visible, High SRFC Environmental Knowledge	4.93 (0.63)
High Sustainability, Less Visible, Low SRFC Environmental Knowledge	4.47 (0.67)
Low Sustainability, Visible, High SRFC Environmental Knowledge	3.43 (1.36)
Low Sustainability, Visible, Low SRFC Environmental Knowledge	3.59 (0.97)
Low Sustainability, Less Visible, High SRFC Environmental Knowledge	3.86 (1.39)
Low Sustainability, Less Visible, Low SRFC Environmental Knowledge	3.98 (1.11)
F-value	**0.94**
Partial eta squared	**0.004**

The last hypothesis, Hypothesis 13, involved testing the moderating effect of consumer values (biospheric, egoistic, and altruistic) on attitude toward the brand as outlined in Hypothesis 1, Hypothesis 2, and Hypothesis 3. Specifically, Hypothesis 13 proposed that consumers' (a) altruistic, (b) biospheric, and (c) egoistic values will moderate the relationships indicated in Hypothesis 1 (i.e., that an apparel sustainability index with a high sustainability value will result in more favorable consumer attitudes toward the brand than an apparel sustainability index with a low value), Hypothesis 2 (i.e., that a more visible apparel sustainability index will result in more favorable consumer attitudes toward the brand than a less visible apparel sustainability

index) and Hypothesis 3 (i.e., that there will be an interaction effect between sustainability value and visibility placement on consumer attitude toward the brand).

Moderating Effect of Biospheric Values

Using the median split technique, the mean score of biospheric values was used to divide the participants into two groups: high biospheric values (M ≥ 5.02) and low biospheric values (M < 5.02). To determine whether biospheric values moderated the relationship proposed in Hypothesis 1, a 2-way ANOVA with sustainability value and biospheric values as the independent variables and attitude as the dependent variable was conducted. The Levene's test of equality of error variances was performed and results were significant ($F_{(3,239)} = 26.74$, $p < 0.001$), indicating that the variances between the two treatment groups were not equal. When the Levene's test is significant, an alpha level lower than 0.05 should be used to evaluate the univariate ANOVAs (Allen & Bennett, 2008). ANOVA results revealed that the 2-way interaction of sustainability value and biospheric values was significant ($F_{(1, 239)} = 9.31$, $p < 0.01$, $\eta^2 = 0.037$). Pairwise comparisons indicated that there was a significant difference between the group that viewed the hangtag with an apparel sustainability index with a low sustainability value and had low levels of biospheric values and the group that viewed the hangtag with an apparel sustainability index with a low sustainability value and had high levels of biospheric values (Pairwise $p < 0.01$). That is, those that viewed the hangtag with an apparel sustainability index with a low sustainability value and had a low level of biospheric values had more positive attitudes toward the brand ($M_{\text{LSustainability, LBiospheric}} = 3.87$, $SD = 1.01$) than those that viewed the hangtag with the apparel sustainability index with a low sustainability value and had a high level of biospheric values ($M_{\text{LSustainability, HBiospheric}} = 3.50$, $SD = 1.46$). There was also a significant difference between the group that viewed the hangtag with an apparel sustainability index with a

high sustainability value and had low levels of biospheric values and the group that viewed the

hangtag with an apparel sustainability index with a high sustainability value and had high levels

of biospheric values (Pairwise $p = 0.02$). That is, those that viewed the hangtag with an apparel

sustainability index with a high sustainability value and had a low level of biospheric values

($M_{\text{HSustainability, LBiospheric}} = 4.66$, $SD = 0.75$) had less positive attitudes towards the brand than those

with a high level of biospheric values ($M_{\text{HSustainability, HBiospheric}} = 5.08$, $SD = 0.70$).

To determine whether biospheric values moderated the relationship proposed in

Hypothesis 2, a 2-way ANOVA with visibility and biospheric values as the independent

variables and attitude as the dependent variable was conducted. The Levene's test of equality of

error variances was performed and results were significant ($F_{(3,239)} = 6.36$, $p < 0.001$), indicating

that the variances between the two treatment groups were not equal. When the Levene's test is

significant, an alpha level lower than 0.05 should be used to evaluate the univariate ANOVAs

(Allen & Bennett, 2008). ANOVA results revealed that the 2-way interaction of visibility and

biospheric values was insignificant ($F_{(1, 239)} = 1.73$, $p = 0.19$, $\eta^2 = 0.007$). Pairwise comparisons

indicated that there was no significant difference between the group that viewed the hangtag with

a less visible apparel sustainability index and had low biospheric values and the group that

viewed the hangtag with a less visible apparel sustainability index and had high biospheric

values (Pairwise $p = 0.66$). Analysis of the means indicated that those that viewed the hangtag

with a less visible apparel sustainability index and had a low level of biospheric values

($M_{\text{Less,Visible, LBiospheric}} = 4.36$, $SD = 0.81$) had similar attitudes towards the brand as those that

viewed the hangtag with a less visible apparel sustainability index and had a high level of

biospheric values ($M_{\text{Less,Visible, HBiospheric}} = 4.26$, $SD = 1.35$). Similarly, based on pairwise

comparisons, there was no significant difference between the group that viewed the hangtag with

a visible apparel sustainability index and had low biospheric values and the group that viewed the hangtag with a visible apparel sustainability index and had high biospheric values (Pairwise $p = 0.15$). Specifically, those that viewed the hangtag with a visible apparel sustainability index and had a low level of biospheric values ($M_{Visible, LBiospheric} = 4.13$, $SD = 1.12$) had similar attitudes towards the brand as those that viewed the hangtag with a visible apparel sustainability index and had a high level of biospheric values ($M_{Visible, HBiospheric} = 4.43$, $SD = 1.39$).

To determine whether biospheric values moderated the relationship proposed in Hypothesis 3, a 3-way interaction between sustainability value, visibility placement, and biospheric values ANOVA was employed. The Levene's test of equality of error variances was performed and results were significant ($F_{(7,235)} = 11.38$, $p < 0.001$), indicating that the variances between the two groups were not equal. When the Levene's test is significant, an alpha level lower than 0.05 should be used to evaluate the univariate ANOVAs (Allen & Bennett, 2008). ANOVA results revealed that the 3-way interaction of sustainability value, visibility, and biospheric values was insignificant ($F_{(1, 235)} = 0.45$, $p = 0.50$, $\eta^2 = 0.002$). However, pairwise comparisons indicated a significant difference between those that viewed the hangtag with an apparel sustainability index with a low value, that was less visible and had low biospheric values and those that viewed the hangtag with an apparel sustainability index with a low value, that was less visible and had high biospheric values (Pairwise $p = 0.03$). Specifically, those that viewed the hangtag with a low valued apparel sustainability index, that was less visible and that had low levels of biospheric values ($M_{LSustainability, LessVisible, LBiospheric} = 4.18$, $SD = 0.88$) had more positive attitudes towards the brand than those that viewed the hangtag with a low valued apparel sustainability index, that was less visible and that had high levels of biospheric values ($M_{LSustainability, LessVisible, HBiospheric} = 3.60$, $SD = 1.58$).

All other pairwise comparisons were insignificant, as there was no significant difference between those that viewed the hangtag with an apparel sustainability with a low value, that was visible and had a low level of biospheric values and those that had a high level of biospheric values (Pairwise $p = 0.48$). That is, those that viewed the hangtag with a low valued apparel sustainability index, that was visible and that had low levels of biospheric values ($M_{\text{LSustainability, Visible, LBiospheric}} = 3.58$, $SD = 1.05$) had similar attitudes towards the brand as those that viewed the hangtag with a low valued apparel sustainability index, that was visible and had high levels of biospheric values ($M_{\text{LSustainability, Visible, HBiospheric}} = 3.40$, $SD = 1.36$). Likewise, pairwise comparisons indicated no significant difference between those that viewed the hangtag with a high valued apparel sustainability index, that was less visible and that had low levels of biospheric values and those that had high levels of biospheric values (Pairwise $p = 0.15$). That is, those that viewed the hangtag with an apparel sustainability index with a high sustainability value, that was less visible and had low biospheric values ($M_{\text{HSustainability, LessVisible, LBiospheric}} = 4.53$, $SD = 0.70$) had similar attitudes towards the brand as those that viewed the hangtag with a high valued apparel sustainability index, that was less visible and that had high levels of biospheric values ($M_{\text{HSustainability, LessVisible, HBiospheric}} = 4.90$, $SD = 0.62$).

Lastly, pairwise comparisons indicated no significant difference between those that viewed the hangtag with a high valued apparel sustainability index, that was visible and that had low levels of biospheric values and those that had high levels of biospheric values (Pairwise $p = 0.11$). That is, those that viewed the hangtag with an apparel sustainability index with a high sustainability value, that was visible and had low biospheric values ($M_{\text{HSustainability, Visible, LBiospheric}} = 4.82$, $SD = 0.79$) had similar attitudes towards the brand as those that viewed the hangtag with a high valued apparel sustainability index, that was visible and that had high levels of biospheric

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values ($M_{\text{HSustainability, Visible, HBiospheric}} = 5.23$, $SD = 0.74$). Thus, Hypothesis 13(a) was partially supported, as there was a significant moderating effect of the apparel sustainability index's sustainability value and participants' biospheric values on attitude toward the brand, but there was not a significant moderating effect of the apparel index's visibility placement and participants' biospheric values, nor a significant moderating effect of sustainability value, visibility, and biospheric values on attitude toward the brand.

Moderating Effect of Egoistic Values

Using the median split technique, the mean score of egoistic values was used to divide the participants into two groups: high egoistic values (M ≥ 2.98) and low egoistic values (M < 2.98). To determine whether egoistic values moderated the relationship proposed in Hypothesis 1, a 2-way ANOVA with sustainability value and egoistic values as the independent variables and attitude as the dependent variable was conducted. The Levene's test of equality of error variances was performed and results were significant ($F_{(3,239)} = 16.68$, $p < 0.001$), indicating that the variances between the two treatment groups were not equal. When the Levene's test is significant, an alpha level lower than 0.05 should be used to evaluate the univariate ANOVAs (Allen & Bennett, 2008). ANOVA results revealed that the 2-way interaction of sustainability value and egoistic values was insignificant ($F_{(1, 239)} = 0.70$, $p = 0.40$, $\eta^2 = 0.03$). Pairwise comparisons indicated that there was not a significant difference between the group who viewed the hangtag with an apparel sustainability index with a low sustainability value and had low egoistic values and the group who viewed the hangtag with an apparel sustainability index with a low sustainability value and had high egoistic values (Pairwise $p = 0.48$). Specifically, those that viewed the hangtag with an apparel sustainability with a low sustainability value and had low egoistic values ($M_{\text{LSustainability, LEgoistic}} = 3.62$, $SD = 1.22$) had similar attitudes toward the brand

compared with those who viewed the hangtag with an apparel sustainability index with a low level and had a high level of egoistic values ($M_{\text{LSustainability, HEgoistic}} = 3.77$, $SD = 1.27$). There was also no significant difference between the group that viewed the hangtag with a high sustainability value and had low egoistic values and the group that viewed the hangtag with a high sustainability value and had high egoistic values (Pairwise $p = 0.64$). Analysis of the means indicated that those that viewed the hangtag with the apparel sustainability index with a high sustainability value and had a low level of egoistic values ($M_{\text{HSustainability, LEgoistic}} = 4.92$, $SD = 0.74$) had similar attitudes towards the brand as those who viewed the hangtag with an apparel sustainability index with a high sustainability value and had high level of egoistic values ($M_{\text{HSustainability, HEgoistic}} = 4.83$, $SD = 0.77$).

To determine whether egoistic values moderated the relationship proposed in Hypothesis 2, a 2-way ANOVA with visibility and egoistic values as the independent variables and attitude as the dependent variable was conducted. The Levene's test of equality of error variances was performed and results were significant ($F_{(3,239)} = 3.04$, $p < 0.05$), indicating that the variances between the two treatment groups were not equal. When the Levene's test is significant, an alpha level lower than 0.05 should be used to evaluate the univariate ANOVAs (Allen & Bennett, 2008). ANOVA results revealed that the 2-way interaction of visibility and egoistic values was insignificant ($F_{(1, 239)} = 0.15$, $p = 0.70$, $\eta^2 = 0.001$). Pairwise comparisons indicated that there was no significant difference between the group that viewed the hangtag with a less visible apparel sustainability index and had low egoistic values and the group that viewed the hangtag with a less visible apparel sustainability index and had high egoistic values (Pairwise $p = 0.77$). Analysis of the means indicated that those that viewed the hangtag with a less visible apparel sustainability index and had a low level of egoistic values ($M_{\text{Less,Visible, LEgoistic}} = 4.28$, $SD = 1.06$)

had similar attitudes towards the brand as those that viewed the hangtag with a less visible apparel sustainability index and had high level of egoistic values ($M_{Less, Visible, HEgoistic} = 4.34$, $SD = 1.12$). Similarly, pairwise comparisons indicated that there was no significant difference between the group that viewed the hangtag with a visible apparel sustainability index and had low egoistic values and the group that viewed the hangtag with the visible apparel sustainability index and had high egoistic values (Pairwise $p = 0.80$). Specifically, those that viewed the hangtag with a visible apparel sustainability index and had a low level of egoistic values ($M_{Visible, LEgoistic} = 4.31$, $SD = 1.30$) had similar attitudes towards the brand as those that viewed the hangtag with a visible apparel sustainability index and had a high level of egoistic values ($M_{Visible, HEgoistic} = 4.26$, $SD = 1.24$).

To determine whether egoistic values moderated the relationship proposed in Hypothesis 3, a 3-way interaction between sustainability value, visibility placement, and egoistic values ANOVA was employed. The Levene's test of equality of error variances was performed and results were significant ($F_{(7,235)} = 6.58$, $p < 0.001$), indicating that the variances between the two treatment groups were not equal. When the Levene's test is significant, an alpha level lower than 0.05 should be used to evaluate the univariate ANOVAs (Allen & Bennett, 2008). ANOVA results revealed that the 3-way interaction of sustainability value, visibility, and egoistic values was insignificant ($F_{(1, 235)} = 2.25$, $p = 0.14$, $\eta^2 = 0.009$). Pairwise comparisons indicated no significant differences among the groups. Specifically, there was no significant difference between those that viewed the hangtag with an apparel sustainability index with a low value, that was less visible based on their level of egoistic values (Pairwise $p = 0.84$) and those that viewed the hangtag with a low valued apparel sustainability index, that was less visible and that had low levels of egoistic values ($M_{LSustainability, LessVisible, LEgoistic} = 3.94$, $SD = 1.22$) and had similar

attitudes towards the brand, than those that viewed the hangtag with a low valued apparel

sustainability index, that was less visible and that had high levels of egoistic values ($M_{\text{LSustainability,}}$

$_{\text{LessVisible, HEgoistic}}$ = 3.89, SD = 1.34).

Likewise, there was no significant difference between the groups that viewed the hangtag

with an apparel sustainability index with a low value and that was visible based on their level of

egoistic values (Pairwise p = 0.25). Specifically, those that viewed the hangtag with a low valued

apparel sustainability index, that was visible and that had low levels of egoistic values

($M_{\text{LSustainability, Visible, LEgoistic}}$ = 3.34, SD = 1.16) had similar attitudes towards the brand as those that

viewed the hangtag with a low valued apparel sustainability index, that was visible and that had

high levels of egoistic values ($M_{\text{LSustainability, Visible, HEgoistic}}$ = 3.64, SD = 1.21). Similarly, there was

no significant difference between those that viewed the hangtag with a high valued apparel

sustainability index that was less visible based on their egoistic values (Pairwise p = 0.55).

Specifically, those that viewed the hangtag with a high valued apparel sustainability index, that

was less visible and that had low levels of egoistic values ($M_{\text{HSustainability, LessVisible, LEgoistic}}$ = 4.61,

SD = 0.76) had similar attitudes towards the brand as those that viewed the hangtag with a high

valued apparel sustainability index, that was less visible and that had high levels of egoistic

values ($M_{\text{HSustainability, LessVisible, HEgoistic}}$ = 4.77, SD = 0.62). Lastly, there was no significant

difference between those that viewed the hangtag with a high valued apparel sustainability index,

that was visible based on their egoistic values (Pairwise p = 0.29). Specifically, those that viewed

the hangtag with a high valued apparel sustainability index, that was visible, and that had low

levels of egoistic values ($M_{\text{HSustainability, Visible, LEgoistic}}$ = 5.18, SD = 0.63) had similar attitudes

towards the brand as those that viewed the hangtag with a high valued apparel sustainability

index, that was visible, and that had high levels of egoistic values ($M_{HSustainability, Visible, HEgoistic}$ = 4.91, SD = 0.92). Thus, Hypothesis 13(b) was not supported.

Moderating Effect of Altruistic Values

Using the median split technique, the mean score of altruistic values was used to divide the participants into two groups: high altruistic values (M ≥ 5.08) and low altruistic values (M < 5.08). To determine whether altruistic values moderated the relationship proposed in Hypothesis 1, a 2-way ANOVA with sustainability value and altruistic values as the independent variables and attitude as the dependent variable was conducted. The Levene's test of equality of error variances was performed and results were significant ($F_{(3,239)}$ = 26.84, $p < 0.001$), indicating that the variances between the two treatment groups were not equal. When the Levene's test is significant, an alpha level lower than 0.05 should be used to evaluate the univariate ANOVAs (Allen & Bennett, 2008). ANOVA results revealed that the 2-way interaction of sustainability value and altruistic values was significant ($F_{(1, 239)}$ = 4.48, $p < 0.05$, η^2 = 0.018). Pairwise comparisons indicated that there was not a significant difference between the group who viewed the hangtag with an apparel sustainability index with a low sustainability value and that had low altruistic values and the group that viewed the hangtag with an apparel sustainability index with a low sustainability value and that had high altruistic values (Pairwise p = 0.44). Specifically, those that viewed the hangtag with an apparel sustainability with a low sustainability value and that had low altruistic values ($M_{LSustainability, LAltruistic}$ = 3.76, SD = 1.04) had similar attitudes toward the brand as those who viewed the hangtag with an apparel sustainability index with a low level and had a high level of altruistic values ($M_{LSustainability, HAltruistic}$ = 3.62, SD = 1.50). There was a significant difference between the group that viewed the hangtag with a high sustainability value and had low altruistic values and the group that viewed the hangtag with a high

sustainability value and had high altruistic values (Pairwise $p = 0.03$). Analysis of the means indicated that those that viewed the hangtag with the apparel sustainability index with a high sustainability value and had a low level of altruistic values ($M_{HSustainability, LAltruistic} = 4.64$, $SD = 0.72$) had less positive attitudes towards the brand than those that viewed the hangtag with an apparel sustainability index with a high sustainability value and had a high level of altruistic values ($M_{HSustainability, HAltruistic} = 5.05$, $SD = 0.74$).

To determine whether altruistic values moderated the relationship proposed in Hypothesis 2, a 2-way ANOVA with visibility and altruistic values as the independent variables and attitude as the dependent variable was conducted. The Levene's test of equality of error variances was performed and results were significant ($F_{(3,239)} = 4.81$, $p < 0.01$), indicating that the variances between the two treatment groups were not equal. When the Levene's test is significant, an alpha level lower than 0.05 should be used to evaluate the univariate ANOVAs (Allen & Bennett, 2008). ANOVA results revealed that the 2-way interaction of visibility and altruistic values was insignificant ($F_{(1, 239)} = 1.29$, $p = 0.26$, $\eta^2 = 0.005$). Pairwise comparisons indicated that there was no significant difference between the group that viewed the hangtag with a less visible apparel sustainability index and had low altruistic values and the group that viewed the hangtag with a less visible apparel sustainability index and had high altruistic values (Pairwise $p = 0.48$). That is, those that viewed the hangtag with a less visible apparel sustainability index and that had a low level of altruistic values ($M_{Less,Visible, LAltruistic} = 4.24$, $SD = 0.84$) had similar attitudes towards the brand as those that viewed the hangtag with a less visible apparel sustainability index and had a high level of altruistic values ($M_{Less,Visible, HAltruistic} = 4.40$, $SD = 1.33$). However, pairwise comparisons indicated that there was a significant difference between the group that viewed the hangtag with a visible apparel sustainability index and had low altruistic values and the group

that viewed the hangtag with the visible apparel sustainability index and had high altruistic values (Pairwise $p = 0.02$). Specifically, those that viewed the hangtag with a visible apparel sustainability index and that had a low level of altruistic values ($M_{Visible, LAltruistic} = 4.02$, $SD = 1.30$) had less positive attitudes towards the brand than those that viewed the hangtag with a visible apparel sustainability index and had a high level of altruistic values ($M_{Visible, HAltruistic} = 4.52$, $SD = 1.32$).

To determine whether altruistic values moderated the relationship proposed in Hypothesis 3, a 3-way interaction between sustainability value, visibility placement, and altruistic values ANOVA was employed. The Levene's test of equality of error variances was performed and results were significant ($F_{(7,235)} = 11.15$, $p < 0.001$), indicating that the variances between the two treatment groups were not equal. When the Levene's test is significant, an alpha level lower than 0.05 should be used to evaluate the univariate ANOVAs (Allen & Bennett, 2008). ANOVA results revealed that the 3-way interaction of sustainability value, visibility, and egoistic values was insignificant ($F_{(1, 235)} = 0.23$, $p = 0.63$, $\eta^2 = 0.001$). Pairwise comparisons indicated no significant differences among the groups. Specifically, there was no significant difference between those that viewed the hangtag with an apparel sustainability index with a low value, that was less visible based on their level of altruistic values (Pairwise $p = 0.38$), and those that viewed the hangtag with a low valued apparel sustainability index, that was less visible and that had low levels of altruistic values ($M_{LSustainability, LessVisible, LAltruistic} = 4.01$, $SD = 0.92$) and had similar attitudes towards the brand, than those that viewed the hangtag with a low valued apparel sustainability index, that was less visible, and that had high levels of altruistic values ($M_{LSustainability, LessVisible, HAltruistic} = 3.78$, $SD = 1.65$).

Likewise, there was no significant difference between the groups that viewed the hangtag with an apparel sustainability index with a low value and that was visible based on their level of altruistic values (Pairwise $p = 0.75$). Specifically, those that viewed the hangtag with a low valued apparel sustainability index, that was visible and that had low levels of altruistic values ($M_{LSustainability, Visible, LAltruistic} = 3.54$, $SD = 1.09$) had similar attitudes towards the brand as those that viewed the hangtag with a low valued apparel sustainability index, that was visible and that had high levels of altruistic values ($M_{LSustainability, Visible, HAltruistic} = 3.45$, $SD = 1.34$). Similarly, there was no significant difference between those that viewed the hangtag with a high valued apparel sustainability index that was less visible based on their altruistic values (Pairwise $p = 0.11$). Specifically, those that viewed the hangtag with a high valued apparel sustainability index, that was less visible and that had low levels of altruistic values ($M_{HSustainability, LessVisible, LAltruistic} = 4.50$, $SD = 0.65$) had similar attitudes towards the brand as those that viewed the hangtag with a high valued apparel sustainability index, that was less visible and that had high levels of altruistic values ($M_{HSustainability, LessVisible, HAltruistic} = 4.91$, $SD = 0.65$). Lastly, there was no significant difference between those that viewed the hangtag with a high valued apparel sustainability index, that was visible based on their altruistic values (Pairwise $p = 0.24$). Specifically, those that viewed the hangtag with a high valued apparel sustainability index, that was visible and that had low levels of altruistic values ($M_{HSustainability, Visible, LAltruistic} = 4.85$, $SD = 0.76$) had similar attitudes towards the brand as those that viewed the hangtag with a high valued apparel sustainability index, that was visible and that had high levels of altruistic values ($M_{HSustainability, Visible, HAltruistic} = 5.16$, $SD = 0.79$). Thus, Hypothesis 13(c) was partially supported, as there was a significant moderating effect of the apparel sustainability index's sustainability value and participants' altruistic values on their attitude toward the brand. However, there was not a significant

moderating effect of the apparel sustainability index's visibility and respondents' altruistic values on their attitude toward the brand, nor was there a significant moderating effect of the apparel sustainability index's sustainability value, an apparel sustainability index's visibility, and respondents' altruistic values on their attitude toward the brand. Table 24 provides an overview of the ANOVA results for the moderating effect of values on attitude.

Table 24. ANOVA Results for the Moderating Effect of Values on Attitude

Independent Variable	Mean (SD)
Sustainability Value x Biospheric Values	
High Sustainability, High Biospheric Values	5.08 (0.70)
High Sustainability, Low Biospheric Values	4.66 (0.75)
Low Sustainability, High Biospheric Values	3.50 (1.46)
Low Sustainability, Low Biospheric Values	3.87 (1.01)
F-value	**9.31****
Partial eta squared	**0.037**
Visibility x Biospheric Values	
Visible, High Biospheric Values	4.43 (1.39)
Visible, Low Biospheric Values	4.13 (1.12)
Less Visible, High Biospheric Values	4.26 (1.35)
Less Visible, Low Biospheric Values	4.36 (0.81)
F-value	**1.73**
Partial eta squared	**0.007**
Sustainability Value x Visibility Placement x Biospheric Values	
High Sustainability, Visible, High Biospheric Values	5.23 (0.74)
High Sustainability, Visible, Low Biospheric Values	4.81 (0.79)
High Sustainability, Less Visible, High Biospheric Values	4.90 (0.62)
High Sustainability, Less Visible, Low Biospheric Values	4.53 (0.70)
Low Sustainability, Visible, High Biospheric Values	3.40 (1.36)
Low Sustainability, Visible, Low Biospheric Values	3.58 (1.05)
Low Sustainability, Less Visible, High Biospheric Values	3.60 (1.58)
Low Sustainability, Less Visible, Low Biospheric Values	4.18 (0.88)
F-value	**0.45**
Partial eta squared	**0.002**
Sustainability Value X Egoistic Values	
High Sustainability, High Egoistic Values	4.83 (0.77)
High Sustainability, Low Egoistic Values	4.92 (0.74)
Low Sustainability, High Egoistic Values	3.77 (1.27)

Independent Variable	Mean (SD)
Low Sustainability, Low Egoistic Values	3.62 (1.22)
_F_-value	0.70
Partial eta squared	**0.003**
Visibility x Egoistic Values	
Visible, High Egoistic Values	4.26 (1.24)
Visible, Low Egoistic Values	4.31 (1.30)
Less Visible, High Egoistic Values	4.34 (1.12)
Less Visible, Low Egoistic Values	4.28 (1.06)
_F_-value	**0.15**
Partial eta squared	**0.001**
Sustainability Value x Visibility Placement x Egoistic Values	
High Sustainability, Visible, High Egoistic Values	4.91 (0.92)
High Sustainability, Visible, Low Egoistic Values	5.18 (0.63)
High Sustainability, Less Visible, High Egoistic Values	4.77 (0.62)
High Sustainability, Less Visible, Low Egoistic Values	4.61 (0.76)
Low Sustainability, Visible, High Egoistic Values	3.64 (1.21)
Low Sustainability, Visible, Low Egoistic Values	3.34 (1.16)
Low Sustainability, Less Visible, High Egoistic Values	3.89 (1.34)
Low Sustainability, Less Visible, Low Egoistic Values	3.94 (1.22)
_F_-value	**2.25**
Partial eta squared	**0.009**
Sustainability Value x Altruistic Values	
High Sustainability, High Altruistic Values	5.05 (0.74)
High Sustainability, Low Altruistic Values	4.64 (0.72)
Low Sustainability, High Altruistic Values	3.62 (1.50)
Low Sustainability, Low Altruistic Values	3.76 (1.04)
_F_-value	**4.48***
Partial eta squared	**0.018**
Visibility x Altruistic Values	
Visible, High Altruistic Values	4.52 (1.32)
Visible, Low Altruistic Values	4.02 (1.30)
Less Visible, High Altruistic Values	4.40 (1.33)
Less Visible, Low Altruistic Values	4.24 (0.84)
_F_-value	**1.29**
Partial eta squared	**0.005**
Sustainability Value x Visibility Placement x Altruistic Values	
High Sustainability, Visible, High Altruistic Values	5.16 (0.79)
High Sustainability, Visible, Low Altruistic Values	4.85 (0.76)
High Sustainability, Less Visible, High Altruistic Values	4.91 (0.65)

Independent Variable	Mean (SD)
High Sustainability, Less Visible, Low Altruistic Values	4.50 (0.65)
Low Sustainability, Visible, High Altruistic Values	3.45 (1.34)
Low Sustainability, Visible, Low Altruistic Values	3.54 (1.09)
Low Sustainability, Less Visible, High Altruistic Values	3.78 (1.65)
Low Sustainability, Less Visible, Low Altruistic Values	4.01 (0.92)
F-value	**0.23**
Partial eta squared	**0.001**

A summary of the hypotheses, the analyses employed to test the hypotheses, and whether

the hypotheses were supported is provided in Table 25.

Table 25. Summary of the Results of Hypothesis Testing

Hypothesis Number	Description	Analysis Employed	Results
H1	Participants who view a hangtag featuring an apparel sustainability index with a high value are more likely to display favorable attitudes toward the brand as compared to those who view a hangtag featuring an apparel sustainability index with a low value.	ANOVA	Supported
H2	Participants who view a hangtag with a more visible apparel sustainability index are more likely to display favorable attitudes toward the brand as compared to those who view a hangtag with a less visible apparel sustainability index.	ANOVA	Not Supported
H3	There will be an interaction effect between the value of an apparel sustainability index and its placement on attitude toward the brand. That is, participants who view a hangtag with a more visible, high-valued apparel sustainability index are more likely to display favorable attitudes toward the brand as compared to those who view a hangtag with a less visible, low-valued apparel sustainability index.	ANOVA	Supported
H4a-H4d	Participants who view a hangtag featuring an apparel sustainability index with a high value are more likely to display favorable brand equity evaluations toward the brand as measured by (a) brand associations, (b) brand awareness, (c) perceived quality, and (d) brand loyalty, compared	MANOVA	H4a: Supported H4b: Supported H4c: Supported

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Hypothesis Number	Description	Analysis Employed	Results
	to those who view a hangtag featuring an apparel sustainability index with a low value.		H4d: Supported
H5a-H5d	Participants who view a hangtag with a more visible apparel sustainability index are more likely to display favorable brand equity evaluations toward the brand as measured by (a) brand associations, (b) brand awareness, (c) perceived quality, and (d) brand loyalty, compared to those who view a hangtag with a less visible apparel sustainability index.	MANOVA	H5a: Supported H5b: Supported H5c: Not Supported H5d: Not Supported
H6a-H6d	There will be an interaction effect between an apparel sustainability index value and placement on brand equity, as participants who view a hangtag with a more visible, high-valued apparel sustainability index are more likely to display favorable brand equity evaluations toward the brand as measured by (a) brand associations, (b) brand awareness, (c) perceived quality, and (d) brand loyalty, compared to those who view a hangtag with a less visible, low-valued apparel sustainability index.	MANOVA	H6a: Not Supported H6b: Not Supported H6c: Not Supported H6d: Supported
H7a-H7d	Participants who view a hangtag featuring an apparel sustainability index with a high value are more likely to display favorable brand resonance toward the brand as measured by (a) behavioral loyalty, (b) attitudinal attachment, (c) community engagement and (d) active engagement compared to those who view a hangtag featuring an apparel sustainability index with a low value.	MANOVA	H7(a): Supported H7(b): Supported H7(c): Not Supported H7(d): Supported
H8a-H8d	Participants who view a hangtag with a more visible apparel sustainability index are more likely to display favorable brand resonance toward the brand as measured by (a) behavioral loyalty, (b) attitudinal attachment, (c) community engagement, and (d) active engagement compared to those who view a hangtag with a less visible apparel sustainability index.	MANOVA	H8(a): Not Supported H8(b): Not Supported H8(c): Supported H8(d): Supported
H9a-H9d	There will be an interaction effect between an apparel sustainability index value and placement on brand resonance as measured by (a) behavioral loyalty, (b) attitudinal attachment, (c) community engagement, and (d) active engagement.	MANOVA	H9(a): Supported H9(b): Not Supported H9(c): Supported

Hypothesis Number	Description	Analysis Employed	Results
			H9(d): Not Supported
H10a-H10d	There will be a relationship between consumers' attitude toward the brand and brand equity as measured in terms of (a) brand associations, (b) brand awareness, (c) perceived quality, and (d) brand loyalty.	Regression	H10(a): Supported H10(b): Supported H10(c): Supported H10(d): Supported
H11a-H11d	There will be a relationship between brand equity and brand resonance as measured by (a) behavioral loyalty, (b) attitudinal attachment, (c) community engagement, and (d) active engagement.	Regression	H11(a): Supported H11(b): Supported H11(c): Supported H11(d): Supported
H12	Consumers' SRFC knowledge (i.e., consumers' level of understanding regarding the social and environmental implications of apparel production and consumption) will moderate the relationships proposed in H1, H2, and H3.	ANOVA	Partially Supported
H13a-H13c	Consumers' (a) altruistic, (b) biospheric, and (c) egoistic values will moderate the relationships indicated in H1, H2, and H3.	ANOVA	H13(a): Partially Supported H13(b): Not Supported H13(c): Partially Supported

Summary

This chapter described the sample characteristics, manipulation checks, evaluation of measures (i.e., descriptive statistics and item reliability), and results related to the hypotheses. The next chapter provides a discussion of the results. Theoretical and managerial implications are outlined, as are limitations and further research directions.

CHAPTER V: DISCUSSION AND CONCLUSIONS

Based on the results presented in Chapter IV, this chapter discusses the findings of the dissertation in detail. This chapter is organized as follows: (1) Discussion; (2) Conclusions; (3) Implications; and (4) Limitations and Suggestions for Further Research.

The first section summarizes major findings in Phase I and Phase 2 of the dissertation. The second section provides conclusions. The third section discusses theoretical and managerial implications. The fourth section presents limitations of the current study and suggestions for further research.

Discussion

The purpose of this dissertation was two-fold: (1) to explore consumers' preferred mode of apparel sustainability communication, and (2) to investigate the effect of this mode on their behavior, including their attitudes toward the brand, brand equity, and brand resonance. Five research objectives were developed to address the purpose: (1) to explore consumer interest in and preference for an apparel sustainability index, (2) to develop a hypothetical, consumer-facing sustainability index for apparel that communicates an item's production "costs," (3) to examine the extent to which the apparel sustainability index affects consumer attitudes toward the brand and brand equity, (4) to investigate the effect of the apparel sustainability index on brand resonance, and (5) to investigate the relationship between attitudes toward the brand, brand equity, and brand resonance.

Phase 1, a preliminary study, was designed to address objective one and objective two, wherein qualitative mini-focus groups were conducted. To address objectives three, four and five, Phase 2, an experimental study, was conducted. The following paragraphs provide a

discussion of the findings of Phase 1 and Phase 2, including the results of the qualitative mini-focus groups to address objectives one and two, as well as the results of the experimental study to address objectives three, four, and five.

Objective One: Explore Consumer Interest In and Preference for an Apparel Sustainability Index

Previous research has indicated that apparel sustainability information should be communicated in an easy to understand (Ma et al., 2012) and concise manner (Hyllegard et al., 2012). Many modes have been suggested regarding the communication of apparel sustainability information, including hangtags, logos (Hyllegard et al., 2012), QR codes, labels, and an index (Sustainable Apparel Coalition, 2019; Williams & Hodges, 2022b; Yudina, 2017). Results from this dissertation consolidate and build upon previous findings by empirically demonstrating that consumers' preferred mode of apparel sustainability communication is a two-sided apparel sustainability index label on a hangtag that features a green-to-red color gradient, icons, a logo, and a QR code. Such a mode of communication meets consumers' varying needs and interests in sustainability. Also, this mode of communication is intuitive, as well as quickly and easily understood. Results from this dissertation further expand upon previous findings by indicating that the front of the apparel sustainability index label should offer consumers an overall view of an apparel item's sustainability, whereas the back side can offer them a more detailed understanding of how sustainable an apparel item is along relevant dimensions of sustainability. Moreover, the apparel sustainability index label should also include a QR code to facilitate consumers' access to additional information regarding the sustainability of an apparel item. Lastly, the apparel sustainability index label should include a logo to communicate that the sustainability of an apparel item was assessed by a neutral third party.

Objective Two: Develop a Hypothetical Apparel Sustainability Index

Based on the mini-focus group data, an apparel sustainability index label was created by a professional graphic design company. The apparel sustainability index label (see Figure 16, p. 146) features two sides. The front of the label displays how sustainable an apparel item is on a green-to-red continuum, with green being sustainable and red being unsustainable. A logo featuring the earth with a t-shirt containing an icon of a plant as well as the text "Apparel Sustainability Index" is placed in the center of the label to indicate that a neutral, third party assessed the sustainability of this item. The front of the label also features a QR code, so those who want to learn more about the sustainability of the item can do so should they scan the code on the label, as many participants noted a preference for a QR code.

The back of the label delineates how sustainable an apparel item is along the following dimensions: energy usage, chemicals in fibers, work conditions, wages, and total sustainability. These categories were included, as data from Phase I indicated the desire to know more about these facets of apparel production. As with the front of the label, a green-to-red continuum (sustainable to unsustainable, respectively) is used to reflect how sustainable an item is, along with an icon for each category. The icon as well as the green-to-red continuum were used because participants noted a strong preference for images and colors to communicate information, rather than text. Thus, while the apparel sustainability index label supports previous research, in that the label features a logo, a QR code, and is on a hangtag (Hyllegard et al., 2012; Sustainable Apparel Coalition, 2019; Williams & Hodges, 2022b), results from this dissertation extend previous findings by creating an actual apparel sustainability index label to meet consumers' apparel sustainability communication needs.

Objective Three: Examine the Effect of the Apparel Sustainability Index on Consumer Attitudes Toward the Brand and Brand Equity

Effect of the Apparel Sustainability Index on Consumers' Attitudes Toward Their Preferred Brands

To address objective three, a series of ANOVA analyses were conducted. First, a one-way ANOVA analysis determined that the value of the apparel sustainability index significantly affected consumers' attitudes toward the brand, thus, Hypothesis 1 was supported. Specifically, those that viewed the hangtag with a high sustainability valued apparel sustainability index had more positive attitudes toward the brand than those that viewed the hangtag with a low sustainability valued apparel sustainability index. This result supports similar findings that have demonstrated a positive relationship between apparel social labels and brand attitudes (Hyllegard et al., 2012; Yan et al., 2010). Similarly, these results are in alignment with previous research that has established a positive relationship between an apparel or footwear brand's CSR activities and consumers' brand attitudes (Kang & Hustvedt, 2014; Lee & Lin, 2021). However, results also extend those of prior studies by demonstrating that a high sustainability valued apparel sustainability index results in positive consumer brand attitudes.

Nevertheless, results from a one-way ANOVA analysis did not support Hypothesis 2 (i.e., that the visibility placement of the apparel sustainability index would significantly affect consumers' attitudes toward the brand). Per Signaling Theory, a component of a signal is its observability, or "…the extent to which outsiders are able to notice the signal" (Connelly et al., 2011, p. 45). In terms of the results of Hypothesis 2, it could be that, no matter the size of the apparel sustainability index, it was observable in all of the treatment conditions. Thus, it did not matter whether the apparel sustainability index was small or large, as its sustainability value

could still be observed. Indeed, previous research suggests that the effects of the size of the label are inconsequential on some aspects of consumer behavior. For instance, while not related to apparel, prior studies regarding the prominence or size of tobacco warnings demonstrated that the size of the warning had no effect on consumers' evaluations of tobacco advertisements (Stark et al., 2008) nor did the size of the label affect consumers' intentions to try cigarettes (Kotnowski et al., 2016). Similarly, within research regarding food, more prominent nutrition labels have been found to have no effect on the amount of calories consumers purchased within cafeterias (Vasiljevic et al., 2019). Likewise, larger Halal labels did not dissuade non-Muslims from purchasing Halal labeled meat products (Nugraha et al., 2022). Thus, findings from this dissertation reflect that the size or prominence of the apparel sustainability index label may not be significant in terms of affecting consumers' attitudes toward their preferred apparel brands, as long as the sustainability index label is observable.

A two-way ANOVA analysis indicated an interaction effect of sustainability value and index placement on consumers' attitudes toward the brand, supporting Hypothesis 3. Specifically, consumers' attitudes toward their preferred brands were most positive for those exposed to the hangtag with a high sustainability valued, visible apparel sustainability index. Thus, while the visibility placement of the apparel sustainability index on its own was not found to significantly affect consumers' brand attitudes, when combined with the sustainability index value, it was found to significantly affect consumers' attitudes toward their preferred brands.

Effect of the Apparel Sustainability Index on Consumers' Brand Equity Evaluations

One-way MANOVA analyses revealed that the sustainability value significantly affected consumers' brand equity evaluations, thus supporting Hypothesis 4. That is, those that viewed the hangtag with a higher sustainability valued apparel sustainability index had more positive

brand loyalty, perceived quality, brand awareness, and brand association evaluations than those that viewed the hangtag with a lower sustainability valued apparel sustainability index. This finding supports previous research that has demonstrated a positive relationship between apparel and footwear brands that are involved in CSR and dimensions of brand equity, including brand trust (Kang & Hustvedt, 2014; Park & Kim, 2015), brand image (Gupta & Hodges, 2012), brand awareness, brand associations, perceived quality, brand loyalty and overall brand equity (Dabija, 2018; Staudt et al., 2014; Woo, 2013). Results from this dissertation also extend these previous studies by indicating a positive relationship between a high sustainability valued apparel sustainability index and the dimensions of brand equity conceptualized by Aaker (1991), which includes brand loyalty, perceived quality, brand associations, and brand awareness.

The visibility placement of the apparel sustainability index was found to significantly affect respondents' brand awareness and brand association evaluations, but not their brand loyalty or perceived quality evaluations. Thus, Hypothesis 5 was partially supported. Specifically, those that viewed the hangtag with a more visible apparel sustainability index had more positive brand awareness and brand association evaluations than those that viewed the hangtag with a less visible apparel sustainability index. This result could be because respondents' evaluations of brand loyalty (i.e., attachment to the brand), and perceived quality (i.e., perception of the apparel item's overall superiority) of the brand (Aaker, 1991) are more related to their consumption of the product. Thus, these brand equity dimensions are not directly affected by the size or visibility of the apparel sustainability index, but rather the value of the apparel sustainability index. However, a more visible apparel sustainability index could influence the associations consumers make with the brand as well as their awareness (i.e., ability to recognize or recall that a brand as part of a certain product category) of the brand (Aaker, 1991) because it

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was more observable (Connelly et al., 2011). Indeed, previous research indicates that larger labels result in more consumer attention, including warning labels on cigarettes (Skurka et al., 2018) and alcohol (Giesbrecht et al., 2022; Pham et al., 2018). Similarly, more observable labels positively affect recall (Klein et al., 2016). Given that recall contributes to brand awareness, and brand awareness provides an anchor to which associations can be attached (Aaker, 1991), the more visible apparel sustainability index may have prompted respondents to have greater recall, and therefore contributed to more positive brand awareness and, subsequently, brand associations.

Interestingly, a significant interaction effect was found only between the sustainability value of an apparel sustainability index and its placement on respondents' brand loyalty evaluations, thus Hypothesis 6 was partially supported. Specifically, brand loyalty evaluations were most positive for those exposed to the hangtag with a high sustainability valued, visible apparel sustainability index. This result supports those of previous research by demonstrating an overall consumer interest in consuming more sustainably (Cone, 2017). Thus, a more visible, high sustainability valued apparel sustainability index might have resulted in more positive brand loyalty evaluations. However, an interaction effect between the sustainability value and its placement on the brand equity evaluations of perceived quality, brand associations, and brand awareness was not found. This is an interesting finding, given that the visibility of the apparel sustainability index did affect the brand equity dimensions of brand associations and brand awareness. Again, results may be explained by the fact that the apparel sustainability index was observable in all of the treatment conditions (Connelly et al., 2011), in that there was not a significant difference between the groups exposed to the visible versus less visible treatments.

Moderating Effects of SRFC Knowledge on Consumers' Attitudes Toward Their Preferred

Brands

Additional analyses were conducted to investigate whether SRFC social and SRFC environmental knowledge moderated the relationship between sustainability value, and/or the index visibility placement on consumers' attitudes toward the brand. Analyses determined that SRFC social knowledge significantly moderated the relationship between an apparel sustainability index's value and consumers' attitudes toward the brand. However, there was no moderating effect of SRFC social knowledge on the apparel sustainability index's visibility placement and consumers' attitudes toward the brand, nor was there a significant moderating effect of SRFC environmental knowledge on consumers' attitudes toward the brand. Thus, Hypothesis 12 was partially supported.

Specifically, a two-way ANOVA analysis indicated that those with a low level of SRFC social knowledge that viewed the apparel sustainability index with a low sustainability value had more positive attitudes toward the brand than those with a high level of SRFC social knowledge and that viewed the low sustainability valued apparel sustainability index. However, a two-way MANOVA indicated no significant moderating effect of SRFC environmental knowledge and sustainability value on consumers' attitudes toward the brand. The significant moderating effect of SRFC social knowledge but not SRFC environmental knowledge on consumers' attitudes toward the brand is an interesting finding, given that previous research indicates that consumers with more knowledge of the ethical issues surrounding apparel production practices are more likely to have positive attitudes toward (Oh & Abraham, 2015) and purchase intention of socially and environmentally produced apparel (Blazquez et al., 2020; Cowan & Kinley, 2014; Diddi & Niehm, 2016; Goworek et al., 2012; Ko & Jin, 2017; Kozar & Connell, 2013; Okur & Saricam,

2018; Zheng & Chi, 2015). However, these results do support results of previous studies indicating that consumers' application of knowledge is not always consistent (Brosdahl & Carpenter, 2010; Connell & Kozar, 2012; Iwanow et al., 2005; Kim & Damhorst, 1998; Kozar & Connell, 2010). Additionally, the application of their knowledge may be influenced by those issues that are more salient to them (Williams & Hodges, 2022b). Thus, in this case, it could be that the social issues of apparel production were more relevant to respondents, and therefore their SRFC social knowledge had a greater effect on their attitudes toward their preferred brands than their SRFC environmental knowledge.

Two-way and three-way ANOVA analyses revealed no significant moderating effect of SRFC social knowledge or SRFC environmental knowledge and the visibility of the index placement on consumers' attitude. Similarly, there was no significant interaction effect of SRFC social knowledge or SRFC environmental knowledge, sustainability value, and visibility placement on consumers' attitudes toward the brand. The insignificant effect of the visibility placement could be because in the survey, no matter the size of the apparel sustainability index label, it was still observable (Connelly et al., 2011) in all treatment conditions. Therefore, the visibility of the index was not a relevant factor, instead, the level of sustainability was more important and influential with regards to influencing consumers' attitudes.

Moderating Effects of Values on Consumers' Attitudes Toward Their Preferred Brands

Additional ANOVA analyses were conducted to investigate the moderating effect of human biospheric, egoistic, and altruistic values on consumers' attitudes toward the brand. Results from a series of ANOVA analyses provide partial support for Hypothesis 13. Specifically, a two-way ANOVA revealed a significant moderating effect of the apparel sustainability index's sustainability value and biospheric values on consumers' attitudes toward

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the brand. That is, those that viewed the hangtag with a low sustainability valued apparel sustainability index and that had low biospheric values had more positive attitudes toward the brand than those that viewed the hangtag with a low sustainability valued apparel sustainability index and had high biospheric values. Similarly, those that viewed the hangtag with a high sustainability valued apparel sustainability index and had low biospheric values had less positive attitudes toward the brand than those with high biospheric values.

Likewise, results from a two-way ANOVA revealed a significant moderating effect of altruistic values and an apparel sustainability index's sustainability value on consumers' attitudes toward the brand. That is, those that viewed the hangtag with a high sustainability valued apparel sustainability index and had low altruistic values had less positive attitudes toward the brand than those that viewed the hangtag with a high sustainability valued apparel sustainability index and had high altruistic values. This supports previous findings demonstrating that values of altruism and biospherism are positively related to environmentally friendly behavior (de Groot & Steg, 2009; Stern et al., 1999; Stern, 2000; Stern & Dietz, 1994).

Results of a two-way MANOVA indicated that there was neither a significant moderating effect of biospheric values and the apparel sustainability index's visibility placement on consumers' attitudes toward the brand, nor an interaction effect of biospheric values, sustainability value, and index visibility placement on consumers' attitudes toward the brand. Similarly, there was neither a significant moderating effect of altruistic values and index visibility placement, nor an interaction effect of altruistic values, sustainability value, and index visibility placement on consumers' attitudes toward the brand. Lastly, there were neither moderating effects of egoistic values and sustainability value, egoistic values, and index visibility placement, nor an interaction effect of egoistic values, sustainability value, and index

visibility placement on consumers' attitudes toward the brand. Again, while the sustainability value was of importance to respondents, the visibility of the apparel sustainability index label was not, as each treatment condition displayed an observable apparel sustainability index. Thus, a significant difference was not found between those that viewed the more visible apparel sustainability index label versus the less visible apparel sustainability index label.

In sum, results of hypothesis testing indicate that the sustainability value of an apparel sustainability index significantly affects consumers' attitudes toward their preferred brands and their brand equity evaluations. Specifically, a high sustainability valued apparel sustainability index results in consumers having more positive attitudes toward their preferred brands (i.e., consumers' attitudes). Similarly, a high sustainability valued apparel sustainability index results in consumers having more positive evaluations regarding their purchase of the brand (i.e., brand loyalty), perceptions of the brand's quality (i.e., perceived quality), brand associations, and brand awareness. Interestingly, the effect of visibility placement of the apparel sustainability index appeared to be inconsistent, as the apparel sustainability index's visibility did not significantly affect consumers' attitudes toward the brand, brand loyalty, or perceived quality. However, the visibility placement did significantly affect consumers' brand awareness and brand association evaluations. This result could be because brand loyalty and perceived quality evaluations are strongly associated with the consumption of the product, and thus, these brand equity dimensions are not directly affected by the size or visibility of the apparel sustainability index, but rather the value of the apparel sustainability index. Contrastingly, brand associations and brand awareness are more likely to be affected by the visibility of the apparel sustainability index, as a more visible apparel sustainability index is likely to be more noticeable. Therefore, consumers are

more likely to recall and make associations when an apparel sustainability index label is more observable.

Results also indicate a significant interaction effect between an apparel sustainability index value and its visibility placement on consumers' attitudes and brand loyalty evaluations. These results suggest that while the visibility of the apparel sustainability index is inconsequential for some aspects of consumer behavior (i.e., attitudes, brand loyalty, and perceived quality), when combined with the sustainability value, the visibility of the apparel sustainability index does significantly affect consumers' attitudes and their attachment (i.e., brand loyalty) toward their preferred brand.

Lastly, results indicate that SRFC social knowledge, along with altruistic and biospheric values, moderate the relationship between an apparel sustainability index's sustainability value and consumers' attitudes toward their preferred brands. Interestingly, SRFC environmental knowledge appeared to have no moderating effect, and there was no significant moderating effect of any of the aforementioned variables and the visibility of the apparel sustainability index on consumers' attitudes toward their preferred brands.

Overall, these results indicate that as long as the apparel sustainability index is observable, it is the sustainability value of the apparel sustainability index that most affects consumers' brand attitudes and brand equity evaluations. Similarly, consumers that possess more SRFC social knowledge, along with biospheric and altruistic values, are more likely to have more positive attitudes toward brands that offer apparel with a high sustainability value.

Objective Four: Investigate the Effect of the Apparel Sustainability Index on Brand

Resonance

To address objective four, a series of MANOVA analyses were conducted. First, a one-way MANOVA analysis revealed that the value of the apparel sustainability index significantly affects consumers' brand resonance evaluations. That is, those that viewed the hangtag with a higher sustainability valued apparel sustainability index had more positive behavioral loyalty, attitudinal attachment, and active engagement evaluations than those that viewed the hangtag with a lower sustainability valued apparel sustainability index. While not significant, a one-way MANOVA analysis approached significance ($p = 0.07$) for the effect of sustainability values on respondents' community engagement evaluations, indicating that those that viewed the hangtag with a higher sustainability valued apparel sustainability index had more positive community engagement evaluations than those that viewed the hangtag with an apparel sustainability index with a lower sustainability value. Thus, Hypothesis 7 was partially supported. Prior research has demonstrated a positive relationship between an apparel/footwear brand's CSR activities and some dimensions of brand resonance, such as positive word of mouth (Dang et al., 2020; Kang & Hustvedt, 2014; Lii & Lee, 2012) and consumer engagement (Saxton et al., 2019). Results of this dissertation expand upon these past findings, indicating that the sustainability value of an apparel's sustainability index significantly affects the brand resonance dimensions of behavioral loyalty, attitudinal attachment, and active engagement.

Results from a one-way MANOVA further indicated that the visibility of the index placement of the apparel sustainability index affected consumers' community engagement and active engagement evaluations. Specifically, those that viewed the hangtag with a more visible apparel sustainability index had more positive community engagement and active engagement

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evaluations than those that viewed the hangtag with a less visible apparel sustainability index. However, there was no significant effect of the visibility placement on consumers' behavioral loyalty or attitudinal attachment evaluations. Thus, Hypothesis 8 was partially supported. This result could be because the visibility of the apparel sustainability index does not directly affect consumers' frequency and volume of purchases of a brand (i.e., behavioral loyalty), nor does it directly affect consumers' perception that the brand is special (i.e., attitudinal attachment) (Keller, 2001).

However, the visibility of the apparel sustainability index may be more likely to affect evaluations that involve relating to or interacting with others, such as developing a kinship with people associated with the brand (i.e., community engagement) or investing time and resources into the brand beyond purchase and consumption (i.e., active engagement). For the more visible apparel sustainability index with a high sustainability value, results could be because a more visible apparel sustainability index label is more easily noticed by others, and therefore respondents may be influenced by subjective norms, or the degree to which a person complies with how referent others think they should behave (Fishbein & Ajzen, 2011). Indeed, research suggests that external referents can affect the way in which signals are received (Connelly et al., 2011). Previous research that has applied the Theory of Reasoned Action and the Theory of Planned Behavior has also demonstrated the positive effect of subjective norms on consumers' willingness to purchase sustainably-made apparel (Chang & Watchravesringkan, 2018; Chi et al., 2019; Nam et al., 2017; Zheng & Chi, 2015), and purchase from retail apparel brands engaged in CSR (Diddi & Niehm, 2017). Thus, due to the visibility of the apparel sustainability index, respondents may have made more positive community engagement or active engagement

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evaluations, as they believed that others would notice the label too and they wanted to conform to the subjective norms.

As another possible explanation, specifically for those that viewed a more visible apparel sustainability index with a low sustainability value, is that respondents feel like they are similar to others that use the brand and thus have more positive community engagement evaluations. Likewise, due to the low sustainability value, respondents may have wanted to learn more about the brand to understand why the sustainability value of its apparel was low, and therefore have more active engagement evaluations. Thus, the low value of the more visible apparel sustainability index may have resulted in more positive community and active engagement evaluations, as respondents sought to bond with others and learn more about the brand.

A two-way MANOVA analysis to determine the interaction effect of sustainability value and index placement on brand resonance evaluations approached significance ($p = 0.08$). However, univariate ANOVAs demonstrated a significant interaction effect on behavioral loyalty and community engagement evaluations, as those that viewed the hangtag with an apparel sustainability index with a high value and visible placement had more positive behavioral loyalty and community engagement evaluations than the group that viewed the hangtag with an apparel sustainability index with a high value and less visible index placement. The interaction effect approached significance on active engagement evaluations ($p = 0.06$), and pairwise comparisons indicated that those that viewed the hangtag with an apparel sustainability index with a high value and visible index placement had significantly more positive active engagement evaluations than those that viewed the hangtag with an apparel sustainability index with a high value and less visible index placement. There was no significant interaction effect

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found on consumers' attitudinal attachment evaluations. Thus, Hypothesis 9 was partially supported.

As previously mentioned, respondents may be influenced by subjective norms, and therefore those exposed to a high sustainability value, more visible apparel sustainability index may be more likely to display more positive brand evaluations along dimensions that involve interacting with others, such as community and active engagement, so as to appeal to their referent others (Chang & Watchravesringkan, 2018; Chi et al., 2019; Diddi & Niehm, 2017; Nam et al., 2017; Zheng & Chi, 2015). While previous analyses determined an insignificant effect of the apparel sustainability index's visibility placement on behavioral loyalty, findings from this dissertation demonstrate that when a more visible apparel sustainability index reflects a high sustainability value, it does in fact affect respondents' behavioral loyalty. This result is not surprising, as behavioral loyalty was conceptualized in this dissertation as consumers' frequency and volume of purchases. Given that previous research reflects a general interest in consuming more sustainable products (Cone Communications, 2017), respondents exposed to a more visible, high sustainability valued apparel sustainability index may be more likely to provide more positive behavioral loyalty evaluations.

In sum, it was found that the sustainability value of the apparel sustainability index does affect consumers' brand resonance evaluations. Specifically, a high sustainability value apparel sustainability index results in more positive behavioral loyalty, attitudinal attachment, and active engagement evaluations. This result indicates that when it comes to more sustainable brands, consumers are more likely to feel that they would engage in frequent purchase of the brand's products, feel that the brand is special, and invest time and resources to learn about the brand. While community engagement was not found to be significant, findings approached significance,

indicating that consumers may be likely to feel a connection with others who patronize brands with high sustainability evaluations.

The visibility placement of the apparel sustainability index affected those dimensions of brand resonance most associated with interacting with other people. Specifically, a more visible apparel sustainability index resulted in more positive community and active engagement evaluations. This result indicates that a more prominent apparel sustainability index label leads to consumers' willingness to make connections with others that use the brand, as well as invest the time and resources to learn more about the brand.

Objective Five: Investigate the Relationship Between Attitudes Toward the Brand, Brand Equity, and Brand Resonance

To address objective five, a series of simple regression analyses were conducted. Results indicated a significant relationship between consumers' attitudes toward the brand and the dimensions of brand equity, including brand loyalty, perceived quality, brand associations, and brand awareness. Thus, Hypothesis 10 was supported. Previous studies have demonstrated a relationship between attitudes and purchase intentions of sustainably-labeled apparel (Hyllegard et al., 2012; Hyllegard et al., 2014; Jung & Seock, 2016; Ma et al., 2017; Yan et al., 2012) as well as footwear (Kang & Hustvedt, 2014) and food products (Ho, 2017; Pino et al., 2015). However, findings from this dissertation extend beyond just purchase intention, which is most associated with the brand equity dimension of brand loyalty, to demonstrate that attitudes toward the brand also affect four of the five dimensions of brand equity (the last dimension, other proprietary assets, was not measured in this study) defined by Aaker (1991), including brand loyalty, perceived quality, brand awareness, and brand associations.

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Similarly, regression analyses indicated a significant relationship between the dimensions of brand equity and all the dimensions of brand resonance defined by Keller (2001), including behavioral loyalty, attitudinal attachment, community engagement, and active engagement. Thus, Hypothesis 11 was supported. While relationships between Aaker's (1991) dimensions of brand equity and some of Keller's (2001) dimensions of brand resonance can be inferred (Duman et al., 2018; Frank & Watchravesringkan, 2016; Kim, 2012; Kim & Brandon, 2012), this study builds off of the findings of Huang et al. (2014), by empirically demonstrating a significant, positive relationship between the dimensions of brand equity and all of the dimensions of brand resonance.

In sum, results from a series of regression analyses indicated that consumers' attitudes toward their preferred brands positively influence their brand equity evaluations. Similarly, consumers' brand equity evaluations positively influence their brand resonance evaluations. The next section provides a discussion of overall conclusions based on the results of this dissertation.

Conclusions

Several conclusions can be drawn from the results of this dissertation, including consumers' preferred mode of apparel sustainability communication, the effect of the apparel sustainability index label on consumers' attitudes toward the brand, and the relationship between consumers' attitudes toward the brand, brand equity, and brand resonance. Ultimately, these results offer a solution to mitigate the barriers of SRFC, and as such, offer a way to narrow the SRFC intention-behavior gap to facilitate more sustainable apparel consumption. The following section discusses these conclusions in more detail.

Consumers' Preferred Mode of Apparel Sustainability Communication

Previous research has noted the unsustainable nature of the apparel industry, including increased carbon emissions (Berg et al., 2020; Chrobot et al., 2018), excessive landfill waste (United States, n.d.), and social inequity (Ross & Morgan, 2015). To promote a more sustainable apparel industry, SRFC should be encouraged (Berg et al., 2020). However, past studies note that an intention-behavior gap exists, which reflects a lack of consumer knowledge regarding the sustainability of apparel (Connell, 2010; Harris et al., 2016; Hill & Lee, 2012; James & Montgomery, 2017a; McNeill & Moore, 2015; Williams & Hodges, 2022a; Williams & Hodges, 2022b). One potential solution to mitigate this barrier is the use of apparel labeling. While previous research has focused on the use of ecological and social labels on apparel (Baker, 2002; Hilowitz, 1997; Koszewska, 2011) and their effect on consumers' attitudes toward the brand and purchase intention of the product (Dickson, 2001; Hyllegard, et al., 2012; Ma et al., 2017), there is a knowledge gap concerning consumers' preferred mode of apparel sustainability communication and how that mode affects their behavior. Thus, to address this gap, the first purpose of this dissertation was to explore consumers' preferred mode of apparel sustainability communication.

Prior research provides insight regarding how and what to communicate with regards to apparel sustainability information (Hyllegard et al., 2012; Ma et al., 2017; Sustainable Apparel Coalition, 2019). Because of these broad findings, the apparel industry utilizes numerous types of labels to communicate environmental, social, and/or sustainable responsibility (Koszewska, 2011; 2015), such as the Blue Angel, Fair-Trade, and the Nordic Swan labels (see Table 2, p. 47). However, this dissertation, which implemented a qualitative mini-focus group design, determined that consumers' preferred mode for apparel sustainability information to be

communicated is via a two-sided apparel sustainability index label characterized by color coding, icons, a logo, and a QR code. The data suggest that the front side of the apparel sustainability index label should delineate the overall sustainability of an apparel item using a green-to-red gradient, wherein green signifies that an apparel item is sustainable and red that it is unsustainable. The front side should also include a logo to communicate that the apparel item's sustainability was determined by a neutral, third party. Lastly, the front side of the apparel sustainability index label should include a QR code so that consumers can access more information about the sustainability of the apparel item should they be interested in doing so. The back side of the apparel sustainability index label should use icons to delineate, using a green-to-red gradient, how sustainable an apparel item is across the following dimensions of sustainability: energy usage, chemicals in fibers, work conditions, wages, and total sustainability.

The results of this dissertation therefore build upon previous studies, advancing knowledge by demonstrating that instead of brands using numerous types of apparel labels (Koszewska, 2011; 2015) or modes of communication (Hyllegard et al., 2012; Sustainable Apparel Coalition, 2019) to communicate the social and/or environmental responsibility of apparel (Koszewska, 2011; Koszewska, 2015), consumers prefer one mode of communication: an apparel sustainability index label. Using data from this dissertation, a consumer-facing apparel sustainability index label was then created, which is the first of its kind to the author's knowledge. In doing so, the results of this dissertation offer a solution to an oft-noted SRFC barrier: consumer knowledge. That is, should brands adopt the apparel sustainability index label, information asymmetry (James & Montgomery, 2017a; Sustainable Apparel Coalition, 2019) can be reduced by facilitating access to easy-to-understand apparel sustainability-related information, thereby enabling consumers' SRFC.

The Effect of the Apparel Sustainability Index

Another noted barrier to SRFC is the hesitancy on the part of brands to be transparent about their supply chains for a variety of reasons, including fear of accusations of greenwashing (James & Montgomery, 2017a), loss of competitive advantage (Doorey, 2011; Garcia-Torres et al., 2021), and an inability to know the intricacies of their entire supply chains (James & Montgomery, 2017a; Köksal et al., 2017). Thus, once consumers' preferred mode of apparel sustainability communication was established, it was imperative to understand how this mode of communication influenced their attitudes and evaluations of the brand, so as to incentivize brands to disclose the details of their supply chains. Previous research indicates a positive effect of labeling on a consumer's attitudes toward the label (Hyllegard et al., 2012; Ma et al., 2017) and the brand (Yan et al., 2010) as well as purchase intention (Bernard et al., 2013; Byrd & Su, 2021; Dickson, 2001; Williams & Hodges, 2022a; Williams & Hodges, 2022b). However, there is a lack of research regarding how labeling affects consumers' attitudes, brand equity, and brand resonance. Thus, the second purpose of this dissertation was to investigate the effect of this communication mode on consumer behavior, including their attitudes toward the brand, brand equity, and brand resonance.

To address this second purpose, the apparel sustainability index's effect on consumers' attitudes toward their preferred brands, brand equity, and brand resonance was tested using a 2x2 between-subjects experiment. The experiment manipulated the apparel sustainability index's sustainability value (high vs. low) and visibility (visible vs. less visible). The experiment was conducted on a sample of 243 respondents recruited via the consumer panel platform, Prolific.

A series of ANOVA and MANOVA analyses determined that consumers' attitudes toward their preferred brands, brand equity, and brand resonance evaluations were positively

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influenced by the apparel sustainable index label with a sustainable value. These findings support previous research that found a positive relationship between social labeling and brand attitudes in the apparel industry (Yan et al., 2010). Similarly, results support studies that demonstrated a positive relationship between a brand's CSR activities and consumers' brand attitudes in the apparel and footwear industries (Kang & Hustvedt, 2014; Lee & Lin, 2021). Thus, an apparel sustainability index label with a high sustainability value results in consumers having more positive attitudes toward brands. These results also support studies that demonstrated a positive relationship between brands' CSR activities and brand equity in the apparel and footwear industries (Dabija, 2018; Gupta & Hodges, 2012; Kang & Hustvedt, 2014; Park & Kim, 2016; Sharma & Jain, 2019; Woo, 2013). As such, a high valued apparel sustainability index label leads to consumers having more positive attachments to their preferred brands (i.e., brand loyalty), perceptions of their preferred brand's quality (i.e., perceived quality), brand awareness, and brand associations. This study also extends previous research (Aaker, 1991; Duman et al., 2018; Frank & Watchravesringkan, 2016; Huang et al., 2014; Keller, 2001; Kim, 2012; Kim & Brandon, 2012) by demonstrating a positive relationship between a high sustainability valued apparel sustainability index label and dimensions of brand resonance, including community and active engagement.

In sum, the aforementioned results indicate that apparel brands with sustainable apparel offerings should be transparent about their production practices via the apparel sustainability index label, and by doing so, mitigate the SRFC barrier of producer hesitancy. That is, instead of a negative consumer perception of greenwashing in response to sustainability claims (James & Montgomery, 2017a), apparel brands with sustainable apparel that utilize the apparel sustainability index label will command more positive consumer attitudes, brand equity, and

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brand resonance. Moreover, per Signaling Theory, the apparel sustainability index label will create a separation equilibrium in the marketplace for those brands with sustainable apparel (Spence, 1973), ultimately leading to a competitive advantage (Aaker, 1991; Keller, 1998).

A series of ANOVAs and MANOVAs returned mixed results with regards to the effect of the sustainability index's visibility on consumers' attitudes, brand equity, and brand resonance evaluations. That is, the visibility of the apparel sustainability index label did not significantly affect consumers' attitudes toward their preferred brand, nor did it affect their brand loyalty, perceived quality, behavioral loyalty, or attitudinal attachment evaluations. This could be because the size of the apparel sustainability index was inconsequential in terms of the aforementioned variables, as no matter the treatment condition the respondent was exposed to, the apparel sustainability index was observable (Connelly et al., 2010). Thus, there was not a significant difference between those that viewed a less visible versus visible condition. Indeed, prior research suggests that the size of the label does not affect some aspects of consumer behavior, as long as the label is visible (Klein et al., 2016; Kotnowski et al., 2016; Nugraha et al., 2022; Stark et al., 2008; Vasiljevic et al., 2019). As such, the results of this dissertation suggest that size does not matter with regards to the effect of sustainability communication on consumers' attitudes, brand loyalty, perceived quality, behavioral loyalty, or attitudinal attachment. Therefore, brands should include sustainability-related information, even if such information appears small in size, as results indicate that consumers notice and react to sustainability-related information on a label no matter the level of visibility of this information.

Interestingly, a more visible apparel sustainability index label positively affected the brand equity dimensions of brand awareness and brand associations, but not brand loyalty or perceived quality. One explanation for this result could be because brand loyalty and perceived

quality are more associated with consuming the product, and therefore are not affected by the visibility of the apparel sustainability index label. However, the more visible apparel sustainability index label might have been more observable to respondents, and therefore respondents paid more attention to it (Giesbrecht et al., 2022; Pham et al., 2018; Skurka et al., 2018), which positively affected their ability to recall it (Klein et al., 2016). Given that brand awareness reflects recall and provides an anchor to which brand associations can be attached (Aaker, 1991), it is plausible that the more visible apparel sustainability index resulted in greater recall (Klein et al., 2016), thereby contributing to stronger brand awareness and brand association evaluations.

Similarly, a more visible apparel sustainability index positively affected the brand resonance dimensions of community engagement and active engagement. A possible explanation for this result could be because such evaluations involve interacting with other people. Previous research indicates that referent others affect a receiver's interpretation of signals (Connelly et al., 2011). Similarly, those wanting to conform with the sustainability-related subjective norms of their peers are more likely to engage in SRFC (Chang & Watchravesringkan, 2018; Chi et al., 2019; Nam et al., 2017; Zheng & Chi, 2015) and to purchase from retail apparel brands engaged in CSR (Diddi & Niehm, 2017). Thus, as a result of the more visible apparel sustainability index label, it is possible that those wanting to conform with their referent peers were more likely to report more positive community and active engagement evaluations.

In sum, results regarding the effects of the visibility placement of the apparel sustainability index label on respondents' brand equity evaluations suggest that while the size of the apparel sustainability index does not matter with regards to consumers' attitudes, brand loyalty, perceived quality, behavioral loyalty, or attitudinal attachment evaluations, it does matter

with regards to consumers' brand awareness, brand association, community engagement, and active engagement evaluations. As such, those brands that want to encourage more brand awareness and brand associations, as well as benefit from consumers' willingness to build community with other brand users and actively engage with the brand, should use a larger format so that the key information is more visible.

There was a significant interaction effect found between an apparel sustainability index's sustainability value, visibility, and consumers' attitudes toward the brand. This finding indicates that the visibility of the apparel sustainability index by itself does not significantly affect consumers' attitudes, however, when combined with a sustainability value, it does affect consumers' attitudes. This result is not surprising, given that previous research supports a general interest in consuming more sustainable products (Cone, 2017). Thus, a more visible apparel sustainability index label that reflects a higher sustainability value resulted in more positive consumer attitudes. As such, results from this dissertation provide a potential solution to a well noted barrier to SRFC, producer hesitancy. That is, those brands that do communicate the sustainability of their apparel via a more visible, higher sustainability valued apparel sustainability index label benefit from more positive consumer attitudes, and subsequently, greater consumer purchase intention of their sustainably-labeled apparel (Hyllegard et al., 2012; Kang & Hustvedt, 2014; Ma et al., 2017).

Similarly, an interaction effect was found between an apparel sustainability index's value and placement on the brand equity dimension of brand loyalty, but not on perceived quality, brand awareness, or brand associations. This is an interesting finding, given that the sustainability value of the apparel sustainability index did significantly affect all the dimensions of brand equity, and the visibility placement affected brand associations and brand awareness.

However, this finding suggests that when the sustainability value and placement are combined, brand loyalty, or consumers' attachment to the brand, is most affected. This result supports previous findings that indicate consumer willingness to consume more sustainably (Cone, 2017). Furthermore, this result indicates that those brands interested in building strong brand loyalty among consumers should utilize a more visible, high sustainability valued apparel sustainability index label to do so. By building brand loyalty, brands will benefit from increased consumer attachment, which will positively influence future sales, trade leverage, attraction of new customers, and time to respond to competitive threats (Aaker, 1991). Such benefits should incentivize brands to disclose the details of their supply chains via the apparel sustainability index label, and thereby help to mitigate the SRFC barrier of producer hesitancy.

Relationship between Consumers' Attitudes Toward the Brand, Brand Equity, and Brand Resonance

This dissertation also investigated the relationship between consumers' attitudes toward the brand and brand equity. Previous studies have demonstrated a relationship between attitudes and purchase intentions of sustainably-labeled apparel (Hyllegard et al., 2012; Hyllegard et al., 2014; Jung & Seock, 2016; Ma et al., 2017; Yan et al., 2012) as well as footwear (Kang & Hustvedt, 2014) and food products (Ho, 2017; Pino et al., 2015). However, a series of regression analyses determined that attitude is significantly and positively related not only to purchase intention, which is most associated with the brand equity dimension of brand loyalty, but to four of the five dimensions of brand equity as defined by Aaker (1991), including brand loyalty, perceived quality, brand awareness, and brand associations. Thus, the results of this dissertation indicate that when a brand commands positive consumer attitude, it can also positively influence brand equity. Such a relationship is advantageous, as positive brand equity provides value to the

firm, in that it enhances efficiency and effectiveness of its marketing programs, promotes brand loyalty, enables increased prices and margins, facilitates brand extensions and trade leverage, as well as provides a competitive advantage (Aaker, 1991; Keller, 1998). This dissertation demonstrates that such effects can be achieved via the use of a high valued apparel sustainability index label. As such, results offer further incentive for brands to be transparent about their supply chains, and in doing so, encourage SRFC.

This dissertation also investigated the relationship between the dimensions of brand equity and brand resonance. While connections between Aaker's (1991) dimensions of brand equity and some of Keller's (2001) dimensions of brand resonance can be inferred (Duman et al., 2018; Frank & Watchravesringkan, 2016; Kim, 2012; Kim & Brandon, 2012), regression analyses builds on findings from Huang et al. (2014) by empirically demonstrating a significant, positive relationship between four out of the five dimensions of brand equity as defined by Aaker (1991) and all of the dimensions of brand resonance defined by Keller (2001). Thus, the results of this dissertation provide further support for encouraging producers to be transparent about their supply chains, as doing so results in strong relationships with the consumer, and ultimately financial gain for the brand (Keller, 2001).

Lastly, this dissertation investigated the moderating effect of SRFC consumer knowledge and human values on consumers' attitudes toward their preferred brands. Previous research indicates that consumers' knowledge regarding SRFC and purchase intention is mixed (Kim et al., 2014; Kozar & Connell, 2013; Lundblad & Davies, 2016). Similarly, research suggests that consumers' values affect their purchase intention of socially responsible fashion (Stern, 2000).

To test this idea, a series of ANOVA analyses determined that respondents' SRFC social knowledge moderates the relationship between an apparel sustainability index's sustainability

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value and consumers' attitudes toward the brand. However, there was no significant moderating effect of SRFC environmental knowledge found on an apparel sustainability index's sustainability value and consumers' attitudes toward the brand. Similarly, there was no moderating effect of SRFC environmental and SRFC social knowledge found on the apparel sustainability index's visibility on consumers' attitudes toward the brand. These findings have several implications. One, that as long as the apparel sustainability index is visible, it is the sustainability value that most affects consumers' attitudes toward their preferred brands. Two, that SRFC social knowledge does affect consumers' attitudes, supporting previous findings that consumers with more knowledge of the ethical issues surrounding apparel production practices are more likely to have positive attitudes toward (Oh & Abraham, 2015) and purchase intention of socially and environmentally sustainable apparel (Blazquez et al., 2020; Cowan & Kinley, 2014; Diddi & Niehm, 2016; Goworek et al., 2012; Ko & Jin, 2017; Kozar & Connell, 2013; Okur & Saricam, 2018; Zheng & Chi, 2015). Three, that consumers' application of their knowledge is not always consistent (Brosdahl & Carpenter, 2010; Connell & Kozar, 2012; Iwanow et al., 2005; Kim & Damhorst, 1998; Kozar & Connell, 2010). Last, that consumers' application of knowledge may be affected by those issues that are more salient to them (Williams & Hodges, 2022b). In this case, it may be that social issues of apparel production were more relevant to respondents, therefore SRFC social knowledge had a greater influence on their attitudes toward their preferred brands.

In sum, while consumer knowledge has been a noted barrier to SRFC (James & Montgomery, 2017a; James & Montgomery, 2017b; McNeill & Moore, 2015; Williams & Hodges, 2022a; Williams & Hodges, 2022b), the results from this dissertation suggest that knowledge is inconsistently utilized. As such, the apparel sustainability index label can

overcome the SRFC barrier of knowledge by providing consumers with the requisite

sustainability information when consuming apparel. In doing so, brands can reduce information

asymmetry (James & Montgomery, 2017a; Spence, 1973), and thereby facilitate SRFC.

A series of ANOVA analyses also determined that respondents' biospheric and altruistic

values positively moderated the relationship between an apparel sustainability index's

sustainability value and consumers' attitudes toward their preferred brand. However, there was

no significant moderating effect of egoistic values on an apparel sustainability index's

sustainability value, nor its visibility, on consumers' attitudes toward the brand. Lastly, there was

no significant moderating effect of biospheric, altruistic, or egoistic values and an apparel

index's visibility on consumers' attitudes toward their preferred brand.

These results support previous findings that demonstrate that values of altruism and

biospherism are positively related, while egoistic values are negatively related, to

environmentally friendly behavior (de Groot & Steg, 2009; Stern et al., 1999; Stern, 2000; Stern

& Dietz, 1994). These results also indicate that as long as the apparel sustainability is observable,

it is the value of the apparel sustainability index label that most affects consumers' attitudes

toward the brand. These results also suggest that while the apparel sustainability index label is

more influential on those with high altruistic and biospheric values, there were no significant

negative moderating effects of the apparel sustainability index and consumers' attitudes for those

with egoistic values. Thus, results from this dissertation suggest that human values are not

necessarily a barrier to SRFC when the apparel sustainability index label is used. As such, brands

do not need to target specific consumer segments based on human values, as the apparel

sustainability index label does not negatively affect those with egoistic values or positively affect

those with altruistic and biospheric values. Therefore, brands with sustainable apparel should feel

comfortable implementing the apparel sustainability index label, as results from this dissertation suggest that it is applicable to a wide range of consumers. The next section outlines implications for theory and practice based on the results.

<div align="center">**Implications for Theory and Practice**</div>

Several theoretical implications can be drawn from the results of this dissertation including the operationalization and extension of Signaling Theory, the demonstration that knowledge is a multifaceted variable, and the establishment of a relationship between consumers' attitudes and brand equity, as well as a relationship between brand equity and brand resonance. Similarly, the results of this dissertation offer practical implications, including the creation of a consumer-facing apparel sustainability index label, determination of its effects, and its use as another mechanism to engage in CSR. Dissertation results also offer implications for sustainability, including the apparel sustainability index's ability to promote SRFC and more responsible production practices, as well as demonstrating the existence of an interdependent relationship between consumers and brands. The following section provides a discussion of these theoretical and practical implications in more detail.

Theoretical Implications

There are several implications of this dissertation for theory. First, the findings extend Signaling Theory by demonstrating that an apparel sustainability index label serves as a form of a signal, enabling consumers to differentiate between high and low sustainable apparel items, and subsequently sustainable and unsustainable brands. In doing so, it is clear that consumers have more positive attitudes toward those brands with a hangtag indicating a high sustainability value versus those brands with a tag indicating a low sustainability value. Similarly, consumers have more positive brand equity and brand resonance evaluations for brands with apparel items

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with a high sustainability value versus brands with a low sustainability value. Thus, the results of this dissertation extended Signaling Theory by operationalizing the theory in a new way. Specifically, the results of this dissertation culminated in the development of an apparel sustainability index label, which was then empirically tested to determine that the apparel sustainability index label is a signal, as it resulted in a separation equilibrium between unsustainable and sustainable brands.

While Signaling Theory posits that more observable signals are more effective at communicating information (Connelly et al., 2011), this dissertation found that there was no effect of the visibility manipulation on consumers' attitudes. Similarly, there was no effect of the visibility of the apparel sustainability index label on brand loyalty, perceived quality, behavioral loyalty, and attitudinal attachment. This finding could be because the apparel sustainability index label was observable in all experiment scenarios, and therefore there was not a significant difference between those that viewed the visible versus less visible treatments. However, there was a significant effect of the apparel sustainability index's visibility placement on respondents' brand awareness, brand associations, community engagement, and active engagement. This finding suggests that sustainability signals that are more observable are more likely to aid in recall (Klein et al., 2016), thereby affecting consumers' brand associations and brand awareness evaluations. Similarly, a more visible sustainability signal may be more likely to affect consumers' evaluations that involve interacting with others. Thus, a more visible apparel sustainability index label may result in more positive community engagement and active engagement evaluations, as consumers are interested in bonding with others who use the same brand, as well as learning more about the brand.

Notably, the aforementioned results further extend Signaling Theory by identifying another nuance of signals. While previous research has demonstrated that signals can be classified based on which entity emanates the signal (Zerbini, 2017), the cost of the signal (Kirmani & Rao, 2000; Milgrom & Roberts, 1986), and the monetary consequences to the firm for signaling (Kirmani & Rao, 2000), results from this dissertation suggest that signals can also be classified based on their visibility or observability. That is, results demonstrate that more observable signals have greater effects on some aspects of consumer behavior, such as brand awareness, brand associations, community engagement, and active engagement. Contrastingly, the observability of signals has no effect on other forms of consumer behavior, including consumers' attitudes, brand loyalty, perceived quality, behavioral loyalty, and attitudinal attachment. As such, results suggest that signals can be classified based on their observability, thereby extending the theory.

Moreover, with regards to extending Signaling Theory, the results of this dissertation demonstrate additional types of feedback that result from a signal. Previous research suggests that feedback takes many forms, including inference of the quality of a firm, product, or service quality (Bhattacharrya, 1979; Boulding & Kirmani, 1993; Caves & Greene, 1996; Connelly et al., 2011; Erdem, 1998; Erdem & Swait, 1998; Essoussi & Merunka, 2007; Kirmani, 1990; Kirmani & Wright, 1989; Nelson, 1974; Ross, 1977; Wells et al., 2011; Wenerfelt, 1988; Wolinsky, 1983), increased purchase intention (Boulding & Kirmani, 1993; Dang et al., 2020; Wells et al., 2011), investment (Leland & Pyle, 1977), reputation (Basdeo et al., 2006), and political power and prestige (Bird et al., 2005). However, results from this dissertation indicate that feedback to a signal can also take the form of positive consumer attitudes, brand equity, and brand resonance. As such, results from this dissertation expand upon previous findings by

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indicating additional types of feedback responses to signals that had not been identified in the literature.

Another theoretical implication involves the conceptualization of knowledge as a variable. Prior research has suggested that consumers with more knowledge regarding the ethical issues surrounding apparel production are more likely to have positive attitudes toward (Oh & Abraham, 2015), and purchase intention of socially and environmentally produced apparel (Blazquez et al., 2020; Cowan & Kinley, 2014; Diddi & Niehm, 2016; Goworek et al., 2012; Ko & Jin, 2017; Kozar & Connell, 2013; Okur & Saricam, 2018; Zheng & Chi, 2015). However, other studies have found the opposite to be the case (Brosdahl & Carpenter, 2010; Connell & Kozar, 2012; Iwanow et al., 2005; Kim & Damhorst, 1998; Kozar & Connell, 2010). Interestingly, this dissertation found that consumers' SRFC social knowledge moderates the relationship between the apparel sustainability index's sustainability value and consumers' attitudes toward the brand, but their SRFC environmental knowledge does not. These results reflect previous research that demonstrates consumers' inconsistent application of knowledge in their consumption decisions (Brosdahl & Carpenter, 2010; Connell & Kozar, 2012; Iwanow et al., 2005; Kim & Damhorst, 1998; Kozar & Connell, 2010). These findings also suggest that the social conditions of apparel production are more relevant to consumers (Williams & Hodges, 2022), and thus their SRFC social knowledge plays a larger role in their consumption decisions. However, results from this dissertation also extend previous findings by indicating that knowledge should not be conceptualized as a homogeneous variable, but rather a multidimensional one. That is, the results suggest that there are different types of knowledge, and each type has different effects on consumer behavior. Therefore, when operationalized, the multi-dimensional facets of knowledge should be considered.

Lastly, this study also provides empirical support for the relationship between attitudes and dimensions of brand equity, and relationships between dimensions of brand equity and dimensions of brand resonance. Previous studies have demonstrated a positive relationship between attitudes and purchase intentions of sustainably-labeled apparel (Hyllegard et al., 2012; Hyllegard et al., 2014; Jung & Seock, 2016; Ma et al., 2017; Yan et al., 2012) as well as footwear (Kang & Hustvedt, 2014) and food products (Ho, 2017; Pino et al., 2015). However, this dissertation demonstrated a positive relationship between consumers' attitudes toward the brand and four of the five dimensions of brand equity defined by Aaker (1991), including brand loyalty, perceived quality, brand awareness, and brand associations. Although previous research indicates a positive relationship between some brand equity dimensions and some brand resonance dimensions (Duman et al., 2018; Frank & Watchravesringkan, 2016; Kim, 2012; Kim & Brandon, 2012), this dissertation builds off of Huang et al. (2014), by further demonstrating a significant, positive relationship between the dimensions of brand equity and all of the dimensions of brand resonance defined by Keller (2001).

Based on these aforementioned results, it can be concluded that consumers' attitudes, brand equity, and brand resonance do not operate in a vacuum, but rather, they are interrelated. Specifically, results from this dissertation suggest that by positively influencing consumers' attitudes, brands can, in turn, benefit from brand equity, and subsequently, brand resonance. As such, results from this dissertation offer brands a "silver bullet" to building financially valuable relationships with consumers (Keller, 2001). That is, if brands adopt the apparel sustainability index label to communicate that their apparel is sustainable, they will not only benefit from more positive consumer attitudes, but from the resulting brand equity and brand resonance.

Implications for Practice

Results of this dissertation offer several implications for practitioners; the first being the creation of a consumer-facing apparel sustainability index label. While previous research has provided insight regarding what and how to communicate apparel sustainability information (Hyllegard et al., 2012; Sustainable Apparel Coalition, 2019), findings from this dissertation provide brands with an actual tool (i.e., the apparel sustainability index label) to do so.

Moreover, results from this dissertation offer incentives for brands to adopt the apparel sustainability index label. That is, those brands that use the apparel sustainability index to communicate their sustainable apparel offerings are likely to garner more positive consumer attitudes, brand equity, and, subsequently, brand resonance, which will positively affect sales (Aaker, 1991; Keller, 2001). Furthermore, the apparel sustainability index label will result in a separation equilibrium in the marketplace (Spence, 1973), enabling consumers to differentiate between unsustainable and sustainable apparel, thereby creating a competitive advantage for sustainable apparel brands. As a result of these findings, brands with sustainable apparel offerings should disclose the details of their supply chains, and in doing so, mitigate the SRFC barrier of producer hesitancy.

Results from this dissertation also imply that the apparel sustainability index label is effective for all consumers, regardless of their SRFC knowledge or their human values. Specifically, results indicate that while the apparel sustainability index label is more effective at influencing those with high altruistic and biospheric values, as well as those with SRFC social knowledge, it did not negatively affect those with SRFC environmental knowledge nor those with high egoistic values. Thus, dissertation results indicate that the apparel sustainability index

label is applicable to a wide range of consumers, and therefore brands do not need to target specific segments based on knowledge or human values when using it.

Additionally, this dissertation provides another way for brands to engage in CSR. While CSR in the apparel industry has historically been achieved via annual reporting (James & Montgomery, 2017a), codes of conduct and auditing (Turker & Altuntas, 2014), thank you campaigns and investing in local infrastructure (James & Montgomery, 2017b), the results of this dissertation provide apparel brands with the apparel sustainability index label. By using the apparel sustainability index label, firms can quickly and easily communicate the sustainability of their apparel items to consumers, and in doing so, positively influence consumers' attitude, brand equity, and brand resonance for their sustainable offerings.

Findings from this dissertation also offer implications for the practice of sustainability, in that the apparel sustainability index label offers a potential mechanism to encourage consumers to be more sustainable. That is, the apparel sustainability index label reduces information asymmetry, overcoming the barrier of consumer knowledge, by facilitating consumers' access to sustainability-related information when consuming apparel. Additionally, results from the dissertation indicate that brands that utilize an apparel sustainability index label to communicate sustainable apparel benefit from more positive consumer attitudes, brand equity, and brand resonance. Such behaviors should incentivize brands to utilize the apparel sustainability index label to be transparent about their supply chains, thereby reducing another noted barrier of SRFC, producer hesitancy. By reducing these barriers, SRFC can be encouraged, and enable the apparel industry to reduce its carbon footprint by as much as 21% (Berg et al., 2020).

The apparel sustainability index label also provides a mechanism to encourage more responsible production practices. Specifically, when framed by Signaling Theory, results from

the dissertation suggest that the use of the apparel sustainability index label will result in a separation equilibrium in the marketplace (Spence, 1973), thereby enabling consumers to differentiate between sustainable and unsustainable brands. As a result, those brands that are more sustainable will garner more positive consumer attitude, brand equity, and brand resonance than unsustainable brands. This competitive advantage will cause unsustainable brands to lose sales, as consumers will favor more sustainable brands. In response, the unsustainable brands will begin to adopt more sustainable production practices in order to regain market share. This competition could incentivize all brands, sustainable or not, to green their production practices, thereby reducing the carbon footprint of the apparel industry as much as 82% (Berg et al., 2020).

Results from this dissertation also illustrate the existence of an interdependent relationship between brands and consumers in efforts to achieve sustainability. Thus, to encourage sustainability in the apparel industry, from reducing carbon emissions to increasing SRFC, it is necessary to appeal to both consumers and brands. Specifically, results suggest that consumers must provide an incentive for brands to utilize more sustainable production practices (i.e., more positive consumer attitudes, brand equity, and brand resonance), and in turn, apparel brands must communicate their sustainable efforts to the consumer (i.e., via the apparel sustainability index label). In doing so, consumers can reward the more sustainable brands for their sustainability by way of positive consumer behavior (e.g., purchase intention), and in exchange, brands will be transparent about their production practices. Without both stakeholders working together, efforts toward sustainability will be thwarted, as consumers will not have the knowledge needed to engage in SRFC, and brands will not have the incentive to be transparent.

Limitations and Suggestions for Further Research

As with any research study, this dissertation has several limitations, and thus opportunities for further research. The following section outlines these limitations, and correspondingly, discusses topics of further research to address them.

As in many studies, the results of this dissertation are limited by the sample. First, the geographic scope of participants is limited to the United States. Surveying participants from other countries wherein sustainability is more or less important could result in different outcomes. Additionally, a majority of the sample (58.4%) were between 18 and 35 years old. Given the younger age of the sample, it is possible that the sample skewed the results, as younger consumers are more likely to be interested in sustainable apparel consumption (Cone, 2017). Lastly, 70% of the sample either attended some college or earned a bachelor's degree, and 67.5% of the sample was Caucasian. Thus, results reflect opinions of a more educated, Caucasian demographic.

Due to the limitations of the sample, future research should survey consumers outside of the United States. Similarly, older age cohorts, as well as a more ethnically diverse sample with more varied educational attainment levels should be recruited. Doing so could offer additional perspectives with regards to the effects of an apparel sustainability index on consumers' brand attitudes and brand evaluations.

Moreover, this study is limited by the fact that the apparel sustainability index label was tested in a 2-D format. That is, respondents were not able to turn the hangtag over to the back as they would be able to do if they encountered the apparel sustainability index label in person. Additionally, the apparel sustainability index label was static on respondents' computer screens, so it remained observable throughout the experiment. This is not similar to the environment a

consumer would face when shopping in person, as they would likely be distracted by other factors (e.g., other apparel items, sales, people, music), and thus the apparel sustainability index label may not be as isolated in these conditions.

Future research should investigate the likelihood that consumers will adopt the apparel sustainability index label created by this dissertation. Applying theories such as the Diffusion of Innovations and/or the Technology Acceptance Model, will enable a better understanding of the extent to which aspects of the apparel sustainability index label are advantageous, compatible, trialable, observable, complex (Rogers, 2003), as well as useful and easy to use (Davis, 1986). Results from such research could further refine the apparel sustainability index label and thereby increase the likelihood that it will be used by consumers.

Moreover, because the research design utilized an online experiment approach, it would be valuable to use an observational research approach to better understand how consumers interact with the apparel sustainability index label while shopping. In doing so, a deeper understanding of whether and how the consumer accesses and utilizes the apparel sustainability index label could be gained. Such findings could identify aspects of the apparel sustainability index label that need to be revised so as to encourage increased consumer use.

Another avenue of potential research is exploring how the sustainability of apparel should be communicated in online formats. Participants noted that an apparel sustainability index label should be available online. However, this study did not explore the types of information that should be provided and how it should be presented in an online format. Thus, future research should explore this gap to identify consumers' preferred mode of apparel sustainability communication in online formats.

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Focus group data indicated that it would be difficult to influence consumers' evaluations of brands that they already hold opinions about. Future research should investigate this in more detail to better understand if an apparel sustainability index label can alter consumers' brand evaluations for brands they already have opinions of. Similarly, more research is needed to better understand how consumers perceive apparel items and brands rated in the space between unsustainable and sustainable on the apparel sustainability index label. That is, focus group data suggest that consumers are more likely to avoid an item labeled as red, or unsustainable, but this dissertation did not explore how consumers evaluate items that are neither red nor green, and therefore are in between unsustainable and sustainable.

Because findings regarding the visibility of the apparel sustainability index were mixed, more research is needed to better understand how the size of an apparel sustainability index label affects brand evaluations. Specifically, research should explore whether there is a relationship among subjective norms, the size of an apparel sustainability index label, and evaluations that are related to interactions with others. Similarly, understanding how and why a larger apparel sustainability index label affects the brand equity dimensions of brand awareness and brand associations, while it does not affect brand loyalty and perceived quality evaluations, is needed.

Results of this dissertation are also limited in that the focus was on examining the communication of apparel sustainability information from the consumer's perspective. Thus, more research is needed to better understand the perspectives of apparel producers, brands, and retailers regarding their use of the apparel sustainability index label. What barriers do these stakeholders face to adopting the apparel sustainability index label, and what is needed to help them overcome such barriers? By exploring these avenues, a comprehensive understanding of

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how to implement the apparel sustainability index label across the apparel industry could be developed.

Additionally, more research regarding how the adoption of an apparel sustainability index label affects stakeholders across the apparel supply chain is needed. For example, while an apparel sustainability index label may encourage SRFC, an increase in this behavior may inadvertently negatively affect some stakeholders along the apparel supply chain, especially those that do not engage in sustainable production practices. Conducting more research into the potential impact of an apparel sustainability index label on stakeholders could encourage more participation by companies across the supply chain and help to ensure that the industry as a whole strives to be more sustainable.

Lastly, given the unlikelihood that apparel brands with unsustainable apparel will utilize the index, more research is needed to better understand consumers' evaluations of brands that use the apparel sustainability index label versus those that do not. For instance, should consumers need to choose between two apparel items, one with an apparel sustainability index label and one without, does the brand that uses the apparel sustainability index label benefit from more positive consumer attitudes and brand evaluations than the brand that does not? Furthermore, how does the value of the apparel sustainability index label affect brands who use the index versus brands that do not? For example, do brands that use an apparel sustainability index label with a low value benefit from more positive consumer attitudes and brand evaluations than those brands that do not use an apparel sustainability index label at all? Findings from such a study could incentivize brands that are unsustainable to implement more sustainable practices should it be determined that consumers associate more positive brand attitudes and

evaluations with those brands that use the apparel sustainability index label versus those that do not.

In sum, the purpose of this dissertation was two-fold: (1) to explore consumers' preferred mode of apparel sustainability communication and (2) to investigate the effect of this mode on their behavior, including their attitudes toward the brand, brand equity, and brand resonance. Findings offer a solution to mitigate the SRFC intention-behavior gap. That is, the apparel sustainability index label gives consumers the requisite knowledge regarding the sustainability of apparel items, which is a noted SRFC barrier. Similarly, brands with sustainable apparel can be incentivized to be transparent about their supply chains in order to benefit from more positive consumer attitudes, brand equity, and brand resonance. By reducing these barriers to SRFC, the SRFC intention-behavior gap can be narrowed, and therefore more sustainable consumption can be encouraged. Fundamentally, this dissertation revealed the interdependent relationship between consumers and brands when it comes to sustainability, and highlighted the need to appeal to both stakeholder groups to promote sustainability. In conclusion, this dissertation offers an understanding of how both consumers and producers can close the SRFC intention-behavior gap, ultimately leading to a more sustainable fashion industry. In doing so, the apparel consumers' needs of today can be met without compromising the ability to meet those of future generations.

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APPENDIX A: PRELIMINARY STUDY- INSTITUTIONAL REVIEW BOARD APPROVAL

UNC **GREENSBORO**

July 26, 2021

Leeanna Williams
Nancy Hodges

Consumer Apparel-Retail Stds

Re: Exempt - Initial - IRB-FY21-144 Exploring and Creating a Sustainability Index

Dear Leeanna Williams:

UNCG Institutional Review Board has rendered the decision below for Exploring and Creating a Sustainability Index.

Decision: Exempt

Approval: July 26, 2021
Expiration: --

Selected Category: Category 2.(ii). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording).
Any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, educational advancement, or reputation.

This submission has been reviewed by the IRB and was determined to be exempt according to the regulatory category cited above under 45 CFR 46.101(b).

Investigator's Responsibilities

- Please be aware that valid human subjects training and signed statements of confidentiality for all members of research team need to be kept on file with the lead investigator. Please note that you will also need to remain in compliance with the university "Access To and Retention of Research Data" Policy which can be found at http://policy.uncg.edu/university-policies/research_data/.
- **Please utilize the consent form/information sheet with the most recent version date when enrolling participants.**
- Please be aware that any changes to your protocol must be reviewed by the IRB prior to being implemented.
- **If your study is funded**, please note that it is the responsibility of the Principal Investigator to link your IRB application to your Cayuse SP record.

Sincerely,

UNCG Institutional Review Board

APPENDIX B: PRELIMINARY STUDY INTERVIEW SCHEDULE

1) In what way should information regarding the sustainability of apparel be communicated so that you would notice it?

2) From the following sustainability labeling options, which would you prefer and why?
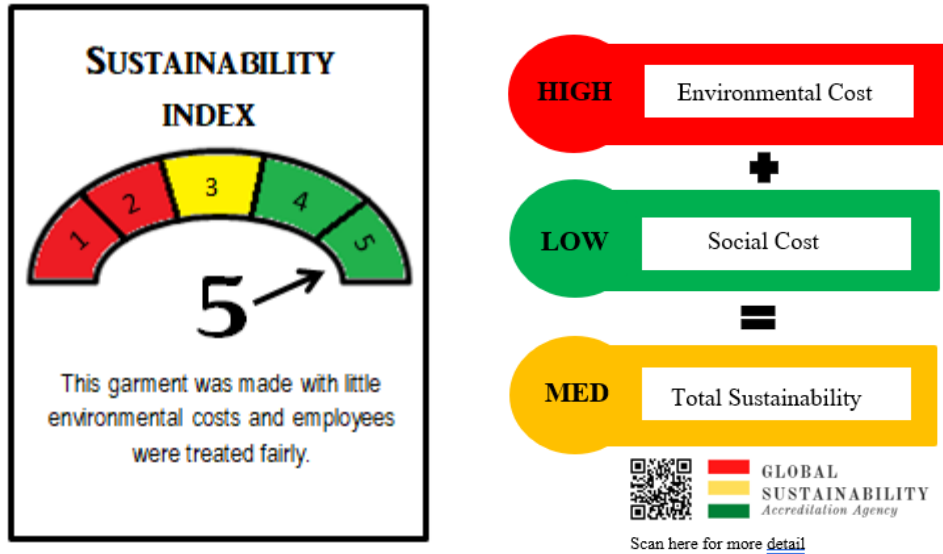
Taffeta Dress

Sustainability Score
Score is in the top 10% of all participating facilities globally.

Renewable Energy
Gets 26% of energy from renewable sources.

Carbon Emissions
Used 120.7kg CO2, which is 2% of this brand's overall emissions.

Water Usage
In the top 10% of water efficiency among participating facilities

Total Environmental
66%

Total Social
66%

SCARF

Handmade in India

Be the first to review this product

$24.99   IN STOCK
SKU# 0899020

1 ▾   Add to Cart   *P PayPal* Checkout

♡ ADD TO WISH LIST   ✉ EMAIL

DETAILS

This textured scarf features a pretty pattern of pastel stripes. The Down to Earth Scarf is handcrafted by artisans working with our fair trade partner Noah's Ark in India

- Cotton, viscose
- Without Fringe: 16W x 72L inches, Fringe: 3.5L inches
- Handcrafted in India

Noah's Ark International Exports

Noah's Ark International Exports is a fair trade handicraft marketing organization in Moradabad, India. Noah's Ark provides benefits such as education and medical treatment for artisans and their families. As artisan businesses become more self-sufficient, Noah's Ark takes on new families. Since the company's inception, about 20 artisan workshops have become independent. Noah's Ark started in 1986, in one room of a family house in Moradabad. Businessman Samuel Masih observed that exporters and middlemen were taking advantage of handicraft artisans. He started Noah's Ark to promote these artisans and their crafts.

More by this maker

3) An apparel sustainability index would communicate to consumers the environmental and

social costs of an apparel item via a label on a hangtag attached to the apparel item. Do

you think an apparel sustainability index would be appropriate to communicate the

sustainability of an apparel item? Why, why not?

4) What should be included on the index to communicate an apparel item's sustainability?

How should that information be communicated?

5) Where should an apparel sustainability index be placed on clothing so that you notice

them? Where should it not be placed?

6) How would you improve upon an apparel sustainability index so that it attracts your

attention? How would you improve upon it so it communicates information of interest to

you?

7) How would you use the sustainability index?

8) Would a sustainability index affect how you evaluate the brand? Why or why not?

9) Is there anything else regarding sustainability labels and apparel that you think I should

know?

Demographic Questions:

1) What is your age?
2) What is your race?
3) What is your gender?
4) What do you do for a living?
5) What is your annual salary?

APPENDIX C: EXPERIMENTAL STUDY- INSTITUTIONAL REVIEW BOARD

APPROVAL

UNC GREENSBORO

February 14, 2023

Leeanna Williams

Consumer Apparel-Retail Stds

Re: Modification Approval - IRB-FY21-144 Exploring and Creating a Sustainability Index

Dear Leeanna Williams:

UNCG Institutional Review Board has rendered the decision below for Exploring and Creating a

Sustainability Index. This modification is now approved.

Decision: Exempt

Modification information:

To test the effect of a sustainability index on consumer attitude and brand evaluations.

Anticipated graduation date: 6/30/2023. Revised study end date: 6/01/2023. Expected enrollment number: 300.

If this modification involved changes to the consent form/IRB Information Sheet, please utilize the consent form/information sheet with the most recent version date when enrolling participants.

Sincerely,

UNCG Institutional Review Board

Greetings,
 Please see below for information regarding this research study.

 Project Title: Exploring and Creating a Sustainability Index Principal Investigator: Annie Williams Faculty Advisor: Nancy Hodges and Kittichai Watchravesringkan

 What is this all about? I am asking you to participate in this research study because you are 18 and older, live in the United States and have completed a satisfactory number of surveys historically (80% completion rate).This research project will only take about 10 minutes and will involve you answering questions about your attitudes towards apparel brands, apparel brand evaluations, your personal values and demographics. Your participation in this research project is voluntary.

 Will this negatively affect me? No, other than the time you spend on this project there are no know or foreseeable risks involved with this study.

 What do I get out of this research project? There are no direct benefits to society from participating in this study.

 Will I get paid for participating? You will be paid $1.60 after providing a quality, completed survey.

 What about my confidentiality? We will do everything possible to make sure that your information is kept confidential. All information obtained in this study is strictly confidential unless disclosure is required by law. We will not ask for any identifying information other than your numeric Prolific ID so that you can be paid through Prolific. Data, including your Prolific ID, will be stored in an encrypted folder for three years. After three years, all data will be deleted.

 Absolute confidentiality of data provided through the Internet cannot be guaranteed due to the limited protections of Internet access. Please be sure to close your browser when finished so no one will be able to see what you have been doing.

 What if I do not want to be in this research study? You do not have to be part of this project.

This project is voluntary and it is up to you to decide to participate in this research project. If you agree to participate at any time in this project you may stop participating without penalty. If you do not finish the survey in its entirety, you will be paid a prorated amount based on the amount of the survey you have completed.

 What if I have questions? You can ask Annie Williams at ljwilli5@uncg.edu and Dr. Nancy Hodges at njnelson@uncg.edu anything about the study. If you have concerns about how you have been treated in this study call the Office of Research Integrity Director at 1-855-251-2351.

Page Break

What is your Prolific ID?

_____

Data from this survey is very important to understanding consumer's brand preferences. Please indicate whether you are willing to provide your best and most honest answers when participating in this survey.

○ Yes

○ No

What is your preferred brand for clothing?

_____

Based on the tag you viewed, featured above, please answer the following questions.

To what extent do you think your preferred brand is **appealing**?

	Very unappealing (1)	Unappealing (2)	Somewhat unappealing (3)	Somewhat appealing (4)	Appealing (5)	Very appealing (6)
My preferred brand is...	○	○	○	○	○	○

To what extent do you feel your preferred brand is **good**?

	Very bad (1)	Bad (2)	Somewhat bad (3)	Somewhat good (4)	Good (5)	Very good (6)
My preferred brand is...	○	○	○	○	○	○

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To what extent do you feel your preferred brand is **pleasant**?

	Very unpleasant (1)	Unpleasant (2)	Somewhat unpleasant (3)	Somewhat pleasant (4)	Pleasant (5)	Very Pleasant (6)
My preferred brand is...	○	○	○	○	○	○

To what extent do you feel your preferred brand is **favorable**?

	Very unfavorable (1)	Unfavorable (2)	Somewhat unfavorable (3)	Somewhat favorable (4)	Favorable (5)	Very favorable (6)
My preferred brand is...	○	○	○	○	○	○

To what extent do you feel your preferred brand is **likeable**?

	Very unlikeable (1)	Unlikeable (2)	Somewhat unlikeable (3)	Somewhat likeable (4)	Likeable (5)	Very likeable (6)
My preferred brand is...	○	○	○	○	○	○

End of Block: Attitude

Start of Block: Brand Loyalty

Based on the tag you viewed, featured above, please indicate the extent to which you agree with the following statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Somewhat Agree (4)	Agree (5)	Strongly Agree (6)
My preferred brand is one of my top choices for clothing.	○	○	○	○	○	○
I like my preferred brand more than other clothing brands.	○	○	○	○	○	○
I will buy my preferred brand instead of other brands.	○	○	○	○	○	○
I am more interested in my preferred clothing brand than other brands.	○	○	○	○	○	○

End of Block: Brand Loyalty

Start of Block: Perceived quality

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Based on the tag you viewed, featured above, please indicate the extent to which you agree with the following statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Somewhat Agree (4)	Agree (5)	Strongly Agree (6)
The quality of my preferred clothing brand is extremely high.	○	○	○	○	○	○
My preferred clothing brand's products are very functional.	○	○	○	○	○	○
My preferred clothing brand's products are very reliable.	○	○	○	○	○	○
My preferred clothing brand's products are very durable.	○	○	○	○	○	○

Based on the tag you viewed, featured above, please indicate the extent to which you agree with the following statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Somewhat Agree (4)	Agree (5)	Strongly Agree (6)
I can recognize my preferred clothing brand among other competing brands.	○	○	○	○	○	○
I can quickly recall the symbol or logo of my preferred clothing brand.	○	○	○	○	○	○
I will remember my preferred clothing brand when I shop.	○	○	○	○	○	○
I know what my preferred clothing brand's logo looks like.	○	○	○	○	○	○

End of Block: Brand Awareness

Based on the tag you viewed, featured above, please indicate the extent to which you agree with the following statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Somewhat Agree (4)	Agree (5)	Strongly Agree (6)
Some characteristics of my preferred clothing brand come to my mind quickly.	○	○	○	○	○	○
I have difficulty in imagining my preferred clothing brand in my mind.	○	○	○	○	○	○
I trust this brand as a manufacturer of clothing.	○	○	○	○	○	○
I feel proud to own this brand.	○	○	○	○	○	○

Based on the tag you viewed, featured above, please indicate the extent to which you agree with the following statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Somewhat Agree (4)	Agree (5)	Strongly Agree (6)
I will likely buy this brand the next time I buy clothing.	○	○	○	○	○	○
I intend to buy other products from this brand.	○	○	○	○	○	○
This is the one clothing brand I prefer to buy.	○	○	○	○	○	○
I will buy this clothing brand whenever I can.	○	○	○	○	○	○

End of Block: BRBL

Start of Block: BRAA

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Based on the tag you viewed, featured above, please indicate the extent to which you agree with the following statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Somewhat Agree (4)	Agree (5)	Strongly Agree (6)
I will feel good when I use this brand.	○	○	○	○	○	○
This brand makes me happy.	○	○	○	○	○	○
I will really miss this brand if it went away.	○	○	○	○	○	○
This brand is special to me.	○	○	○	○	○	○

End of Block: BRAA

Start of Block: BRCE

Based on the tag you viewed, featured above, please indicate the extent to which you agree with the following statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Somewhat Agree (4)	Agree (5)	Strongly Agree (6)
I identify with people who use this brand.	○	○	○	○	○	○
I feel as if I almost belong to a club with other users of this brand.	○	○	○	○	○	○
This is a brand used by people like me.	○	○	○	○	○	○
I feel a connection with others who use this brand.	○	○	○	○	○	○

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Based on the tag you viewed, featured above, please indicate the extent to which you agree with the following statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Somewhat Agree (4)	Agree (5)	Strongly Agree (6)
I will talk about this brand to others.	○	○	○	○	○	○
I am interested in learning more about this brand.	○	○	○	○	○	○
I would like others to know that I use this brand.	○	○	○	○	○	○
I would like to visit the website for this brand.	○	○	○	○	○	○

Now, please answer the following based on your own personal opinions.

Please indicate the extent to which you personally agree with the following statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Somewhat Agree (4)	Agree (5)	Strongly Agree (6)
Use of child labor is a general practice among some clothing manufacturers.	○	○	○	○	○	○
Often clothing manufacturers do not pay their employees at least the local wage.	○	○	○	○	○	○
If you read this statement, select strongly agree.	○	○	○	○	○	○
All clothing manufacturers have their employees work no more than 40 hours per week.	○	○	○	○	○	○
All clothing manufacturers generally provide non-hazardous workplaces for their employees.	○	○	○	○	○	○

End of Block: SRFC Knowledge

Please indicate the extent to which you personally agree with the following statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Somewhat Agree (4)	Agree (5)	Strongly Agree (6)
Chemical pollutants are produced during manufacturing of synthetic fibers such as polyester.	○	○	○	○	○	○
Water pollution occurs during common dye processes of textiles.	○	○	○	○	○	○
Textile dyeing and finishing processes use a lot of water.	○	○	○	○	○	○
Special finishes on fabrics often create problems for recycling.	○	○	○	○	○	○
Natural fibers such as cotton are usually biodegradable.	○	○	○	○	○	○

Please rate the importance of each of the values below as a guiding principle of your life.

	Very Unimportant (1)	Unimportant (2)	Slightly Unimportant (3)	Slightly Important (4)	Important (5)	Very Important (6)
Preventing pollution: conserving natural resources.	○	○	○	○	○	○
Unity with nature: fitting into nature.	○	○	○	○	○	○
Respecting the earth: harmony with other species.	○	○	○	○	○	○
Protecting the environment: preserving nature.	○	○	○	○	○	○

End of Block: Values-Bio.

Start of Block: Values-Ego.

Please rate the importance of each of the values below as a guiding principle of your life.

	Very Unimportant (1)	Unimportant (2)	Slightly Unimportant (3)	Slightly Important (4)	Important (5)	Very Important (6)
Social power: control over others, dominance.	○	○	○	○	○	○
Influential: having an impact on people and events.	○	○	○	○	○	○
Wealth: material possessions, money.	○	○	○	○	○	○
Authority: the right to lead or command.	○	○	○	○	○	○

End of Block: Values-Ego.

Start of Block: Values-Alt.

Please rate the importance of each of the values below as a guiding principle of your life.

	Very Unimportant (1)	Unimportant (2)	Slightly Unimportant (3)	Slightly Important (4)	Important (5)	Very Important (6)
Social justice: correcting injustice, care for the weak.	○	○	○	○	○	○
Equality: equal opportunity for all.	○	○	○	○	○	○
A world of peace: free of war and conflict.	○	○	○	○	○	○
Helpful: working for the welfare of others.	○	○	○	○	○	○

End of Block: Values-Alt.

Start of Block: Manipulation1

Please indicate the extent to which you agree with the following statements.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Somewhat Agree (4)	Agree (5)	Strongly Agree (6)
Based on the tag I viewed, my preferred brand is sustainable.	○	○	○	○	○	○
The apparel sustainability index label was visible on the tag I viewed.	○	○	○	○	○	○
Based on the tag I viewed, my preferred brand was transparent about the sustainability of their clothing.	○	○	○	○	○	○
The tag I viewed changed my opinion of my preferred brand.	○	○	○	○	○	○

End of Block: Manipulation1

Start of Block: Demographics

What is your age?

○ 18-25

○ 26-35

○ 36-45

○ 46-55

○ 56-65

○ 66-75

○ 76-85

○ 86 or older

What is your ethnicity?

- ☐ Caucasian

- ☐ African-American

- ☐ Latinx or Hispanic

- ☐ Asian

- ☐ Native American

- ☐ Native Hawaiian or Pacific Islander

- ☐ Multi-Racial

- ☐ Other (please type):

_____

What gender do you identify as?

- ○ Male

- ○ Female

- ○ Non-binary / third gender

- ○ Prefer not to say

What state do you live in?

_____

What is the highest level of education or degree you have completed?

○ Some High School

○ High School

○ Some College

○ Trade Degree

○ Bachelor's Degree

○ Graduate Degree

What is your yearly household income?

○ Less than $25,000

○ $25,000-$50,000

○ $50,001-$100,000

○ $100,001-$200,000

○ $200,001-$250,000

○ $250,001-$300,000

○ Greater than $300,000

What is your current employment status?

○ Employed part-time

○ Employed full-time

○ Seeking opportunities

○ On disability

○ In school/college

○ Retired

○ Other (please type): _____