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Research Article

Signaling Sustainability: Exploring Consumer Perspectives on Communicating Apparel Sustainability Information

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ABSTRACT

The fashion industry is characterized by unsustainable production and consumption. However, a consistently noted barrier to sustainable and responsible apparel consumption is a lack of consumer knowledge. A potential solution to mitigate this barrier is to use apparel labeling to signal the sustainability of an item to consumers. Thus, the purpose of this study is to employ signaling theory to explore the aspects of sustainability that resonate with consumers and why, the modes of communication preferred by consumers, and how such information would affect their apparel consumption decisions. In-depth interviews were conducted with a diverse sample of twenty participants. Analysis of the data resulted in the identification of three emergent themes related to communicating information about sustainability that were used to structure the interpretation: Its Importance is Relative, Signal Mode vs. Message, and Increasing the Interest Level. Overall, participants preferred simple, yet detailed messages on apparel labels to communicate aspects of an apparel item's sustainability. Ultimately, such labeling signals sustainability to consumers, enabling them to differentiate between sustainable and unsustainable apparel.

KEYWORDS

apparel, label, signal*, sustainable consumer psychology, sustainable consumer behavior*

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1. Introduction

According to the United States Environmental Protection Agency (nd), of the 17 million tons of clothing and footwear produced in the United States in 2018, 11.3 million tons were landfilled, while only 2.5 million tons were recycled. This is just one example of the negative effects of increasingly rapid fashion cycles. Other examples include poor labor conditions, such as low wages, long hours, and dangerous work environments (Ross & Morgan, 2015). To address these negative effects, a shift in consumer behavior away from fast fashion to a more sustainable form of fashion consumption, or socially responsible fashion consumption, is needed. Socially responsible fashion consumption is defined as the "…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" (Kozlowski et al. , 2018 , p. 195).

It appears that this approach to fashion consumption is becoming more popular, as a recent Cone Communications (2017) study found that 87% of the general population wants to buy a product with a social or environmental benefit. However, consistently noted barriers to socially responsible fashion consumption include a lack of consumer knowledge concerning the ethi-

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cal issues that surround fast fashion apparel (Gupta & Gentry, 2018), lack of awareness about where to obtain accurate information regarding the sustainability of products (James & Montgomery, 2017; Turker & Altuntas, 2014), and lack of ability to judge how sustainable products actually are (Mcneill & Moore, 2015). For these reasons, even if consumers want to engage in socially responsible fashion consumption, many likely do not have the requisite knowledge to do so.

Could providing sustainability labeling on apparel, such as information related to how an item was produced, enhance consumer knowledge and thus positively impact socially responsible fashion consumption? Some prior research suggests the answer is yes (Sustainable Apparel Coalition, 2019). However there is a lack of knowledge about what aspects of sustainability resonate with consumers and why. Moreover, studies have not fully examined the types or methods of communication preferred by consumers, how such communication might impact their apparel consumption decision-making, and whether it would be of benefit for them to know how to consume apparel more sustainably. Thus, the purpose of this study is to address these gaps in the existing literature by using signaling theory to explore such issues from the perspective of consumers. Findings of this study contribute to the literature by using signaling theory to understand how apparel labeling can reduce information asymmetry. In doing so, this study reveals the aspects of sustainability that are important to consumers and why, consumer preferences for receiving sustainability-related signals regarding the production of apparel, as well as how such signals impact apparel consumption decision making.

This paper proceeds as follows. First, the relevant literature is discussed. This discussion is followed by an explanation of the research design. Results of the study are then presented. To conclude, a discussion of the findings, as well as limitations and future avenues of research related to this study, are presented.

2. Literature Review

2.1. Signaling Theory

The crux of signaling theory is reducing information asymmetry, which exists when one party is privy to information that another party might make better decisions with should they have access to it (Spence, 1973). Signaling theory posits that in instances of information asymmetry, the signaler, or the entity with the coveted information, can use signals to communicate information to the receiver, the entity that would like access to the information (Connelly et al., 2010) . 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). For instance, in his seminal work, Spence (1973) explained that in the labor market employers cannot immediately observe a potential employee's quality in terms of productivity when they are considering hiring the employee (Spence, 1973). However, highly productive candidates can signal their quality by obtaining higher education, thus distinguishing them from lower quality candidates (Spence, 1973). Signals are characterized by observability, or the degree to which the signal is noticeable, as well as signal cost, or the costs associated with disseminating the signal (Connelly et al., 2010) . In the previous example, the signal cost is the cost, both in time and money, to obtain an education (Spence, 1973).

Due to the cost of the signal, effective signals result in a separating equilibrium between high quality and low-quality signalers in the market (Spence, 1973). High quality signalers will invest in the signal so long as the benefit 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 (Spence, 1973). Thus, signals create a separating equilibrium in the market between low- and high-quality signalers, enabling the receiver to identify the signaler that will meet their needs (Spence, 1973).

In the context of the present study, information asymmetry exists, as apparel producers have information about their supply chain that consumers would like to have access to as well (Sustainable Apparel Coalition, 2019). Thus, an apparel producer (the signaler)

can use signals to communicate to the consumer (the receiver) about the sustainability of its supply chain. Those apparel producers that communicate apparel sustainability will demonstrate quality to consumers, in that they communicate about positive yet unobservable aspects of their products, while meeting consumer desires for supply chain transparency.

2.2. *Apparel Labeling*

A potential way for apparel producers to signal quality to consumers is to utilize apparel labeling. According to Hilowitz (1997), a label is "information that the manufacturer or marketer of a product provides to the consumer at the point of sale" (p. 216). Ultimately, apparel producers use labels to convey key information regarding their product that enables consumers to make informed decisions regarding their purchases (Hyllegard et al., 2012).

In the United States, per the Federal Trade Commission, textile and apparel products must contain labels that include the following information "…the fiber content, the country of origin, the manufacturer or dealer identity, and the care instructions" (Office of Textiles and Apparel , nd , para. 1). Labels containing this information, which can appear on one or more labels, can be any size, should be attached to the product when the consumer receives it, should be written in English (the addition of other languages is acceptable so long as English is available), and should be "…clearly legible, conspicuous and readily accessible to the consumer" (Federal Trade Commission , 2019 , para. 122).

In addition to the required information, many apparel manufacturers voluntarily provide additional information through labels, such as brand name or product attributes to communicate information regarding the quality and benefits of their product (Baker, 2002). Apparel producers may also voluntarily choose to display other information, such as social labels, on the hangtags of apparel or via garment labels (James & Montgomery, 2017) to "…inform consumers about the social conditions of production in order to assure them that the item or service they are purchasing is produced under equitable working conditions" (Hilowitz , 1997 , p. 216). Social labels, or social labelling, can include labels that promote domestic production, such as "Made in America," eco-labels that inform consumers of the environmental cost or benefit of the product, or labels that communicate that the product was made at fair market prices, such as the Fair Trade label (Hilowitz, 1997). Sustainability labels are also a form of social label that communicate to consumers an item's environmental or ethical factors of production (Grunert et al., 2014). In the context of this study, sustainability labels are a type of social label that inform consumers of a product's social/environmental cost and/or benefit of production.

2.3. *Communicating the Apparel Production Process*

Previous studies indicate that consumers are interested in accessing information about the sustainability of the apparel they purchase (Amed et al., 2019; Ditty, 2020; Sustainable Apparel Coalition, 2019). Preliminary research demonstrates that consumers want to know more about the quality of the materials used in apparel products, the working conditions of apparel laborers, and the effect of apparel production on the environment (Amed et al., 2019; Ditty, 2020; Modi & Zhao, 2021; Sustainable Apparel Coalition, 2019). Initial findings indicate that such information should be concise, easy to understand, and communicated via an index, visual stories, logos, or narratives about how an apparel item was produced and who produced it (Hyllegard et al., 2012; Lee et al., 2020; Li & Leonas, 2021; Ma et al., 2017; Sustainable Apparel Coalition, 2019). In addition, sustainability information can be displayed on hang tags (Hyllegard et al., 2012), brand websites, social media, videos, on product labels, or via QR codes (Sustainable Apparel Coalition, 2019) . Some research also suggests consumers have an interest in the adoption of an industry-wide standard for communicating apparel sustainability (Sustainable Apparel Coalition, 2019) .

Despite this interest, to date, there is no universal label utilized by the apparel industry that communicates to consumers the sustainability of an apparel product. However, the apparel and footwear industry does use an internal system, the Higg Index, which is a product of the now phased-out Eco Index and Nike's Apparel Environmental Design Tool created

by the Sustainable Apparel Coalition (Radhakrishnan, 2014). The Higg Index generates a sustainability score by asking producers a series of questions regarding the social, labor, and environmental costs of their production (Sustainable Apparel Coalition, nd) . This process allows producers to self-evaluate their supply chains, identify places along it that could improve upon sustainability, and compare the sustainability of their products with other brands in the apparel and footwear industries (Kozar et al., 2015; Sustainable Apparel Coalition, nd; Yudina, 2017) .

Yudina (2017) found that consumers are interested in having access to the Higg Index scores, with the majority reporting that they would pay attention to such a score if it was on an apparel hang tag, and that they would pay more for an apparel item should that score increase. Initial research conducted by the Sustainable Apparel Coalition (2019) also found consumer support for an aggregate scale that communicates the sustainability of a brand, such as a 5-point consumer facing Higg Index score scale. Likewise, 65% of participants in a global survey noted that the inclusion of a sustainability score or labeling system would encourage them to purchase sustainable fashion (KPMG, 2019).

2.4. ***Label Information and Consumer Behavior***

The literature regarding whether consumers access and utilize the information provided on apparel labels is mixed, as prior research demonstrates that consumers do read hang tags frequently (Hyllegard et al., 2012) and consult care labels when deciding what apparel to purchase (Feltham & Martin, 2006; Van Der Merwe et al., 2014; Label Consciousness, 2007) . However, other studies conclude the opposite. For example, Iwanow et al. (2005) found that few consumers frequently look at the label of branded apparel prior to purchasing it. Moreover, many forego reading the care label, as they prefer to rely on their previous experience with similar garments (Laitala & Klepp, 2013).

Prior research demonstrates that social labeling affects consumer attitudes, purchase intentions, and the price consumers are willing to pay for products with social labels. For instance, Sharma and Kushwaha (2019) found an indirect relationship between the use of social labels and purchase intention, as such labels influence information communication, which greatly influences consumer knowledge. This knowledge builds trust towards the use of such labels, which, in turn, influences the purchase intention of sustainable goods (Sharma & Kushwaha, 2019). Indeed, other studies revealed a positive relationship between consumer knowledge regarding the unethical effects of apparel production and their purchase intention of socially and environmentally responsible apparel (Blazquez et al., 2020; Li & Leonas, 2021; Okur & Saricam, 2018).

Ma et al. (2017) found a similar indirect relationship between attitude and purchase intention, as labels that are easy to use and useful influenced positive attitudes towards the use of the label. This positive attitude, along with the perceived usefulness of the label, resulted in a greater willingness to purchase a sustainability-labeled apparel product. Additionally, one study determined that consumers have more positive attitudes toward hangtags with prosocial claims than hangtags without such claims (Hyllegard et al., 2012).

A direct relationship between social labeling and purchase intentions has also been identified. 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, Hustvedt et al. (2008) found that, in some cases, consumers were motivated to purchase apparel products when such items were labeled for animal welfare. Byrd and Su (2021) also found that apparel products labeled as environmentally friendly, ethically sourced, produced with 100% cotton or organic result in positive consumer purchase intentions. Likewise, Wang et al. (2022) determined that participants preferred apparel items labeled with sustainability labels, specifically the Fairtrade and Bluesign label, and were hesitant to purchase items without such labels.

The use of social labelling has mixed impacts on the price consumers are willing to pay for items considered to be more sustainable. Prior research demonstrates that consumers are willing to pay more for socially labeled apparel, for apparel that discloses the labor conditions of production, or for apparel labeled

as local, organic, or made without genetically modified material (Hustvedt & Bernard, 2008, 2010; Hyllegard et al., 2012) . However, Prasad et al. (2004) found that as price increased, consumer demand for apparel labeled as having been produced under good working conditions decreased.

While not related to apparel specifically, previous studies demonstrate that the inclusion of sustainability labels affect consumer's purchase intention of food products. For instance, consumers are more likely to purchase canned tuna products that contain a sustainability label, as well as information that allows the consumer to trace and verify the sustainability of the tuna, than tuna products without such labeling (Lee et al., 2020). Interestingly, consumers prefer a sustainability label (i.e., label with unverified sustainability claims) to an eco-label (i.e., label with verified sustainability claims) when purchasing fish, as such labels are considered more familiar and result in an increased willingness to pay (Sigurdsson et al., 2022). Lastly, one prior study found that consumers are influenced to purchase local foods, as opposed to imported equivalents, when exposed to both pictorial and textual point of sale materials regarding the food product's country of origin (Brecic et al., 2021) .

Providing consumers with information regarding the production of apparel also affects consumer's attitudes towards and evaluations of a brand. Apparel advertisements that feature sustainability messages positively influence consumer's corporate social responsibility image (i.e., extent to which the brand is socially responsible), which then positively influences their attitude toward the brand (Lee & Lin, 2021). Likewise, apparel and footwear brands that are more transparent about their production methods benefit from positive consumer brand evaluations, consumer attitudes, and purchase intentions (Bhaduri & Copeland, 2020; Kang & Hustvedt, 2014; Yang & Battocchio, 2021).

Finally, although labels provide consumers with information, there are more than 300 types of labels used on consumer products in general (Case, 2009). This abundance of labeling results in information overload (Horne, 2009), which can lead to confusion (Case, 2009). Furthermore, because there is no unified, single system to vet the labels on products, consumers are hesitant to trust label information (Case, 2009). While technical jargon and confusing symbols, frequently used on labels, may make labels difficult to understand (Van Der Merwe et al., 2014; Evans & Peirson-Smith, 2020), opting for simple presentations may reduce the overall effectiveness of the environmental claims on the label (Horne, 2009).

3. Method

As discussed, the extent to which labels can signal sustainability to the consumer, thereby reducing information asymmetry throughout the apparel consumption cycle, has not been fully examined in the literature. An important initial step is to explore the aspects of sustainability that most resonate with consumers and why, the types or methods of communication preferred most by consumers, and whether it would be of benefit to know how to consume apparel more sustainably. Such information is useful for determining how labels could affect consumer's apparel consumption decision-making. To address the research gaps, an interpretive research design was utilized to explore labels as signals of sustainability. Such a design is preferable when the purpose of the research is exploratory, and more information about a phenomenon is needed (Hodges, 2011).

3.1. ***Data Collection***

Upon receipt of IRB approval from the researchers' university, primary data were collected by utilizing convenience sampling to recruit 20 participants ranging in age from 18 to 59 years old, with the average age of 35. The sample included both males (6) and females (14). As seen in Table 1, participants were Hispanic (15%), Caucasian (55%), Asian (10%), and African American (20%). In-depth interviews were utilized to collect data, as this technique allows for individuals to share how they perceive and understand the topic at hand, in their own words, and as they experience it (Taylor et al., 2015; Willis, 2007). Interviews were conducted in person and by phone and lasted 20-30 minutes on average. The total number of interviews conducted reached saturation when it became clear that additional information would not be gleaned from further inter-

Table 1. Participant Characteristics

Name	Gender	Age	Race	Yearly Expenditure on Clothing
Steve	Male	18	Caucasian	$1,200.00
Jason	Male	30	Caucasian	$300.00
Alex	Male	34	African-American	$350.00
Donald	Male	37	Caucasian	$3,000.00
Jacob	Male	41	African-American	$300.00
Max	Male	48	Caucasian	$350.00
Anna	Female	18	Caucasian	$360.00
Lisa	Female	19	Caucasian	$600.00
Juliet	Female	28	Hispanic	$400.00
Katie	Female	29	African-American	$35.00
Mallory	Female	30	Caucasian	$400.00
Fiona	Female	30	Caucasian	$500.00
Mary	Female	37	African-American	$600.00
Karoline	Female	38	Caucasian	$350.00
Maisie	Female	38	Asian	$160.00
Lynn	Female	38	Asian	$300.00
Rebecca	Female	40	Hispanic	$1,500.00
Stephanie	Female	46	Caucasian	$3,000.00
Madison	Female	48	Caucasian	$650.00
Emily	Female	59	Hispanic	$1,440.00

views (Hodges, 2011).

3.1.1. Participant Characteristics

Prior to the interview, participants were told that, in the context of this study, sustainability refers to consuming and producing items in a manner today that does not infringe upon the ability of future generations to do the same, a concept outlined in the United Nations' Brundtland Report (The Brundtland Report, nd) . Participants were also informed that there are often 3 Ps, or aspects, associated with sustainability: people, profit, and planet, referring to the "triple bottom line" (Elkington , 1998 , p. 70). This information was meant to help participants better understand the broader context of the questions they were being asked.

To ensure a systematic approach and data collection consistency, questions were semi-structured and asked from a predetermined interview guide (Taylor et al., 2015). Interview questions focused on what aspects of sustainability are of interest, how that information should be communicated, to what extent labeling might impact their consumption of apparel, and whether they are interested in increasing sustainability within their apparel consumption behaviors. To facilitate and encourage participant interaction, questions began more broadly (Liamputton, 2011) and included such questions as, What aspects of sustainability matter most to you? Questions then proceeded to address the purpose and research objectives of the study, and included questions such as, Is there any information you would like to know about a piece of clothing when you are considering purchasing it?

To explore the impact of sustainability signals on participants' decision making and purchase intention, participants were also presented with two scenarios. In the first scenario, they were asked to imagine that

they find two identical t-shirts while shopping, except one of the t-shirts has a positive sustainability label on a hang tag that states the shirt was made with little environmental impact and fair treatment of workers, while the other shirt does not have such tag. In the second scenario, participants were again asked to imagine that they find two identical t-shirts, except this time one has a negative sustainability label on a hang tag that says the shirt was made with a high environmental impact and did not treat their workers fairly while the other shirt does not have a tag. In each scenario, participants were asked which of the two shirts they would buy, and how much they would be willing to pay for the shirt they chose. When necessary, probing was used to ensure an accurate understanding of the participants' responses (Taylor et al., 2015). The interviews were audio recorded and transcribed verbatim.

3.2. Data Analysis

The interview transcripts were iteratively analyzed to identify categories of meaning across the data (Spiggle, 1994). First, all transcriptions were open coded, and read to inductively determine themes or categories within each interviews (Spiggle, 1994). The data were then axial coded to identify similarities and differences, as well as categories across the data. The transcripts were then re-read and re-coded to reflect these broader categories. Throughout this iterative process of re-reading and re-coding, emergent themes were defined and redefined to accurately reflect the dimensions of each category, with data being coded, refuted and re-coded by the researchers throughout the process (Spiggle, 1994). Throughout the interpretation process, signaling theory was used as a lens to better understand how apparel labeling can be used to signal sustainability to consumers, and reduce information asymmetry. This systematic, iterative process resulted in an in-depth understanding of the phenomenon, as the data were culled multiple times to fully understand the complexities and identify themes emerging from the data (Spiggle, 1994).

4. Results

Analysis of the data resulted in the identification of three emergent themes related to communicating information about sustainability that were used to structure the interpretation: Its Importance is Relative, Signal Mode vs. Message, and Increasing the Interest Level. Pseudonyms are used in place of actual participant names to maintain confidentiality.

4.1. ***Its Importance is Relative***

Based on participants' responses, apparel producers should incorporate signals that reflect the aspects of sustainability that are most important to consumers. The importance of sustainability aspects depends on the consumer's knowledge of, connection to, and perceived ability to positively impact them. For instance, the majority of participants cited people as the most important of the 3Ps because they have knowledge concerning unethical working conditions. For example, because Juliet has a basic understanding of apparel factory conditions, when she sees clothing, it makes her "…wonder like, who made it, what, under what conditions did they make it, like their treatment, their pay…." Participants also expressed a shared human connection with others, such as Katie, who would not want to wear clothing that was produced in bad working conditions because "…like imagine if I was working there, or if that was my family working there…."

Other participants cited people as the most important because they felt there was something they could do to positively impact that aspect of sustainability, as opposed to the other Ps. For instance, Max cited people as a more important aspect of sustainability than planet because:

The environmental movement, um, the, if you're kind of thinking about consumption in some ways, that's probably a drop in the bucket compared to, like, what could be done through governmental policy, especially for regulating, you know, the commercial interests that really pollute, so it's not quite like, oh, what I do doesn't matter, but I feel like it matters less, whereas I've seen movements about like, I won't buy your stuff if you treated workers this way, um, be successful at times.

Participants with children also more frequently cited people as the most important of the 3Ps. Specifically, such participants were concerned about the use of child labor and treatment of children. For example,

Mary, a mother of two explained, "it just seems like kids are being targeted and every day you read about a new child that's dying, and so, um, today in time, my focus would be more on children and making sure they're being taken care of, have all their needs and everything because you know, they didn't ask to be here, and it's just so sad, everything that's going on today."

Participants who held planet as the most important of the 3Ps seemed to be driven by their knowledge of issues surrounding the planet, and their perceived ability to positively affect the environment. For instance, Jason rationalized why the planet resonates with him the most, "[t]he science is showing that it [the environment] is deteriorating much faster than we initially suspected and I think it also is something that is very closely tied to, like, personal agency…like they're small ways that individuals can take action that decrease their negative impact on the environment."

Overwhelmingly, participants cite profit as the least important of the 3Ps, as many believe businesses take advantage of both workers and the environment in order to make a profit. For example, Josephine stated: "[p]rofit…overshadows people, you forget that they're humans working there for you or you know, doing all these jobs or whatever and they kind of get put on the back burner along with planet….because we're just people, and companies…[are] just looking at how much money [they] can make."

4.2. ***Signal Mode vs. Message***

Participants agreed that the best mode to signal aspects of sustainability is to use garment labeling, especially if this information was next to the price tag "…because like you always check the price, right, and if there's a label next to the price tag that talked about sustainability…I'd, I would look at that, you know...that would catch my attention" (Steve). Alternatively, some participants would like sustainability information to be signaled via labels printed on the inside of apparel so it could not be removed, manipulated, and so "…you won't have to add more stuff to the landfill" (Juliet).

To attract attention to sustainability-related signals, "…a sense of intrigue needs to be sparked" (Mallory). One manner by which to captivate attention could be to provide "…a person's story, of the person who actually made it" (Fiona). Mallory agreed and said that some consumers would "spend big money for a little story on a shirt." Alternatively, Lynn explained that in-store signage would be useful and could include "…some kind of visual, kind of pictures…using virtual technology…so [you] can see how the garment is created from like, you know, raw material and through the, all the manufacturing."

Overall, participants were in favor of a sustainability index that could signal how sustainable an apparel item was on a scale, so long as it was easy to understand the scale. Some indicated that the scale and what it represents would have to "…be something that everyone knows…and [that] doesn't take extra brainpower" (Mallory). Madison explained that, if an index was to be used, it should be accompanied by "…some sort of um, general signage or education, you know, about what each of those numbers mean would be helpful…I think having, having a system where it was, you know, understood that you have to meet these criteria to be a number four, or these criteria to meet a number three, I think that would be helpful." Other options that participants suggested, although mentioned less frequently, included using websites, QR codes, or social media as modes of communicating an apparel item's sustainability.

Reflecting signaling theory's tenet that observable signals are more effective, participants explained that sustainability signals on apparel should be easily accessible as they are not "…gonna sit there and Google a brand" (Juliet) to determine its sustainability. Having information readily available would benefit consumers, as they could "…pick up a shirt and be like 'Oh, hey, look, this was made like this, they were paid this, and it's in this country'...if the information is made available to me, I'm gonna read it" (Juliet).

It was emphasized that the signals should also be concise so that it does not overwhelm consumers, because, as Fiona pointed out, "…if there's like a paragraph of fine print, I'm not reading that and no one's going to read that, and I actually care, people who don't care are absolutely not going to read that." Moreover, Mallory explained that sustainability information should

be easy to understand because

…people don't understand like basic terminology…so when you're talking about sustainability…it's a buzzword…you hear these buzzwords all the time, and that's the danger of like, companies like throwing these words out because people aren't familiar with them and they think they understand what they mean, but they really have no idea.

Ultimately, participants emphasized clarity and conciseness and information that is easy to understand. Max even went so far as saying that the label makers should "…really dumb that [information] down for me…make it easy for me to figure out, um, you know what, what this means."

Interestingly, though participants noted the need for sustainability signals to be simplistic, they also wanted the message to be detailed. For instance, participants were interested in knowing whether the production of apparel includes the use of child labor and other aspects of the garment's supply chain, including the sources of raw materials and where the item was produced. To be able to avoid supporting products made in countries with unsafe working conditions, they indicated it would be helpful to have information related to working conditions, including how many hours it took to make the garment and how manually taxing the labor was. They also wanted information related to the materials that were used in the garment and how those materials impact the environment.

Some expressed a desire to not only know the above information, but also how or why this information matters. As Donald stated "[y]ou have to tell me why, why the clothing would be good or bad and if it hurts people. I need, I need to know what's going on with it." More specifically, as Fiona put it, "I want to know their story. I want to know who it's helping and how it's helping. So how is it helping the business? How is it helping the individual? How is it helping the planet?" And, when it comes to environmental impact, even though there are labels on garments that reflect the material composition of a garment, there is doubt whether "…people anymore really understand what's, you know, chemical, versus organic material. And perhaps something to that effect needs to be made available" (Madison). In sum, these participants think that sustainability signals should include how the information is relevant from a big picture point of view.

Trust was brought up by many of the participants. That is, in order to believe sustainability signals, participants emphasized the need for such signals to come from a trusted, valid source whose methods for evaluating an apparel item's sustainability is publicly available. Further, participants expressed cynicism regarding whether the apparel industry would voluntarily disclose the production details of their supply chains, because companies are not "…going to buy into that, it's going to be…[a] case by case scenario, like each brand by each brand" (Fiona) and particularly when it comes to negative information. Max questioned how it would be possible to "…compel people to put that on their product?" These sentiments reflect the transaction costs of signaling theory, as those companies with unsustainable supply chains may avoid using signals to communicate sustainability information, as they would have to invest more resources into their supply chain to ensure the information was positive rather than negative.

Last, participants indicated the desire for signals to enable them to quickly understand how sustainable an apparel item is and without much thought. One way to achieve this would be the creation and use of a universally recognized logo. As Karoline explained, "…if people are shopping quickly and they don't have time to read a life story about someone, but they can see okay, like here's this logo…and I know that this is, I can feel good about buying this thing." Another alternative to quickly and easily communicate sustainability would be to use a scale or to use different colors, such as "…green for example, everyone associates that with environmental sustainability, so if there's some kind of green marker that shows that this product meets certain criteria, or you know if red means that it doesn't meet it, so maybe red means like it uses child labor…" (Jason).

Participants also suggested that providing sustainability signals via sustainability labeling would play a positive role relative to their intentions to purchase. In

the first scenario in which participants were asked to choose between a t-shirt that has a positive sustainability label on a hangtag and one that has no hangtag, overwhelmingly, participants chose the shirt with the hangtag. Max explained his reasoning as "…not only would it be a good thing to do, but also like I would probably feel virtuous about myself…I would have done good and I would have felt good about myself for doing good." In the second scenario, wherein participants were asked to choose between a t-shirt that has a negative sustainability label on a hangtag or a shirt does not have a tag, most participants chose the shirt without the tag as they "…would never buy the one that was telling me I was like explicitly doing evil" (Max) or because "[n]o hang tag is unknown, but if I knew something was bad, I wouldn't buy it" (Stephanie). Some participants responded that they would opt to not buy either shirt due to a general lack of information. As Rebecca explained, "…it's a hard decision because one is going to totally hurt and [the] other one, it doesn't say, so I [will] not buy any of those because I don't want to take the risk."

In any case, for most participants, information led them to choose apparel that was produced more sustainably, even if it meant they would have to pay a modest increase in price, such as $5 or $10 more, as doing so would make them feel better about themselves. As Max put it, "…the value of one more t-shirt is not that significant to me, but the value of saying like 'Oh, I did something really terrible,' uh yeah, that would weigh heavily on me." Similarly, Anna would pay more for a sustainably labeled shirt because "…the price of feeling better about it would like cover [the increase in price]."

4.3. ***Increasing the Interest Level***

All participants expressed a desire for apparel producers to signal more information regarding their sustainability efforts, as they would like "…having knowledge of what companies are doing before investing [their] money into them" (Juliet). Other participants, like Steve "…like the idea of like a tag or something talking about sustainability. It's definitely a step forward than before. Because a lot of people, including me, are ignorant about [the] sustainability of our clothing."

Participants were not only interested in knowing about the production of their apparel, but also ways by which they could increase the sustainability of their apparel by having suggestions communicated to them regarding how to sustainably maintain, repair, or dispose of their apparel. Overwhelmingly, participants were most in favor of knowing ways by which their apparel, especially a surplus of apparel or apparel that is beyond use, could be disposed of in a sustainable manner. Mallory provided an example "…when [jeans] reach the end of [the] lifecycle…I don't really want to throw them away. My only option is to goodwill them…but…I don't think people would want these jeans because they have holes in them, not in the correct places."

Participants stated that increased consumer interest in sustainability could be achieved by printing information on the inside of apparel because "…you can keep looking at it if you forget" (Anna), you "…don't have to go search for the information" (Stephanie) or if "…you're going to end up passing it on to someone else, that person can know too" (Lisa). However, a hangtag or label might also suffice, as the continued exposure to such signals could result in its importance becoming more ingrained in the minds of consumers. That is, Steve explained that if such labels were "…on like every shirt that I purchase, and then I see that tag, and I see there's information on it, then I'll probably end up just off the bat, know what to do with it." Presenting such information online, either on a company's website, or a universal site dedicated to consumer information, was also an option frequently mentioned by participants to increase overall interest in socially responsible apparel consumption.

5. Discussion

Prior research demonstrates that consumers are interested in socially responsible apparel consumption, however both a lack of consumer knowledge about sustainability and a lack of awareness of where to find sustainability information prevent them from making informed decisions. As such, information asymmetry exists in the apparel industry, as consumers want access to information concerning the apparel supply chain. However, producers are reluctant to

communicate such information (Sustainable Apparel Coalition, 2019). Using signaling theory, this study offers preliminary findings that suggest ways in which apparel producers can overcome information asymmetry by using apparel labeling to signal sustainability. Although past studies have revealed consumer interest in knowing more about the apparel supply chain, and a basic understanding of how this information might best be communicated to consumers, the present study builds upon such findings. Specifically, it explores how apparel producers could use labels to highlight the aspects of sustainability that most resonate with consumers and why, as well as the types of messages and modes of signaling they prefer in order to reduce information asymmetry.

According to the participants in this study, sustainability labels should communicate the impact of apparel production on people and the planet, as these aspects are considered the most important of the 3Ps. Many participants considered people as the most important factor because they have some knowledge of instances where unethical working conditions have been revealed by the media, as well as a shared human connection with others, and they feel they possess an ability to improve working conditions by boycotting unethical production practices. Those participants with children also more frequently cited people as the most important of the 3Ps due to their concerns about the use of child labor. Other participants cited planet as most important due to their awareness of environmental issues, concern about the earth's longevity, and belief that they could positively impact the environment by consuming in environmentally friendly ways. Understanding which aspects of sustainability to highlight via signals could improve upon their effectiveness. That is, indicating the impact that a garment's production had on people or the planet may help to capture consumer attention.

Participants thought that the best mode to signal the sustainability of apparel is through garment labeling, with many participants preferring such labels to be printed on the inside of apparel so the label is non-removable and is not materially wasteful. Participants noted that providing sustainability labels on garments would play a positive role relative to their intentions to purchase sustainable apparel. This finding supports those of prior studies (Blazquez et al., 2020; Dickson, 2001; Hustvedt & Bernard, 2008; Hyllegard et al., 2012; Li & Leonas, 2021; Okur & Saricam, 2018) and was likely reported because inclusion of this information would allow participants to choose apparel that is produced more sustainably, even if it means they have to pay a modestly higher price. Going beyond the findings of previous studies, participants in the present study explained that, in addition to sustainability labels, there should also be in-store signage or store areas dedicated to sustainably produced apparel. Such signals could increase awareness and intention with regard to socially responsible apparel consumption.

Similar to the findings of such prior studies as Baker (2002), Li and Leonas (2021), Ma et al. (2017), and Van Der Merwe et al. (2014), participants of the present study noted that sustainability signals would more likely appeal to consumers if the messages came from a trusted source, are easily accessible, impactful and detailed, yet simplistic. For the participants of this study, messages on sustainability labels should also communicate whether production involved the use of child labor, where the item was produced, the working conditions, and the materials used, which support findings by the (Sustainable Apparel Coalition, 2019) .

However, this study expands upon previous studies, in that participants were clear that they not only wanted to know how an apparel item was produced, but also why this information matters. As such, the effectiveness of sustainability signals could be improved upon if the label not only communicates an apparel item's sustainability in a meaningful and clear way, but also explains the relevance of such information. Likewise, overall, participants were in favor of a sustainability label that features an index that represents how sustainable an apparel item is, as long as it is easy to understand what the index means for them. This issue reinforces the findings of Yudina (2017) on the utility of a sustainability index. However, it also extends Yudina (2017) by pointing to the need for clearly articulating the relevance of the index to consumers. By provid-

ing sustainability information, information asymmetry involving the apparel production process is reduced, allowing consumers to become more knowledgeable about the social and environmental impacts of their decisions and therefore, better prepared to engage in socially responsible apparel consumption.

Last, while consumers have expressed a desire to know more about apparel production practices and the overall supply chain (Sustainable Apparel Coalition, 2019) , participants of this study noted that sustainability labels should also include information about ways that consumers can increase the sustainability of apparel by reducing consumption costs. Specifically, participants expressed an interest in learning the best means of disposing of their used clothing, especially clothing that is no longer wearable. Participants felt that such labels should be printed on the inside of apparel so they could refer to the information thereon in the future, or so others who inherit the apparel would know what to do with the item following its useful life. There was also support for sustainability labels to be affixed to hangtags, as even if these tags or labels are taken off, over time and with exposure to such information, consumers would be in a better position to make informed consumption decisions.

Findings of this study expand upon signaling theory by demonstrating that apparel firms can utilize apparel labeling to communicate details of their supply chains to consumers. Such findings initially suggest that apparel labeling can reduce information asymmetry, thus encouraging sustainable apparel consumption during acquisition (i.e., decision making and purchase) and disposal (i.e., recycling, repairing, and/or upcycling). In doing so, apparel producers can use labeling to signal their quality to consumers by meeting their need for apparel production transparency, thus differentiating their brands from competitors who do not utilize such signals.

This study is somewhat limited by its small sample size, preventing the findings from being generalizable to a larger population. Because data were derived via an interpretive approach with a small sample size, findings are exploratory. Thus, future research should incorporate experimental and/or cross-sectional designs with larger, more varied samples to investigate consumer preference for apparel sustainability labels on garment hangtags that are clear and concise, while also communicating detailed aspects of an item's environmental and social cost of production. This study's findings are also limited in that the focus was on examining sustainability signals from the consumer's perspective.

More research is needed to better understand how apparel producers, brands and retailers feel about signaling sustainability via labeling. What barriers do these stakeholders face to sustainability labeling, and what is needed to help them overcome such barriers? By exploring these avenues, a comprehensive understanding of how to implement sustainability labeling across the apparel industry could be developed. Additionally, more research regarding how sustainability labels affect stakeholders across the apparel supply chain is needed. For example, while sustainability labels may encourage socially responsible apparel consumption behavior, an increase in this behavior may inadvertently negatively affect some shareholders along the apparel supply chain, especially those that do not engage in sustainable production practices. Conducting more research into the potential impact of sustainability labels 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.

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