Enable through the label

A quantitative study with an experimental design testing the effects of priming through a sustainability message on the front page and nudging through two types of sustainability labels on customer behavior, attitude and intentions.

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Abstract

Sustainability within fashion retailing is a subject attracting increasing attention and the clothing industry has a large environmental and social impact. Several online fashion retailers have adopted sustainability labels in their assortments in order to meet the new demands and impact the customer behavior. However, there is a lack of existing research on the topic. This thesis aims to reduce the gap between literature and practice among online fashion retailers when it comes to sustainability labeling, and it also investigates how retailers can prime the customer into a more sustainable consumption behavior. Through a quantitative study with an experimental design the effects of priming through a sustainability message on the front page and nudging through two types of sustainability labels were tested. The first label used the approach common among online retailers today with the mere text "Sustainability" and the second label included a scale in addition to the text "Sustainability" for more detailed information. The thesis builds on behavioral theories such as nudging and priming theory. The findings indicated that a sustainability message on the front page was too weak a prime to impact customer behavior and attitudes. The sustainability labels were on the other hand found to make customers choose sustainable products to a greater extent. No significant difference was found in the effects between the two different labels on customer behavior and attitudes. The study found evidence that customers choosing a more sustainable option had a significantly higher product attitude as well as higher repurchase and word-of-mouth intentions. Therefore, it is important for retailers to enable customers to choose a more sustainable product to increase sustainable consumption and incentivize an accelerated change within the industry.

Key Words: Sustainability Labels, Priming, Nudging, Online Fashion Retailing, Sustainable Consumption

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1. Introduction & problem formulation

The earth's climate is rapidly changing, and the last decade has been the warmest in human history (World Meteorological Organization, 2020). There is an urgent need for climate change to slow down. Our consumption and production of goods are a danger to the environment due to its destructive impact on the planet and because of the urgency of this issue the United Nations (UN) has formed the UN Sustainable Development Goals (SDG), where goal twelve is sustainable consumption and production (United Nations, n.d).

Today, we are consuming more clothes than ever before. In just a few decades, clothing consumption has increased by 40%, resulting in the fashion industry accounting for 2-10% of the environmental impact of EU's consumption (Šajn, 2019). This impact is the number for the EU, where the majority of goods are imported from other continents. The apparel industry is therefore a large villain when it comes to climate change, and work within sustainability requires rapid improvement for the well-being of our planet.

Sustainability has become an overarching term across multiple industries to capture the impact a product, process or operation has on our planet. The myriad of aspects that can be included in the term makes it difficult for customers to understand sustainability in the fashion industry where a product cycle can span over multiple industries, geographies and economies. One of the most common views of sustainability is the triple bottom line which divides sustainability into three themes: the environmental, social and economic impact. (Islam et al., 2020). Sustainability thereby includes all levels of a business's operations, with examples from fashion including waste reduction and reduced water usage in the production, energy consumption and greenhouse gas emissions across the supply chain, as well as fair working conditions and consumer usage (Sojin & Byoungho, 2014). Sustainable consumption focuses on how fashion is consumed and includes purchase, usage and recycling behavior of consumers (Liu et al., 2010; Ruppert-Stroescu et al., 2015).

Even though many fashion customers are interested in sustainability, research has shown that environmental concerns do not always result in an environmentally friendly consumer behavior (Nguyen et al., 2019; Roberts, 1996). In a fashion context, this is particularly true as the importance of creating an identity through clothing and the desire to be fashionable can

override the desire to behave sustainably (McNeill & Moore, 2015). Additionally, Grazzini et al. (2021) argue that sustainable consumption within fashion is an under researched area where previous work often has had contradicting results.

Other industries have come further in the endeavor to increase sustainable consumption. Both policies and different labels are being developed to influence and make it easier for customers to make an informed choice. For example, the consumer packaged goods (CPG) industry has multiple established sustainability labels that are being used to communicate how an item is produced and under what working conditions, for example KRAV and Fair Trade are two well-known labels in Swedish grocery retailing (ICA Sverige, n.d.; Naturskyddsföreningen, n.d.). Household appliances is another example where labeling is used extensively (Langley et al., 2012) and governmental policies are starting to use nudges to increase sustainable choices (Lehner et al., 2016). Within these areas there are multiple research streams looking at aspects such as the recognition levels, impact on attitudes, intentions and choice propensities (Grunert et al., 2014). However, little exists on labeling of fashion items or how to increase the purchases of more sustainable garments. According to an EU research report on ecolabeling, about half of the respondents stated that ecolabels play an important role in their purchase decision (Eurobarometer, 2009).

However, even though there are no widely agreed upon label, several retailers are adopting sustainability labels which are similar to one another in their web shops. Sustainability labels common in other industries, such as Svanen, Krav or EU Ecolabel, are not widely used by online retailers today on the product scrolling page. Large retailers such as H&M, Zalando and NA-KD are only a few examples of retailers implementing their own sustainability labels on the product scrolling page to indicate which items are more sustainable. Examples of what these labels look like are provided in the image below (Image 1). The examples are typical for what sustainability labeling looks like today; a label with a small text pointing out that the garment is sustainable. Even though the practice of labeling is starting to proliferate among fashion retailers as a response to consumer demand, little is known of how to do it efficiently and without further confusing or overwhelming the customer (Arnett, 2019). Hence, there is a gap between industry practice and sustainability label research. This unresolved issue results in the opportunity to investigate how fashion retailers should handle sustainability labels and if there are ways of presenting the sustainability label in a more effective way. Furthermore,

retailers are increasing their sustainability communication, where the online store front page is a communication channel many customers encounter.

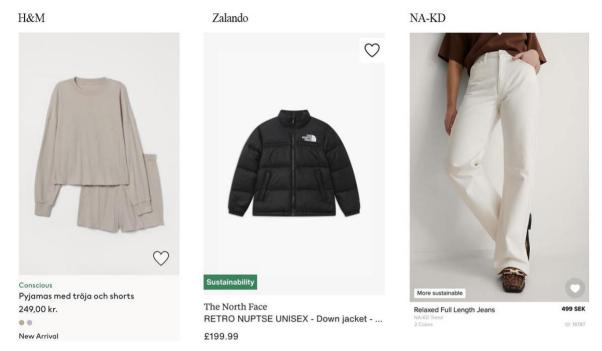


Image 1. The image shows examples of what sustainability labeling can look like at online retailers. The examples come from H&M.com, Zalando.co.uk and na-kd.com.

This study aims to reduce the gap between literature and practice among fashion retailers when it comes to nudging customers through sustainability labeling. Furthermore, it investigates the impact of sustainability messaging on the online store front page. The study focuses on the prepurchase and purchase stage, and how customers can be primed and nudged into making more sustainable purchase decisions in an e-commerce setting. The purpose of this thesis is to shed light on whether the current practices of online fashion retailers increase customers' propensity to choose a more sustainable garment or not. More specifically this thesis aims to understand the potential impact of sustainability messaging in the online store, both on the front page and through sustainability labels on the product scrolling page. Thereby an increased understanding of how to accelerate sustainable consumption within online fashion through nudging and priming tactics could be reached, potentially assisting in reaching the twelfth UN SDG (United Nations, n.d).

This results in the following problem formulations which this thesis aims to solve:

How does priming of a sustainability message and nudging through a sustainability label impact customer behavior, attitude and intentions?

Which role does customer's sustainability concern have and are the commonly used sustainability labels effective?

1.1 Delimitations

The study is delimited to the Swedish market, measuring the effects of sustainability labels and sustainability messages within fashion retailing. The study was delimited to an e-commerce setting, with the looks and feel of an online marketplace. Further delimitations include the study considering effects stemming from the front page and the product scrolling page. This was chosen both to delineate the research but also since this is where labeling is most prominent and increasing in fashion retailing today. Furthermore, online retailing is rapidly growing and has been further boosted in 2020 by the COVID-19 pandemic. According to *E-barometern* (2020), e-commerce in fashion retailing has grown by 16% during 2020, and now represents 30% of the total sales in Swedish fashion retailing. The lack of research and increasing use of sustainability labels further argues for the study's relevance.

1.2 Expected contribution to literature & practice

By looking at the effects of sustainability priming and nudging in an online setting, this thesis aims to contribute with insights into the potential benefits online retailers can expect from such practices. This thesis also aims to further the research in nudge and priming theory, more specifically nudging and priming to create more sustainable customer behavior. The contribution is relevant for both practitioners and researchers interested in improving the prerequisites for customers to make better choices with less effort. Additionally, it can assist in understanding how to increase sustainable consumption to further incentivize the development of sustainable products. Furthermore, the thesis opens the door to investigating sustainability labels in online fashion retailing and sustainability priming which enables future research on the subject.

2. Theory & Hypotheses Development

The following section includes relevant previous research that has formed the basis of our hypotheses. The hypotheses are presented in the order in which the experiment participants encountered stimuli and answered subsequent questions.

2.1 Priming through the web shop front page

The shopping journey describes the customer's path to purchase and beyond. It is generally described as the customer going through the stages of problem recognition, information search, evaluation of alternatives, product choice and post purchase evaluation (Nordfält & Ahlbom, 2018; Hall & Towers 2017). However, it can be discussed whether these steps are performed in a linear manner or not in today's changing retail landscape (Hall & Towers, 2017). According to Lemon & Verhoef (2016) the shopping journey and experience is typically divided into three stages: pre-purchase, purchase and post-purchase. Our study focuses on the pre-purchase and purchase stages. The pre-purchase stage includes the interaction with the retailer prior to purchase and includes the brand, category and environmental experiences while the purchase stage is where the actual purchase decision and transaction is made (Lemon & Verhoef, 2016). Through shopper marketing, a retailer can influence triggers along the entire shopping cycle, which can result in significant changes in shopper attitude and behavior (Shankar et al., 2011). Therefore, both sustainability labels and the front-page messaging can be considered as shopper marketing activities in the pre-purchase and purchase stage.

The customer experience is multidimensional and focuses on the cognitive, emotional, social, sensorial and behavioral responses of the customer during the purchase journey (Shankar et al., 2011). Hence, the brain and its functions are a central part of shopper marketing. The human short-term memory and ability to consciously process incoming information is limited (Nordfält & Ahlbom, 2018). This means that human decisions are influenced by both internally stored information and externally retrieved information (Squire, 2004; Nordfält & Ahlbom, 2018).

Priming is a technique often used by retailers trying to influence the customer behavior and attitudes (Åkestam et al., 2017). It is a memory structure whereby cues and stimuli can activate thoughts of related things subsequently (Squire, 2004). Priming effects can therefore impact

behavior through an unconscious reactivation of systems developed from past experiences (Schacter & Buckner, 1998). Even though consumers are increasingly concerned with environmental and social issues, only 7% of consumers in 2019 reported that sustainability is a key purchasing criteria (Lehman et al., 2019). However, research has shown that priming environmental goals and values increases the choice of more environmentally friendly options (Tate et al., 2014). Thereby the message on the front page could act as a prime, reactivating internally stored information regarding sustainable consumption behavior, and thereby increase the salience of such goals at the pre-purchase and purchase stage. For a company trying to impact the customer's purchase behavior towards a more sustainable one, this is a relatively easy and affordable effort to make.

To investigate whether a sustainability message on the front page of the web shop is an effective way to impact customer behavior, it is hypothesized that:

H1a: A front page communicating a sustainability message makes the customer choose sustainable products to a greater extent than customers not being exposed to a sustainability message on the front page.

Marketing communications are important tools for building brand equity which in turn impacts the customer's response to and expectations of a brand (Keller, 1993; Keller & Lehmann, 2009). The growing sustainability focus has increased the awareness of supply chain issues and environmental impact of fashion companies. As such, there have also been issues with greenwashing, whereby a company communicates that their operations are better from a sustainability perspective than they merit. This practice has had negative effects on both consumers' and investors' trust and attitudes (Delmas & Burbano, 2011) which could reduce the potential effects of sustainability messaging on the front page.

Furthermore, the COVID-19 pandemic has made customers even more concerned about sustainability (Granskog et al., 2020). Two-thirds of consumers surveyed in a study by Granskog et al. (2020) claimed that limiting the effects on climate change is even more important after the pandemic. In response fashion companies are ramping up their communication with regards to sustainability, in virtually all of their communication channels including the online store's front page. Arguably the presence of a sustainability message on the retailer's front page should therefore be seen as a marketing communications tool which

according to Keller (2010) could result in a direct effect on customer's perceived sustainability of the brand.

Sustainability communication in the online store could also evoke halo effects, making the customer perceive the retailer to both be and offer more sustainable products. The halo effect means that customers infer positive product attributes from other attributes perceived to be related, it is a sort of heuristic used to reduce information processing efforts (Söderlund & Mattson, 2020). Research on organic food products has found halo effects whereby customers inferred that organically labeled items are more environmentally friendly and of better quality (Larceneux et al., 2012). If halo effects occur when communicating about sustainability, higher retailer and product satisfaction could be a result. This, as the retailer alignment with customer expectations of firms increasing their offering of more sustainable assortments would be improved. If this is the case, it would be an easy and affordable way for retailers to impact customer attitudes. Hence, it is hypothesized that:

H1b: Customers exposed to a sustainability message on the front page perceive the retailer as more sustainable in comparison to customers not exposed to a sustainability message on the front page.

H1c: Customers exposed to a sustainability message on the front page have a more positive attitude towards the store in comparison to customers not exposed to a sustainability message on the front page.

H1d: Customers exposed to a sustainability message on the front page have a more positive attitude towards the chosen product in comparison to customers not exposed to a sustainability message on the front page.

2.2 Nudging with sustainability labels on the scrolling page

There are a lot of barriers towards purchasing sustainable clothing. The low availability of environmentally preferable apparel is a barrier hindering customers from acting sustainably in a fashion context (Connell, 2010). High availability of sustainable products has also been shown to act as a moderating factor that reduces the intention-behavior gap for consumers who have the intention of consuming green products (Nguyen et al., 2019). Knowledge is another

barrier, which Connell (2010) suggests retailers to reduce through informing the customer about the product attributes, for example through product labeling. By providing sustainable options together with information regarding the sustainability level of an item, the barrier towards purchasing sustainable fashion apparel should therefore be lowered and the intention-behavior gap reduced.

Contradictory to the notion of the lack of available sustainable products being one of the barriers towards sustainable consumption, there are studies proving that the mere provision of sustainable options does not drive the necessary changes in customer's purchase behavior for a more sustainable future (Harris et al., 2016). According to Harris et al. (2016) a reason for this is the lack of knowledge and understanding regarding sustainability in fashion retailing due to its inherent complexity. Furthermore, a key priority in the decision hierarchy of apparel consumption still is aesthetics (Harris et al., 2016).

Retailers can practice nudging as an attempt to direct peoples' behavior in a desirable way without removing any choice options (Sunstein, 2014). This means that nudging strategies are developed targeting the choice architecture, where a choice architecture refers to the way the environment impacts choices and how alterations in the decision environment impacts decisions and behaviors (Thaler & Sunstein, 2008). Nudges have because of their reported impact on behavior and preservation of the individual choice become popular and deemed as a relevant tool within sustainability to counteract the temporal effects often hindering behavioral change (White et al., 2019). Labeling items according to their sustainability impact already on the scrolling page therefore impacts the choice architecture. The label provides the customer with sustainability information already when forming the consideration set and could thereby impact subsequent purchase decisions.

Common nudging tactics employed to shift towards more sustainable consumption often include simplification, information provision, default options and increase in ease and convenience (Lehner et al., 2016; Sunstein, 2014; White et al., 2019). Sustainability labels provide the customer with information and also make it easier for the customer to determine which items are produced in a more sustainable way. As such, the use of sustainability labels on products can be considered as nudging, since the choice architecture is altered but without options being removed.

As earlier mentioned, it is becoming more common to present the sustainability impact of a garment through labeling among fashion retailers. In order to investigate if sustainability labels are an effective nudge towards more sustainable fashion consumption, it is hypothesized that:

H2a: Customers exposed to a sustainability label make a more sustainable product choice.

Retailers who have a sustainable assortment and distribution get better customer attitudes, including higher store evaluations and word-of-mouth (WoM) intentions, in comparison to retailers not offering sustainable assortments and distribution (Hofenk et al., 2019). Sustainability labels inform the customer about the sustainability level of the assortment and thereby creates the opportunity to purchase a sustainable product. Many consumers want to limit their effects on climate change (Granskog et al., 2020). Hence, to test whether informing the customer about an item's sustainability level through sustainability labels and thereby giving them the opportunity to purchase a sustainable product results in more positive store attitudes, it is hypothesized that:

H2b: Customers given the opportunity to choose a more sustainable product have a more positive attitude towards the retailer in comparison to customers not given the opportunity to choose a more sustainable product.

A construct which is used in various disciplines to describe behavior are social norms (Morris et al., 2015). According to Farrow et al. (2017) a synthesized common understanding of social norms is that they are used to describe commonly accepted rules and expectations of how to behave. Accordingly, social norms are enforced by the community and should be separated from personal norms and habits (Elster, 1989).

Personal norms differ from social norms by the fact that personal norms are what the self considers appropriate, and a further distinction is that following social norms depends to a greater extent on contextual factors (Farrow et al., 2017). Personal norms on the contrary guide behavior to express personal values and can be enforced to display belonging to a social group according to the social identity theory (Morris et al., 2015). Personal norms can be activated by the concern of how one's purchase behavior is perceived socially in terms of sustainability (Antonetti & Maklan, 2014). In many cases it has been found that personal norms are stronger

predictors of sustainable choice behavior, and it is also argued that norms are not static but evolve over time and as such can be important in achieving sustainable consumer behavior (Gunnarsson, 2020).

In terms of achieving sustainable behavioral changes, Zorell (2020) found that it may be more challenging to change in settings where behavioral imitation and social contagion may occur. Thus, the mere presence of a norm may not be enough to predict behavior. Social contagion and behavior imitation tactics can be used by online retailers by communicating the number of customers looking at an item, providing information about most popular items or through other types of messages communicating others behavior. On the contrary Hamilton & Terblanche-Smit (2018) found evidence that a higher perceived pressure and expectations from the surroundings resulted in a heightened intention to purchase a more sustainable vehicle. It is thus argued that sustainability labels can evoke thoughts about perceived social norms and/or personal norms related to sustainability, and thereby make people choose a more sustainable option.

Sustainability labels provide customers with the opportunity to act and behave more sustainably. There is a widespread positive attitude to behave sustainably in Sweden (Givetash & Banic, 2020; Gullers Grupp, 2018), which suggests that this is becoming a social norm. People may perceive themselves to be more or less concerned with sustainability and thereby identify themselves with other people having similar attitudes towards sustainability. Both nudge theory and social identity theory posits that a strong feeling of group belonging strengthens group norms which in turn make people more likely to behave accordingly (Dang et al., 2020). Information provided related to sustainability in a purchase situation should therefore, according to priming- and nudge theory, make such norms more prominent and impact subsequent behavior.

According to the motivation-opportunity-ability model (MOA), a person must have all three factors fulfilled for a behavioral intention to be formed (Macinnis & Jaworski, 1989). Motivation can be derived from for example personal norms or social pressures to act sustainably. Opportunity to behave sustainably can be hindered by for example the lack of information about a product's sustainability impact. Ability are the resources that a person has at their disposal to act in a certain way (Macinnis & Jaworski, 1989). People may have the motivation to act sustainably but without transparent information about a product's

sustainability impact, they lack both the opportunity and ability to do so. Thus, sustainability labels provide customers with the opportunity to act according to the motivation as well as evoke thoughts of perceived norms, suggesting that labels should increase the choice of more sustainable options.

As personal norms are stronger predictors of behavior than social norms, it is further hypothesized that:

H3a: Customers more concerned with sustainability are more likely to choose a more sustainable option than those less concerned.

Constantly being exposed to new information may increase the risk for customers to perceive the amount of information as a burden to process. The sustainability information provided by a label adds information for the customer to process. Hence, the cognitive efforts required when making a purchase decision increases, which might overwhelm the customer (Ma et al., 2017; Ritch, 2015). The complexity of sustainability also means that labels need to be designed with the customer in mind in order to make them understandable (Langley et al., 2012). Therefore, it is important that sustainability labels are concise and easy to understand. In a study investigating sustainability labels on apparel products by Ma et al. (2017), it was found that even though a customer has never used a sustainability label before, they are equally as likely as a customer who have used it before to adopt the label if it is comprehensible and considered as useful. The perceived usefulness of the label has also been found to be the most important aspect impacting the attitude towards using a label and also impacting the purchase intention of the apparel (Ma et al., 2017). Cho & Berry (2019) who made a study on labeling on laundry detergent and sanitizing wipes, suggest that in the past, there often has been a dichotomous distinction between sustainable and unsustainable products and suggests that a scaled label would provide the customer with more information. They found that a scale assisted the customer in assessing the sustainability performance of an item more easily which led to more positive product evaluations and higher behavioral intentions among those concerned with sustainability (Cho & Berry 2019). Tung et al. (2017) found that more environmentally conscious consumers are more likely to have a heightened involvement with more sustainable apparel. Furthermore, customers with a high involvement search for information to a greater extent (Hourigan & Bougoure, 2012). This could mean that customers that are more concerned with sustainability are more likely to process more detailed information provided by a scaled sustainability label. Retailers are adopting aesthetically different types of sustainability labels, but it is uncommon to incorporate more information than a sustainability symbol or text. In order to investigate whether a scaled sustainability label is perceived as more useful in fashion retailing as well, it is hypothesized that:

H3b: A scaled sustainability label is perceived as more useful than an unscaled sustainability label by those more concerned with sustainability.

Cognitive dissonance theory posits that when an individual acts against their beliefs or values, or holds incompatible beliefs, psychological discomfort arises (Festinger, 1957). Dissonance is felt most strongly when a self-cognition or behavior goes against the self-concept (Gregory-Smith et al., 2013). When experiencing cognitive dissonance, an individual will attempt to relieve the feeling of discomfort through tactics like changing one's cognitions, reducing the importance of a choice, changing behavior or by looking for new information to justify the behavior (Park et al., 2015; Sharifi & Esfidani, 2013). Acting according to one's beliefs and values reduces the cognitive dissonance experienced by humans (Festinger, 1957). Due to social norms people may hold beliefs that they should act sustainably when provided the opportunity. Therefore, the provision of sustainability information through labels could evoke a state of cognitive dissonance when a customer chooses a less sustainable garment. Hence, tactics to reduce the psychological discomfort could be evoked, where a tactic could be to choose the more sustainable product.

Consumption contradicting a customer's ethical concern has been found to evoke cognitive dissonance (Carrington et al., 2014). Gregory-Smith et al. (2013) found that consumers employ both regret and guilt management strategies when a previous behavior violated the consumer's values and beliefs. Such strategies include compensating for a previous behavior which resulted in negative emotions and cognitive dissonance through better choices in a future consumption situation (Gregory-Smith et al., 2013). Guilt is often experienced as a feeling of emotional discomfort, including sadness, hesitation, reluctance to spend, self-blame and regret (Dedeoğlu & Kazançoğlu, 2010). Not behaving in accordance with one's personal norms results in feelings of guilt (Antonetti & Maklan, 2014). Furthermore, Escadas et al. (2019) show that anticipated emotions from a consumption decision can impact behavioral intentions. This could mean that more sustainable products are chosen when the customer has the opportunity to do so in order to avoid negative emotions resulting from the consumption. The anticipation of

negative emotions when making a bad choice has also been found to have a stronger impact than an anticipation of positive emotions related to making a good choice, in accordance with loss-aversion theory (Escadas et al., 2019). Even though consumers try to deny their personal responsibility when it comes to sustainability, they seem to be emotionally connected to the outcomes they have caused connected to sustainability (Antonetti & Maklan, 2014). Earlier studies have shown that guilt indirectly influences the intentions of purchasing Fairtrade products due to the fear of feeling guilt after a purchase (Lindenmeier et al., 2017) As guilt is a negative emotion, it should impact the purchase behavior, making people who anticipate feeling guilt, purchase more sustainable products. Hence, shoppers choosing a sustainable product should experience less guilt. Therefore, it is hypothesized that:

H4a: Customers choosing a more sustainable product feel less guilty about their consumption.

Cognitive dissonance results in negative emotions. In-store, the emotional state of consumers has been found to predict attitudes, intentions and behaviors (Donovan & Rossiter, 1982; Donovan et al., 1994). Both of these studies found that a higher level of pleasure resulted in more positive effects. It should however be noted that it is not the valence of an emotion that determines a behavioral response (Mattila & Ro, 2008). Further, a study by Sharifi & Esfidani, (2013) showed that a reduction of cognitive dissonance resulted in higher levels of customer satisfaction. As it is in line with the social norms to behave and make sustainable decisions, customers choosing a more sustainable product should have more positive store- and product evaluations due to the reduction of cognitive dissonance. Hence, it is hypothesized that:

H4b: A sustainable product choice results in customers having a more positive product attitude and satisfaction.

H4c: A sustainable product choice results in customers having a more positive attitude towards the retailer and subsequent higher behavioral intentions.

In summary the hypotheses are targeted to answer the problem formulation. Thereby the impact the front page of an online retailer may have on customer choices and attitudes is covered. The hypotheses also cover the impact on customer choice and attitudes that a sustainability label has on the scrolling page of an online retailer.

3. Methodology

In the following section the chosen research method and stimuli development are described. Followed by the measurements used in the study and finally the sampling method is presented.

3.1 Research method

A deductive approach was used for the study, meaning that hypotheses are based on previous research and literature. Although the topic of priming and labeling within online fashion retailing is relatively unexplored in terms of effects on customer attitudes and behaviors, there exists a lot of research on sustainability labeling, nudging and drivers of more sustainable behavior in other industries (Lehner et al., 2016; Sunstein & Reisch, 2013; Tate et al., 2014). As the purpose of this study is to investigate how priming through a sustainability message on the front page and sustainability labels on the product scrolling page impacts the customer attitude and behavior it was deemed more relevant to use a deductive approach. Thus, testing if existing behavioral theories apply in these circumstances as well.

A quantitative method was used as the study aims to capture how wide the impact of the front-page message and sustainability labels on online fashion retailer sites are on customer attitudes, intentions and product choice. The goal for this study is to test an impact rather than to explore, therefore a quantitative approach is more suitable than a qualitative approach (Eliasson, 2013) For the quantitative study, an experimental design through an online survey was used.

3.2 Experimental design

A between-subjects experiment with a [2x3] (no priming message/priming message on front page X no label/label 1/label 2) randomized factorial design was used to test the hypotheses. An experiment is appropriate when investigating the causal impact of one variable on another, therefore this approach was chosen (Söderlund, 2010).

In the first part of the experiment participants were exposed to an online store front page. The image on the front-page stimulus includes loungewear in the form of sweatshirts and sweatpants together with one of two possible messages. In the second part of the experiment, the respondents were exposed to a fashion web shop scrolling page displaying eight similar

types of sweatshirts. Three versions of the scrolling page were created, one without a label acting as a control group and two with each having a different type of sustainability label (Label 1 and Label 2). Thereby, the treatment design resulted in six groups.

The treatments were randomized among the participants. To conduct the experiment a self-completion online survey was utilized as this enables the respondent to participate in the study when it suits them. An online self-completion questionnaire also requires less resources than conducting quantitative research through interviews (Eliasson, 2013). Hence, it was more appropriate due to time constraints of the research as well as the current pandemic making it more appropriate to conduct the experiment in an online setting.

To avoid a selection bias a randomized approach was used. Thereby, each respondent was equally likely to be assigned to any of the treatment groups (Söderlund, 2010). Randomized assignment to the different conditions is one of the strengths of experimental research designs according to Söderlund (2010), this is due to it effectively increasing the internal validity since the likelihood of confounding effects from group biases are reduced. Therefore, it is easier to conclude that it is the stimuli affecting the results and not personal differences between the respondents (Söderlund, 2010).

It was also chosen to randomize on which item the two sustainability labels appeared. This approach was chosen to minimize the potential effect of any particular item being perceived as more attractive than another option, and to avoid sampling biases. As such the eight sweatshirts included the two labels approximately an equal number of times across treatment groups. If there was no effect of the sustainability labels, the proportion of sustainable product choices would be equal.

The experiment was designed as a role-play scenario, where the respondents were given a situation described in text and a role to play (Söderlund, 2010). The role-play approach was used in order to ensure all respondents in each group got the same preconditions. Prior to the scenario the participants were informed that the study was for a bachelor thesis and that all answers are anonymous. The text which the respondents were exposed to introduced them to a scenario where they were shopping for a sweatshirt in an online store for themselves. After the scenario the participant was exposed to one of the six treatments. Questions regarding

intentions and outcomes were asked prior to questions regarding the label itself to avoid interfering effects from participants trying to guess the purpose of the study.

3.2.1 Stimuli development

When developing the stimulus, several aspects were taken into account. When conducting experiments, everything but the actual treatment should be kept as similar as possible in the stimuli. This is important to ensure that the potential effects really are caused by the intended treatment and not by other elements in the stimuli (Söderlund, 2010).

The choice to test effects of sustainability labels already on the scrolling page instead of the product landing page was based on the fact that the scrolling page is where the consideration set is formed. The product landing page comes later in the customer journey, meaning that the customer is closer to an actual purchase decision. For sustainable fashion to take off it is of the essence that more sustainable items are considered to begin with, and therefore the scrolling page was considered relevant for this study. The customer has better opportunities to compare items visually at this stage as the spatial distance is smaller. Thereby sustainability labels on the scrolling page enable the customer to compare items on sustainability attributes earlier on in the purchase journey, hence simplifying the process of taking sustainability metrics into account while shopping. Lastly, sustainability labels on the scrolling page are increasing in practice which speaks for the relevance of understanding their impact at this stage.

3.2.1.1 Choice of product

Loungewear, in the form of sweatshirts and sweatpants were used in the front-page stimulus and sweatshirts on the product scrolling page stimulus. Loungewear was chosen as it is used across consumer demographics in terms of both age and gender. Additionally, the sales of loungewear have increased as a result of the Covid-19 pandemic in 2020, hence increasing the likelihood of appealing to a wide population (Gonzalez-Rodriguez, 2021). The product images used were of unisex characteristics in order to further increase appeal to a wide target group.

The brand of a product can impact the customer behavior, for example the willingness to pay (Showrav & Nitu, 2018) and the likelihood of purchase (Park-Poaps & Kang, 2018). Furthermore, brand image usually functions as an extrinsic cue when there is a limited amount of product knowledge and time to make a purchase decision (Razy & Lajevardi, 2015). Thus, in order to avoid brand specific effects, all products used in the experiment were edited to be

unbranded. The web shop was not labeled with any brand name in order to avoid interfering effects of the store brand name as well. The chosen approach increases the internal validity as interfering effects are reduced (Söderlund, 2010).

The price point of the products ranges from 300 to 350 SEK. Slightly varying prices were included to create a more realistic scenario. However, the prices were kept on a similar level to reduce the impact of price on customer behavior, as the effects of prices often are context dependent and used as a proxy for product quality (Menon et al., 2016; Sigurdsson et al., 2010). Therefore, it was chosen to have only slightly varying prices on all products to avoid interfering effects, which strengthens the internal validity of the experiment. To further increase the perceived realism of the scenario, the treatment images were developed based on the look and feel of some of the largest online fashion platforms including Zalando, Boozt and ASOS. This approach makes the experiment more realistic, increasing its external validity (Söderlund, 2010).

3.2.1.2 Stimuli 1 - Front page

The front-page stimulus is intended to test the impact of two different types of messages on customers' product choice and subsequent evaluations. The first message conveyed a sustainability message "Sustainability stories - learn how to make better choices for our planet - Shop sustainably now" and the other message conveyed a more common fashion-oriented message "Fashionable comfort and loungewear - Sweatshirts, hoodies and more - Discover now". In order to make the front-page design appealing for a wide audience, an image with models of different genders and ethnicities was chosen and borrowed from H&M's, a well-known fashion retailer, image gallery (H&M Image Gallery. 2021). The two front page stimuli included the same image to keep the treatments as similar as possible to ensure the effects are caused by the intended treatment (Söderlund, 2010).

The stimuli can be found in Appendix 1-2.

3.2.1.3 Stimuli 2 - Sustainability labels

The product scrolling page stimulus is intended to test the impact of two different types of sustainability labels on customers' product choice and subsequent evaluations. Based on the literature review, it was concluded that there does not exist any widely recognized labels within fashion today. Therefore, own labels were produced for the experiment taking into

consideration how online fashion retailers use sustainability labels today. This part of the experiment consisted of three groups; the first not exposed to any label, the second to Label 1 and the third to Label 2. The labels are described below.

No label

A control case where no label is displayed on the scrolling page was added to enable comparison between the respondents being exposed to a label and the respondents not being exposed to a label. (See Appendix 3)

Label 1

When constructing the first label, it was chosen to test how effective the current labeling practices among online fashion retailers are by designing a label in a similar way. Hence, Label 1 was constructed as a small label with a simple text saying "Sustainability". (See Appendix 4)

Label 2

Before the selection of which scaled label to use in the experiment, a pre-test was conducted. In the pre-test a label with a footprint scale was tested together with another label in the form of a globe which had a gradient fill corresponding with the garment's sustainability consideration. In order to ensure internal validity, it was tested whether the participants understood the message of the two labels by asking them to choose the garment they thought was most sustainable out of three options with the scale fills varying between the options. An open-ended question was included in the pre-test to explore which and why a certain label was preferred. The open-ended question revealed that the globe was more aesthetically pleasing but harder to interpret in comparison to the label with footprints. However, the participants answered correctly on which item was most sustainable an equal number of times for both labels. The simpler label with footprints was chosen for the final experiment as it was perceived as easier to interpret. (See Appendix 5)

When constructing the second label, it was determined to test whether a scaled label has a stronger impact on customer outcome variables. Thus, the second label was designed with the intention to provide more detailed information about a garment's sustainability impact. To do this a four-point scale was added to the Label 1 design. The scale was in the form of three footprints where either none, one, two or all three were filled with a green color. The number of filled footprints correspond with the extent the garment is produced sustainably. A label with

a comparative scale is according to Langley et al. (2012) preferred among customers and more effective in changing customer behavior. Furthermore, the color green was chosen as it has been found to be congruent and associated with eco friendliness (Lim et al., 2020). Additionally, footprints were chosen as the scale symbols due to their connotation to sustainability and carbon footprint, and thereby increasing the likelihood of participants understanding and processing the stimulus.

The label stimulus can be found in Appendix 3-5 and the Pre-test labels can be found in Appendix 6.

3.3 Measurements

To ensure reliability, reducing the effects of wording, misunderstandings and other risks with having single item measures and to ensure that the whole construct is captured, multiple indicator measures were adopted when measuring different constructs (Bryman & Bell, 2015; Eliasson, 2013). Accepted definitions of the constructs were used in the study, whenever possible, to further ensure the validity (Eliasson, 2013). To test the internal reliability of indicators measuring the same construct, a reliability analysis was made for these items. A Chronbach's alpha of 0.7 or more was used to ensure the internal reliability of the items as this is a level of internal reliability which is commonly seen as efficient (Bryman & Bell 2015). This level was accepted for the bivariate correlation coefficient as well (Chiang et al., 2014).

Following are descriptions of used measures and scales in the experiment. The survey with all measures can be found in Appendix 7.

3.3.1 Word-of-mouth & repurchase intention

Intentions are commonly used as predictors of behaviors in consumer research. Even though the relationship is not perfect it is in many cases the best option the researcher has (Arts et al., 2011). This is also the case for this thesis with regards to WoM and repurchase intention.

WoM intention was measured through the question "How likely is it that you would recommend this online store?" which was adapted from Söderlund & Mattsson (2019). The question was measured on a seven-point scale "Extremely unlikely - Extremely likely". A single item scale was chosen to reduce the length of the survey and avoid issues of survey fatigue. Furthermore,

WoM behavior and intentions are often measured with single item scales in consumer research (Sivadas & Jindal, 2017).

Repurchase intention was measured with a question adapted from Dahlén et al. (2009), "How likely is it that you would purchase from this online retailer again?" with two seven-point semantic differential scales "Extremely unlikely - Extremely likely" and "Improbable - Probable". The items measuring repurchase intention generated a Spearman correlation coefficient of 0.933 (p-value < 0.001) in the reliability analysis and the index Repurchase Intention was created.

3.3.2 Product quality

The perceived quality of the product was measured through the question "What is your perception of the quality of the sweatshirt?" with two seven-point scales "Low quality - High quality" and "Worse than average - Better than average". These measures were based on the approaches taken by Kirmani (1997) and Dahlén et al. (2008) and generated a Spearman correlation coefficient of 0.872 (p-value < 0.001), hence the index Product Quality was created.

3.3.3 Perceived sustainability

Perceived sustainability of the product was measured with the question "How do you perceive the sustainability level of the chosen sweatshirt?" which has been modified from perceived quality used by Dahlén et al. (2008). The item was measured on a seven-point scale "Very low - Very high". A similar approach was used when developing the item for perceived sustainability of the retailer, resulting in the question "How environmentally friendly do you think that the retailer is?". The item was measured on a seven-point scale "Not environmentally friendly at all - Very environmentally friendly".

3.3.4 Product satisfaction

Product satisfaction was measured through three questions "How satisfied are you with your purchase of the sweatshirt?" with the seven-point scale "Extremely dissatisfied - Extremely satisfied", "How well does your sweatshirt purchase meet your expectations?" with the seven-point scale "Not well at all - Very well" and "How far from or close to the ideal was your purchase of the sweatshirt?" with the seven-point scale "Not close to the ideal - Extremely close to the ideal". The approach is in line with the satisfaction parameters suggested by Fornell (1992). A subsequent reliability analysis indicated that the three items reliably measured the

same construct with a Cronbach's alpha of 0.787, hence the index Product Satisfaction was created.

3.3.5 Product attitude

Attitudes towards the product were recorded by the item "What is your overall evaluation of the sweatshirt?" and measured using three five-point scales "Bad - Good", "Dislike – Like" and "Negative – Positive". The question and measures are in accordance with the approach taken by Söderlund & Mattson (2020). The reliability analysis showed that the items measuring product evaluation effectively measured the same construct with a Chronbach's alpha of 0.952, hence the index Product Attitude was created.

3.3.6 Store attitude

Attitudes towards the online store were recorded by the item "What is your overall evaluation of the store?" and measured using three seven-point scales "Bad - Good", "Dislike – Like" and "Negative – Positive". The question and measures are in accordance with the approach taken by Söderlund & Mattson (2020). The items measuring the overall store evaluation generated a Chronbach's alpha of 0.961 and the index Store Attitude was created

3.3.7 Sustainability label usefulness

The perceived label usefulness was measured through the statements "The sustainability label is a good source of information", "I feel that the sustainability label is valuable", "I feel that the sustainability label is credible" and "I believe that the sustainability label is a good reference when purchasing a product". Responses were measured on a seven-point scale "Strongly disagree - Strongly agree". These items are in accordance with the approach used by Martins et al. (2019) when measuring advertising credibility, value and informativeness. The items measuring sustainability label usefulness generated a Chronbach's alpha of 0.937 in the reliability analysis, and the index Label Usefulness was created of the items.

3.3.8 Sustainability concern

When constructing the questions to capture the respondent's sustainability concern, the framework created by Zwickle & Jones (2018) was used. The framework suggests eleven questions to capture the customer's sustainability orientation through three levels of sustainability aligned with the triple bottom line: ecological sustainability, economical sustainability and social sustainability. To capture the sustainability concern on all three

dimensions, two questions on each dimension were used with five items excluded to shorten the survey and increase the likelihood of participants completing the survey. The statements "Generally speaking consumerism is not sustainable" and "I am willing to put forth a little more effort in my daily life to reduce my environmental impact" was used to measure the economic sustainability of the respondent. The statements "I believe that many people can work together to solve global problems" and "The well-being of others affects me" were used to measure the respondent's attitude towards social sustainability. Finally, the questions "Clean air is part of a good life" and "Our present consumption of natural resources will result in serious environmental challenges for future generations" was used to measure the attitude towards environmental sustainability. The items have been tested and validated by Zwickle & Jones (2018). The responses were measured on a seven-point scale "Strongly disagree - Strongly agree". A reliability analysis showed that the items reliably measured the participant's sustainability orientation with a Cronbach's alpha of 0.784 and were used to form the index Sustainability Concern.

3.3.9 Assortment attractiveness

To rule out potentially interfering effects of the assortment being perceived as unequally attractive between the treatment groups, the variable assortment attractiveness was added. The assortment attractiveness was measured through the question "The assortment in the online store was attractive" on a seven-point scale "Strongly disagree - Strongly agree" in order to capture the effect of the respondent's perception of the assortment they were exposed to. The approach taken was adapted from the methods used by Boyd & Bahn (2009).

3.3.10 Experienced guilt

To get an understanding of the respondent's self-perception in terms of guilt related to the purchase scenario, the survey included the question "I feel guilty after making this purchase" which was measured on a seven-point scale "Strongly disagree - Strongly agree". This question was adapted in accordance with the approach taken by Gelbrich (2011).

3.4 Sampling & Data Collection

A convenience sampling approach was used as this is common when studying consumer behavior (Bryman & Bell 2015). The study participants were initiated mainly through the researchers' own social media and distribution by friends and family.

The survey generated 201 valid responses with the conditions of having a response time of less than 25 minutes and passing the attention check. To ensure that the respondents were attentive during the study, an attention check was included close to the end of the survey, asking the respondent to tick number seven. Excluding participants spending more time to complete the survey is important to improve the quality of the collected data as participants spending longer are less likely to remember what they have been exposed to, mitigating or confounding potential treatment effects (Sivadas & Jindal 2017). Longer completion times can also be an indication of reduced attention of participants. However, it was tested to include the participants failing the attention check and having longer completion times in the analysis. It was found that it affected some of the results, therefore it was chosen to exclude them. The perceived assortment attractiveness was compared between the treatment groups to ensure that any effects were not the result of participants experiencing the assortment as more or less attractive between the groups. No significant differences were found.

Out of the 201 respondents, 191 answered the questions regarding their gender and age. Out of these, the sample consisted of 71.7% women. 37.7% of the sample were aged between 15-25 years, 32% between 26-40 years and 30.3% above 40 years. Our sample consists of a majority of females. However, according to *E-barometern* (2020), the share of women purchasing clothes or shoes online during the fourth quarter of 2020 was higher than the share of men. Hence, the sample mirrors the gender division of Swedish online fashion customers. No significant differences were found between the treatment groups with regards to their demographic profiles. Each group consisted of at least 30 participants as this is an acceptable level of participants and also the number of observations needed in order to conduct most statistical tests (Söderlund, 2010). The groups are presented in Table 1 together with the demographic profiles.

The data input from the survey was checked so that no responses were coded in the wrong way (Eliasson, 2013). For example, the data was checked for missing values, and these were coded

so that the missing values would not affect the data as this would be misleading in the analysis (Bryman & Bell 2015).

Table 1: Number of participants in each stimulus group

Sustainability message on front page	Sustainability label type	Number of respondents	Gender*	Age group*
	No label	30	Female: 20	15-25: 8
			Male: 8	26-40: 10
			Other: 0	<i>40+:</i> 10
			Female: 25	15-25: 12
Yes	Label 1	33	Male: 8	26-40: 9
			Other: 0	<i>40</i> +: 12
			Female: 24	<i>15-25</i> : 11
	Label 2	31	Male: 7	26-40: 11
			Other: 0	<i>40</i> +: 9
No		39	Female: 25	15-25: 19
	No label		Male: 11	26-40: 11
			Other: 1	<i>40+:</i> 7
			Female: 21	15-25: 7
	Label 1	35	Male: 11	26-40: 12
			Other: 0	<i>40+:</i> 13
		33	Female: 22	15-25: 15
	Label 2		Male: 8	26-40: 8
			Other: 0	40+: 7

^{*}Not all participants responded to the questions regarding gender and age.

4. Results

The results are presented together with the accompanying hypothesis.

H1a: A front page communicating a sustainability message makes the customer choose sustainable products to a greater extent than customers not being exposed to a sustainability message on the front page.

To test H1a, the group not exposed to any sustainability label was excluded as these respondents did not have the chance to choose a sustainable item. A sustainable option was defined as those items with a label (for the Label 1 case) and those items with a label ranked on the upper half of the scaled version (e.g., two or three feet for the Label 2 case). An independent-samples proportions test was made to test if there was any difference between the two front page stimuli. It was found that there were no significant differences between the groups when it comes to product choice (p-value = 0.118). Between 0.675-0.765 of the respondents chose a more sustainable option in the two groups (difference in proportions = 0.093). Thus, a front page including a sustainability message does not make the customer choose sustainable products to a greater extent than customers being exposed to a fashion message on the front page. H1a is therefore not supported.

H1b: Customers exposed to a sustainability message on the front page perceive the retailer as more sustainable in comparison to customers not exposed to a sustainability message on the front page.

To test H1b, a one-tailed independent samples t-test was made, including all respondents, comparing the perceived sustainability of the store between the group being exposed to a sustainability message and the fashion message. It was found that there were no significant differences between the groups (M_{sustainability message} = 3.84, M_{fashion message} = 3.73, p-value = 0.295). Thus, customers exposed to a sustainability message on the front page do not perceive the retailer as more sustainable in comparison to customers exposed to the fashion message on the front page. H1b is not supported.

H1c: Customers exposed to a sustainability message on the front page have a more positive attitude towards the store in comparison to customers not exposed to a sustainability message on the front page.

To test H1c, another one-tailed independent samples t-test was made, including all respondents, comparing the Store Attitude between the group being exposed to a sustainability message on the front page and the group exposed to the fashion message. There was no significant difference between the groups ($M_{\text{sustainability message}} = 5.07$, $M_{\text{fashion message}} = 5.21$, p-value = 0.245). Thus, it can be concluded that customers exposed to a sustainability message on the front page do not have a more positive attitude towards the store in comparison to customers being exposed to the fashion message on the front page. H1c is not supported.

H1d: Customers exposed to a sustainability message on the front page have a more positive attitude towards the chosen product in comparison to customers not exposed to a sustainability message on the front page.

To test H1d, a one-tailed independent sample t-test was made, including all respondents, comparing the Product Attitude between the group being exposed to a sustainability message on the front page and the group exposed to the fashion message. There was no significant difference between the groups ($M_{\text{sustainability message}} = 3.92$, $M_{\text{fashion message}} = 4.05$, p-value = 0.148). Thus, it can be concluded that customers exposed to a sustainability message on the front page do not evaluate the chosen product more positively in comparison to customers being exposed to the fashion message on the front page. H1d is not supported.

The results of the hypotheses testing H1b-H1d are summarized in Table 2.

Table 2: Summary of means for hypotheses testing H1b-H1d

	Sustainability message	Fashion message	P-value
Perceived sustainability level of the retailer	3.84	3.73	0.295
Store attitude	5.07	5.21	0.245
Product attitude	3.92	4.05	0.148

Table 2 shows the mean values and significance level from hypothesis tests for H1b-H1d. Group 1 is the group exposed to a sustainability message on the front page. Group 2 is the group not exposed to a fashion message on the front page

H2a: Customers exposed to a sustainability label make a more sustainable product choice.

To test H2a, the participants who did not get the option to choose a sustainable item were excluded from the analysis. The same method was used as when testing H1a to identify the selection of a sustainable item. A one-sample proportions test was made, showing that the respondents exposed to a sustainability label chose a sustainable item to a significantly greater extent (proportion selecting a sustainable item = 0.720, p-value < 0.001). Thus, H2a can be supported.

H2b: Customers given the opportunity to choose a more sustainable product have a more positive attitude towards the retailer in comparison to customers not given the opportunity to choose a more sustainable product.

To test H2b, a one-sided independent samples t-test was run comparing the store attitude, repurchase intention, WoM intention and perceived environmental friendliness of the store between the group exposed to one of the two labels and the group not exposed to any label. The results showed that there were no significant differences between the groups (p-value > 0.05 for all measures). Hence, H2b is not supported.

A summary of the H2b results, including p-values and mean values, can be found in Table 3.

Table 3. Results of H2b testing.

	No sustainability label	Sustainability label	P-value (one-sided)
Store attitude	5.06	5.18	0.289
Repurchase intention	4.70	4.72	0.473
WoM intention	4.61	4.62	0.480
Perceived environmental friendliness of the store	3.82	3.76	0.403

Table 3 shows the mean values and significance levels of the hypothesis tests for H2b.

H3a: Customers more concerned with sustainability are more likely to choose a more sustainable option than those less concerned.

To test H3a the index created for the level of sustainability concern was divided into three groups. The division into groups was done by re-coding Sustainability Concern into a new

variable. The sample was split based on the cutoff points of the 33.3 percentile and 66.6 percentile of sustainability concern. The approach was chosen to create approximately equally sized groups. The split into three groups generated a mean sustainability concern of 4.91, 6.21 and 6.88 respectively for the groups. As the sustainability level was relatively high in all groups, the groups with a moderately high and high sustainability concern were combined for the analysis. Both groups had a mean sustainability concern above 5.83 which was the cut off point for the 33.3 percentile. Since all participants did not have the option to choose a sustainable item (no label) these participants were excluded from the analysis.

To check if there were any differences between the groups a chi-square test was performed. The same method was used as when testing H1a to identify the selection of a sustainable item. The difference between the groups was insignificant (p-value = 0.276). This indicates that both those more and less concerned with sustainability chose a sustainable option to the same extent, when given the opportunity. The proportion choosing a more sustainable product based on the level of sustainability concern, is shown in Table 4. H3a is not supported.

According to our results the mean sustainability concern was 5.98 for the sample exposed to a sustainability label, which is significantly above the scale midpoint of 4 and if being prudent and assuming the endpoints of the scale not to be chosen, it is still significantly above 5 on the seven-point scale. The same was true when including participants not exposed to a label as well.

Table 4. Results of H3a testing.

	Proportion choosing a sustainable product	P-value (for cutoff point at 0.5)
Low sustainability orientation	0.750	< 0.001
Moderate sustainability orientation	0.667	0.006
High sustainability orientation	0.758	0.001

Table 4 shows the proportion of respondents choosing a sustainable product when given the opportunity and the significance level of the proportion being more than 0.5.

H3b: A scaled sustainability label is perceived as more useful than an unscaled sustainability label by those more concerned with sustainability.

To test H3b, a one-tailed independent samples t-test was run comparing the label usefulness between the two different labels for the respondents with a high sustainability concern. A correlation test was run in order to strengthen the results further. To test H3b the index created

for the level of sustainability concern was divided into three groups using the same approach as for H3a. Since all participants did not have the option to choose a sustainable item (no label) these participants were excluded from the analysis.

A one-tailed independent sample t-test comparing the perceived label usefulness between the two different labels showed that participants with a high sustainability concern found the labels equally useful ($M_{label\ 1} = 5.01\ M_{label\ 2} = 4.95$, p-value = 0.439). Hence, a scaled sustainability label did not result in a higher perceived usefulness.

The correlation test showed that there was a significant correlation between sustainability concern and the perceived label usefulness for both of the labels (Pearson's r $_{label\ 1}=0.452$, Pearson's r $_{label\ 2}=0.300$, p-value $_{label\ 1}<0.001$, p-value $_{label\ 2}=0.008$). However, Label 1 showed a higher correlation than Label 2. Hence, H3b is not supported.

As those more concerned with sustainability did not have any significant differences between the perceived label usefulness of the unscaled (Label 1) and scaled label (Label 2) it was determined to test whether there was an overall difference between those less concerned with and those more concerned with sustainability. Thereby the group with low sustainability concern was compared to those with a moderate to high sustainability concern using a one-tailed independent samples t-test. It was found that those more concerned with sustainability found the labels significantly more useful than those less concerned with sustainability (M_{low} sustainability concern = 4.06, M_{high} sustainability concern = 4.98, p-value = 0.003).

H4a: Customers choosing a more sustainable product feel less guilty about the consumption.

To test H4a a one-tailed independent sample t-test was run based on the groups choosing a sustainable option and those not choosing one. Again, those who did not have the option to choose a sustainable product were excluded from the analysis. As expected, those choosing a less sustainable option experienced a significantly higher level of guilt than those who did $(M_{\text{sustainable choice}} = 2.13, M_{\text{unsustainable choice}} = 2.83, p-value = 0.043)$. H4a is thus supported.

Another one-tailed independent samples t-test was run showing that customers choosing a more sustainable option perceived the chosen item as significantly more sustainable (p-value < 0.001). A summary of the results, including mean values, can be found in Table 5.

H4b: A sustainable product choice results in customers having a more positive product attitude and satisfaction.

A one-tailed independent samples t-test was used to test H4b. It was found that those who chose a more sustainable item had a significantly higher product attitude than those who did not choose a sustainable item (p-value = 0.024). Furthermore, the participants choosing a more sustainable option were significantly more satisfied with the chosen item (p-value < 0.001) and also perceived the product quality to be higher (p-value = 0.025). Hence, H4b is supported. A summary of the results for H4b, including mean values, can be found in Table 5.

H4c: A sustainable product choice results in customers having a more positive attitude towards the retailer and subsequent higher behavioral intentions.

A one-tailed independent samples t-test was used to test H4c. Participants choosing a sustainable item did not have a significantly more positive attitude towards the store (p-value = 0.19). A sustainable product choice did however result in a higher WoM intention (p-value = 0.007) as well as a heightened repurchase intention from the online store (p-value = 0.002. The perceived environmental friendliness of the store was however perceived to be the same between the groups (p-value = 0.078). Hence, H4c is partially supported. A summary of the results for H4c, including mean values, can be found in Table 5.

Table 5. Summary of means for hypotheses testing H4a-H4c.

	Sustainable product chosen	Non-sustainable product chosen	P-value (one-sided)
I feel guilty after making this purchase	2.13	2.83	0.043
Product attitude	4.14	3.79	0.024
Perceived product sustainability	1.68	1.43	0.004
Product quality	5.07	4.59	0.025
Product satisfaction	4.71	3.82	< 0.001
Store attitude	5.25	5.01	0.19
Repurchase intention	4.97	4.07	0.002
WoM intention	4.86	3.44	0.007
Perceived environmental friendliness of the store	3.89	3.44	0.078

Table 5 summarizes mean values on product and store related variables based on whether the participant chose a sustainable option or not.

5. Discussion

The front page did not significantly impact product or store attitudes nor the perception of the store being more environmentally friendly. This could be explained by the priming in the form of a sustainability message on the front page being too weak to impact the customer. However, there are other possible explanations for these results, with one of them taking into account the past decade's increase of green initiatives and the surfacing of companies greenwashing (Lyon & Montgomery, 2015; The European Commission, 2021). This would partly be in line with Delmas & Burbano (2011) who argued that Greenwashing results in negative effects on both consumers' and investors' trust and attitudes. However, our study did not find any negative effects as there was no significant difference in product attitude, store attitude or perceived environmental friendliness of the retailer between the groups. The awareness of and ability to detect greenwashing is moderated by customer knowledge of sustainability (Schmuck et al., 2018). Schmuck et al. (2018) also found that vague sustainability claims can positively impact customer attitudes and intentions. Sweden is a country where sustainability awareness is high, hence customers are more likely to question the reliability of a single message on an online store's front page. Therefore, the effect of a single message on the front page may not be enough to convince customers that an online store works more actively with sustainability issues than others. A larger sample might have detected a smaller effect.

There were no significant effects from the front-page message in terms of the retailer being perceived as more sustainable. Hence, the front-page sustainability message did not produce a halo effect on the store. This could be explained by the need of more drastic actions in order to impact the customer's perception of the store. This may be especially prevalent in an online marketplace offering multiple brands. An online marketplace provides customers with access to a wide assortment but as the marketplace itself does not produce the items, it is less likely that an overall store image would color the evaluations and perceptions of all items offered.

However, there were no negative effects from presenting a sustainability message on the front page. Arguably the message could heighten the attention or awareness of sustainability for the customer, but with a reservation for information that corroborates the communicated message. More research is needed to address whether there is an additive effect of cohesive messages regarding sustainability between different channels on the store perceptions. The front page could potentially have a bigger effect if a customer had previously seen an ad aligned with the

message and through the message been reminded. This is in line with Keller (2010), that posits that a cohesive message through communications channels can create synergistic effects. This communication channel thereby did not have any significant direct effects.

The sustainability label was found to make the customer choose a more sustainable product to a significantly greater extent. This can be explained by the sustainability label informing the customer of which items that have been produced in a more sustainable way, already when the customer is screening the options. Therefore, the customer is provided with the opportunity to take sustainability information into account when forming their consideration sets. This is in line with the reasoning that availability of sustainable options and the act of informing the customer about the product attributes lowers the barriers towards purchasing sustainable products (Connell, 2010; Nguyen et al., 2019). The labels can be seen as a tool which simplifies the decoding of a garment's sustainability impact, reducing the lack of knowledge and understanding of sustainability in fashion retailing (Harris et al., 2016).

The non-significant difference in sustainable product choice between the respondents concerned with sustainability and the respondents less concerned with sustainability could be explained by sustainable behavior being a descriptive norm. A descriptive norm describes how most people behave in social settings whereas injunctive norms are what one believes is an appropriate behavior in a social setting (Farrow et al., 2017). According to our results the mean sustainability concern (5.98 on a seven-point scale) for the entire sample, was very high. These results point to the fact that sustainability concern is a widespread phenomenon in Sweden, as found by Givetash & Banic (2020) and Gullers Grupp (2018). To behave sustainably could therefore be seen as a social norm, and individuals behave in accordance with these due to social pressure (Hamilton & Terblanche-Smit, 2018). However, as the majority of the sample indicated that they are concerned with sustainability to a high extent it also appears to be a personal norm among many of the participants. Since there was no difference between the groups, it contradicts the concept of personal norms being stronger predictors of sustainable choice behavior (Gunnarsson, 2020).

Customers less concerned with sustainability found labels less useful but still appeared to use them. Potential reasons for less concerned customers to still adopt the labels can include perceived social norms and/or decision heuristics. As Sweden has a mentality of taking sustainability issues into consideration (Givetash & Banic, 2020; Gullers Grupp, 2018) it is possible that people less directly concerned with sustainability feel a pressure to act accordingly, and thus use sustainability labels as a decision heuristic to reduce information processing efforts. However, as the perceived social norm was not included in this study, more research is needed whether customers unconsciously filter based on sustainability.

As for the scaled label (label 2) which was intended to be more useful than the unscaled label (label 1), participants with a high sustainability concern perceived the two as equally useful. This is contradicting Cho & Berry (2019) who found that a scaled label caused more positive product evaluations and behavioral intentions for customers concerned with sustainability. The findings corroborate the fact that customers oftentimes are found to expect companies to offer more sustainable alternatives, and when doing so customers act upon the opportunity. However, there seems to be a disconnect of having too elaborate information early on in the customer journey, likely due to the different and contradicting goals that have been found to be a reason for the attitude behavior gap in fashion (McNeill & Moore, 2015). Another reason for why a more elaborate label does not produce significant differences could be information overload (Ma et al., 2017; Ritch, 2015). More detailed information may as such be more relevant later on in the customer journey, such as on the product landing page.

The presence of a sustainability label did not affect the customer attitude of the retailer in terms of store attitude, repurchase intention, WoM intention or the perceived sustainability level of the retailer. This is a surprising result as the behavioral effects of a sustainability label was significantly high. Due to the high behavioral change, the skepticism of greenwashing should not be a reason for the lack of impact on customer attitudes. The label provides customers with the opportunity to choose more sustainable products, but only the customers choosing a more sustainable product had significantly better attitudes towards the product as well as repurchase and WoM intentions.

Even though the labels in themselves did not have an effect on customer attitude, the label gives the customer the opportunity to be aware of them purchasing a sustainable product. This is an important finding as the respondents choosing a sustainable product felt less guilty in comparison to customers not choosing a sustainable product. This is in line with the theory of cognitive dissonance (Festinger, 1957). As previously discussed, respondents chose a sustainable product to the same extent regardless of sustainability concern, hence appearing to

act according to both descriptive and personal norms. So, by choosing a sustainable product, the cognitive dissonance that could arise from violating a social or personal norm is reduced. Additionally, the study by Escadas et al. (2019) showed that the anticipation of emotions can impact behavioral intentions and that the anticipation of negative emotions were stronger predictors. Thereby it could be argued that the participants chose a more sustainable product to avoid negative emotions in the following post-purchase stage.

However, it should be noted that both the respondents choosing an unsustainable product and the respondents choosing a sustainable product had a mean experienced guilt far below the midpoint of the seven-point scale ($M_{guilt} = 2.33$). The average experienced guilt was low and could be the result of participants behaving upon the anticipation of negative emotions. Thus, those believing that they would feel guilty might have chosen a sustainable product in order to avoid it, in line with Escadas et al. (2019). However, as there was a significant difference of the experienced guilt between the two groups it is still interesting for retailers to focus on enabling customers to reduce potential negative feelings following a purchase.

The choice of a more sustainable product resulted in more positive attitudes towards the product. The store was however not evaluated more positively by those making a more sustainable choice. However, these respondents were still significantly higher WoM intention and intention to repurchase from the store. Thereby, the actual behavior impacted the subsequent attitudes and intentions, but the mere provision of sustainability labels did not even though they enabled the customer to behave sustainably. Again, it could be argued that the results are due to a reduction of cognitive dissonance making the customer feel more positive about the customer experience. This is in line with the study of Sharifi & Esfidani (2013) who found that a reduction in cognitive dissonance resulted in higher levels of customer satisfaction. A reason for the overall store evaluation to not be impacted by the choice could be the fact that the blame of unsustainable fashion is more related to the product itself, which would align with the results of participants perceiving the product as rather unsustainable regardless of whether it was labelled or not. The sustainability perception of the store did not show these effects. Thereby no significant halo effects were found between store level attributes and product level attributes.

Even though the choice of a more sustainable alternative had positive effects on subsequent attitudes and intentions, the perceived sustainability level of the chosen item was far below the

scale midpoint for all participants (M_{sustainable choice} = 1.68, M_{unsustainable choice} = 1.43). This result is interesting in its own right and points to the fact that customers appear to be skeptical with regards to the sustainability of fashion items. This indicates that customers attempt to behave sustainably to improve the wellbeing of our planet, even though they appear to question whether this really is the result. Furthermore, it appears as if customers evaluate the sustainability level on a more aggregate level, which would explain why the store was perceived as more sustainable than the chosen product itself. Nonetheless, it is possible that customers perceive themselves to have done what is in their power which improves their satisfaction, attitudes and evaluation related to the product and intentions towards the store.

5.1 Implications for practice

This study has implications for how to in practice prime and nudge customers, through the front-page message and through sustainability labels, into making more sustainable choices. The present study showed that a sustainability message on the front page is not enough for the retailer to be perceived as more sustainable. The priming effect was not strong enough to impact customer behavior towards purchasing a sustainable product either. For online retailers this implies that they may have to walk the extra mile in order to achieve desired effects in customer behavior and attitude, and that it may not be enough to talk about sustainability in only one touchpoint.

Our research has shown that the use of sustainability labels results in the customer purchasing sustainable products to a significantly greater extent. Therefore, the use of a sustainability label is what matters most if wanting to increase the sales of more sustainable products. Which label and what information it entails appears to be secondary at this stage in the customer journey.

It is important for the retailer to enable customers to make a sustainable choice. The label in itself does not result in more positive evaluations of the retailer or product, but the actual choice of a more sustainable product results in customers having a significantly higher product attitude, perceived product quality, perceived product satisfaction, repurchase intention and WoM intention. These findings are important as these aspects are potential profit drivers. With the sustainability label, the retailer gives the customer the chance to make a sustainable purchase. As it is not the sustainability label in itself but the sustainable behavior, which is causing the positive associations, it could be investigated if other ways of informing the

customer about the sustainability of their purchases have similar effects. For example, through having a section in the store with only sustainable products or through other decision aids.

An increasingly important aspect of implementing sustainability labels is that it impacts the customer choice, which enables improvement towards the twelfth UN SDG, sustainable consumption and production (United Nations, n.d). Furthermore, increased purchases of more sustainable products provide the company with economic incentives to increase their sustainability work along their supply chains.

5.2 Contribution to literature

Our study contributes to literature by confirming the efficiency of sustainability labels as a nudge to increase sustainable consumption behavior within online fashion retailing. Our findings assist in understanding how to lower the barriers causing the attitude-behavior gap in sustainable apparel consumption. Furthermore, the theory of cognitive dissonance was applied in the context of sustainable customer behavior in fashion retailing, and it was found that the choice of a sustainable product results in the customer feeling significantly less guilty after purchase. A scaled label did not produce stronger effects in an apparel context implying that more detailed information on the product scrolling page may not be necessary.

6. Conclusion

The findings from this study assist in reducing the gap between literature and practice, guiding fashion retailers how to act when it comes to sustainability messaging in online stores. It can be concluded that the priming effects of only a sustainability message on the front page of the online store is not enough to increase sustainable consumption behavior or product and retailer attitudes.

It can be concluded that the label significantly impacts the customer into making a more sustainable purchase, independent of the customer's sustainability concern. The label itself does not impact the customer's perceptions of the product or store. However, it gives the customer the opportunity to choose a more sustainable product, and the customers choosing a more sustainable product evaluate both the store and product more positively. Additionally, the customers choosing a more sustainable alternative have a heightened repurchase and WoM

intention, which is crucial for online retailers experiencing growing competition. This shows that giving the customer the choice of acting sustainably, results in several benefits for an online retailer.

6.1 Limitations & future research

A limitation of the study is the convenience sampling method. A representative sample was not used in the study, which entails limitations for generalization due to the bias possibility, where some population members might have been more likely to be recruited to the experiment than others (Bryman & Bell 2015). In future research a representative sample should be used in order to strengthen the findings of the study.

The study was conducted with a sample based in Sweden, which limits the generalizability of the findings to other markets. Sweden has come very far with sustainability work across different industries, meaning that customers are likely to be more knowledgeable and aware of sustainability issues. Hence, a label may not be enough to impact customer behavior in other parts of the world where sustainability knowledge and awareness is trailing behind. Research on the impact of labels in other markets is therefore needed.

Our experiment did not include any brand names in order to avoid confounding effects. Future research could therefore look at whether differences exist between online marketplaces offering multiple brands and brand-owned stores in terms of halo effects and whether sustainability labels have the same effects in this setting. Brand-owned online stores are increasing in amount due to digitization and the fact that higher margins often can be achieved when cutting out middlemen (Gielens & Steenkamp, 2019). A brand is an important source of information and often used as a cue by customers to infer product attributes. As such front-page messages and labels may have another impact in such settings.

The significant results of the study have effect sizes above 0.54, indicating moderate to large effects. With regards to the power and non-significant results, the study is limited by the sample size. The sample used would have required an effect size of at least 0.48 to have both an appropriate significance level (0.05) and power (0.8). Hence, a larger sample might have found further effects from the treatments. The effect sizes and power were estimated using G*Power. (Faul et al., 2007).

A qualitative method with interviews could have included more exploratory questions and thereby generated qualitative insights into how customers perceive and use sustainability labels in online fashion retailing. However, as the aim was not to go deep and search for a context, the quantitative approach was more appropriate for this study (Eliasson, 2013).

As the experiment was a fictive scenario, emotions such as guilt could be stronger in reality when the customer is making a real purchase. This could be seen as a limitation as it might be difficult to feel guilty over an act which you did not actually perform, which might explain the overall low level of guilt.

Our study implies that enabling and making it easier for the customer to act more sustainably is important to increase sustainable consumption behaviors. Future research should therefore look at other concrete ways retailers can nudge customers in this direction. A potentially fruitful avenue could be the use of tools such as sorting and filtering the assortment based on a product's sustainability impact. Decision aids such as these can assist customers in reducing both time and effort required in an environment where information overload is likely (Parra & Ruiz, 2009). This appears to be especially important in a fashion context where multiple goals often are sought to be fulfilled.

Future research could also look at how to increase the perceived sustainability level of the actual products. Even though our study showed that customers do make more sustainable choices when given the opportunity, they still perceived the item as rather unsustainable. The effects of a sustainable product choice on attitudes and intentions could potentially be stronger if customers also perceive the item to be sustainable.

7. References

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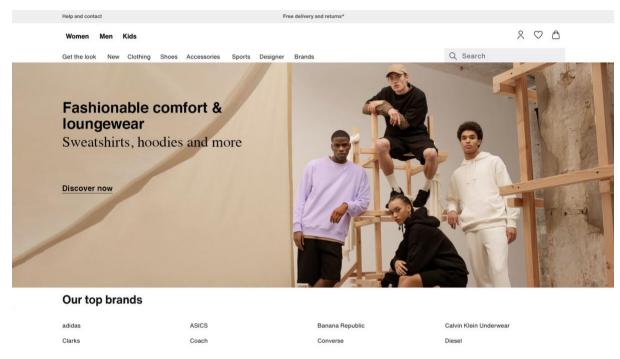
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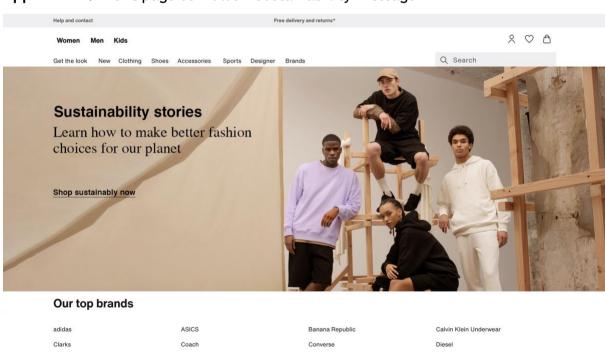
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8. Appendices

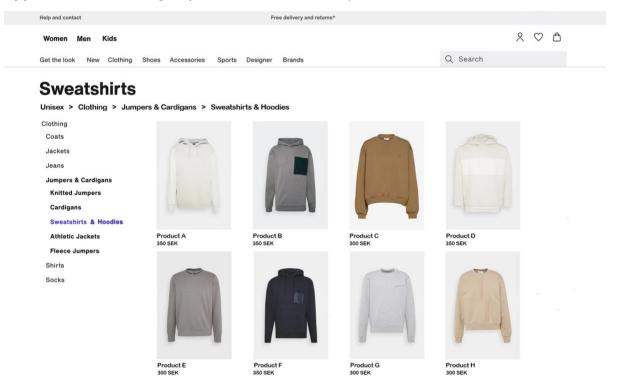
Appendix 1. Front page stimulus - Fashion message



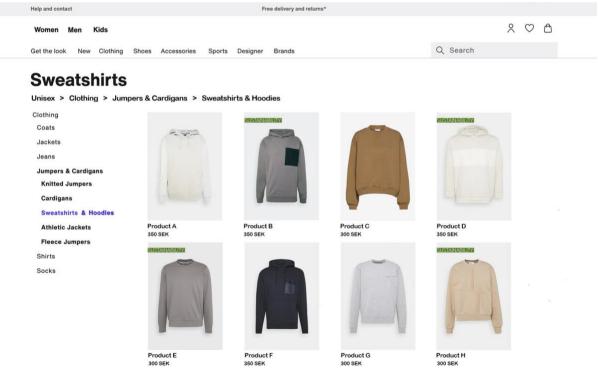
Appendix 2. Front page stimulus - Sustainability message



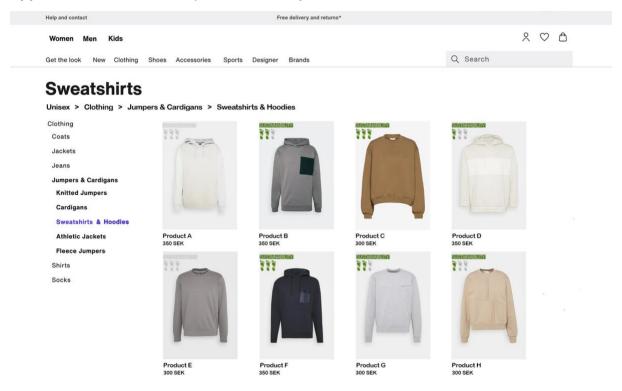
Appendix 3. Control group with no sustainability label



Appendix 4. Sustainability label 1 example



Appendix 5. Sustainability label 2 example



Appendix 6. Pre-test sustainability labels



Appendix 7. Survey

"Imagine you are online shopping for a sweatshirt in the online store below. On the following page you will see some of the assortment from the store. You are to choose a sweatshirt for yourself from this assortment. Following your choice, you will be answering some questions about your shopping experience."

- * Store front page stimuli *
- * Product scrolling page stimuli *

Which sweatshirt would you purchase from the above assortment?

Product A-H

What is your overall evaluation of the sweatshirt?

Bad - Good Dislike - Like Negative - Positive

How do you perceive the sustainability level of the chosen sweatshirt?

Very low - Very high

What is your perception of the quality of the sweatshirt?

Low quality - High quality Worse than average - Better than average

How satisfied are you with your purchase of the sweatshirt?

Extremely dissatisfied - Extremely satisfied

How well does your purchase of the sweatshirt meet your expectations?

Not well at all - Extremely well

How far from or close to the ideal was your purchase of the sweatshirt?

Not close to the ideal - Extremely close to the ideal

To what extent do you agree with the following statements

The sustainability label is a good source of information

Strongly disagree - Strongly agree

I feel that the sustainability label is valuable

Strongly disagree - Strongly agree

I feel that the sustainability label is credible

Strongly disagree - Strongly agree

I believe that the sustainability label is a good reference when purchasing a product

Strongly disagree - Strongly agree

What is your overall evaluation of the store?

Bad - Good Dislike - Like Negative - Positive

How likely is it that you would recommend this online store?

Extremely unlikely - Extremely likely

How likely is it that you would purchase from this retailer again?

Extremely unlikely - Extremely likely Improbable - Probable

Select number 7

7 - 2 - 4 - 5

To what extent do you agree with the following statements?

Generally speaking consumerism is not sustainable

Strongly disagree - Strongly agree

I am willing to put forth a little more effort in my daily life to reduce my environmental impact

Strongly disagree - Strongly agree

I believe that many people can work together to solve a global problem

Strongly disagree - Strongly agree

Clean air is part of a good life

Strongly disagree - Strongly agree

Our present consumption of natural resources will result in serious environmental challenges for future generations

Strongly disagree - Strongly agree

The well-being of others affect me

Strongly disagree - Strongly agree

The assortment in the online store was very attractive

Strongly disagree - Strongly agree

I feel guilty after making this purchase

Strongly disagree - Strongly agree

How environmentally friendly do you think that the retailer is?

Not environmentally friendly at all - Very environmentally friendly

How old are you?

15-20, 20-25, 25-30, 30-35, 35-40, 40+

Which gender do you identify with?

Male, Female, Other