LEE, YOUNGDEOK, M.S. Effects of Eco-labels and Framing Message on Consumers' Attitudes toward the Advertisement, Consumers' Attitudes toward the Brand, and Consumers' Evaluations of Brand Equity. (2021)
Directed by Dr. Kittichai Watchravesringkan. 192 pp.

In response to environmental challenges, today's consumers shift their choices toward more sustainable products to promote a sustainable economy, not to mention are willing to support environmentally responsible companies. Because the increasing consumers' intention is to buy eco-apparel, the size of the eco-apparel market soared. According to Hong and Kang (2019), it is estimated that the revenue of the eco-apparel market will grow from USD 64.95 billion in 2015 to USD 74.7 billion in 2020, with a compound annual growth rate (CAGR) of 11.5 percent. Understanding sustainable clothing's unique definition can not only provide consumers with the right information to make the right sustainable clothing purchase decisions. It is recommended that eco-apparel brands consider incorporating implicit insignia such as seals of approval or eco-labels to differentiate their brand from others, thus enhancing brand equity. Furthermore, although many advertisements employ environmental messages to attract consumers who are interested in environmental problems, consumers are still skeptical about environmental claims because the claimed messages do not contain imagery information which can enhance the persuasiveness of advertisement. Therefore, the purpose of the present study is to verify the effectiveness of advertising approaches in the context of sustainable apparel (i.e., eco-apparel).

The current study employed a 2 (Eco-label: Absence vs. Presence) x 2 (Framed Messages: Positive vs. Negative) between-subject design to answer all hypotheses. The

structured survey was made available through Qualtrics. The final sample consisted of one hundred sixty-four usable responses to be used in the subsequent analysis. Among the respondents in the final study (n = 164), nearly 76% were females and almost 18% were males. The respondents were predominantly Caucasians (43.3%), followed by African Americans/Black (32.3%), Asian (10.4%), multiracial (9.7%), and Hispanic. The majority of respondents (79.2%) were aged between 18-23 years. All hypotheses were tested using the Statistical Package for the Social Science (SPSS). A series of multivariate analysis of variance (MANOVA) was performed to examine hypotheses 1 through 9. A series of simple regression was performed to test hypotheses 10 and 11. Although MANOVA results showed that positively framed messages revealed a stronger effect on consumers' attitudes toward the advertisement and the brand as well as consumers' evaluations of brand equity as measured in terms of brand image, brand credibility, perceived brand quality, and brand loyalty, the presence or the absence of the eco-label had no impact on these dependent variables. In addition, no interaction effect was found. The results of simple regression demonstrated that consumers' attitudes toward the advertisement and consumers' attitudes toward the brand are important determinants of consumers' evaluations of brand image, brand credibility, perceived brand quality, and brand loyalty dimensions of brand equity. Theoretical and managerial implications are provided. Limitations and research directions are addressed.

EFFECTS OF ECO-LABELS AND FRAMING MESSAGE ON CONSUMERS'

ATTITUDES TOWARD THE ADVERTISEMENT, CONSUMERS' ATTITUDES

TOWARD THE BRAND, AND CONSUMERS' EVALUATION OF BRAND EQUITY

by

Youngdeok Lee

A Thesis Submitted to
the Faculty of The Graduate School at
the University of North Carolina at Greensboro
in Partial Fulfillment
of the Requirements for the Degree
Master of Science

Greensboro
2021

Approved by

<u>Kittichai Watchravesringkan</u>
Committee Chair

APPROVAL PAGE

This thesis written by Youngdeok Lee has been approved by the following

committee of the Faculty of Graduate School at the University of North Carolina at

Greensboro.

Committee Chair
_____
Dr. Kittichai Watchravesringkan

Committee Members
_____
Dr. Nancy Hodges

_____
Dr. Jin Su

June 18th, 2021
Date of Acceptance by Committee

June 18th, 2021
Date of Final Oral Examination

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

vi

LIST OF FIGURES

CHAPTER I

INTRODUCTION

Research Background

The Importance of Sustainability in the Apparel Industry

Since the 1980s, there has been a growing interest in the environmental

sustainability issue across practitioners and academics around the globe (Choi & Ng,

2011). In response to environmental challenges, today's consumers shift their choices

toward more sustainable products to promote a sustainable economy, not to mention are

willing to support environmentally responsible companies. Nowadays, environmental

issues in the apparel industry are becoming increasingly critical. Several researchers (e.g.,

Kim & Damhorst, 1998; Kozar, Kim, & Connel, 2013; Rothenberg & Matthews, 2017)

address the importance of sustainable development in the apparel industry by suggesting

apparel companies be conscientious of designing ethically and environmentally friendly

apparel. The reason is the apparel industry otherwise causes environmental and ethical

issues. The industry is known for the excessive use of water, chemical treatment in the

dyeing process, preparation process and large amounts of disposable clothing deposited

in landfill (Lee, Choi, Kim, Han, Ko, & Kim, 2020). For example, considering the

importance of speed and low-cost production, many fast-fashion brands such as H&M,

Zara, and Forever 21 have produced disposable clothing, all of which scholars and

practitioners criticized their unsustainable practices (Ryding, Caratù, Jiang, &

Henningers, 2015). It is reported that in 2018, the clothing industry discarded 75 percent

of un-recycled fabrics and more than 300,000 tons of clothing ended up in landfills in Britain. However, this problem is not limited to Britain; it is a global issue (The Economist, 2018). In the United States, each person wastes approximately 68 pounds of textile each year. The increased number of textiles waste has raised concerns about environmental well-being such as reusing toxins into water or soil (Connel, 2011). However, despite several attempts to introduce environmentally friendly sustainable initiatives, the sustainable clothing market in many parts of the world (e.g., South Korea) has not received much attention from the local apparel industry (Hong & Kang, 2019).

While some apparel brands such as H&M and Zara have practiced the unsustainable quantity-over-quality business model that leads consumer purchases of inexpensive shoddy clothing, others have addressed and applied the business model toward sustainability concerns. For example, on Thanksgiving Day of 2011, Patagonia launched a promotional campaign with an interesting message, "Don't Buy This Jacket." Many apparel businesses were surprised with Patagonia's advertising message as it aimed to shy away from consumerist concerns for the sake of environmental protection. Patagonia insisted that quantity is not the only way to profit, but quality can bring lasting revenue. Such business strategies show how apparel consumers are committed to sustainable practice without having to manufacture excessive amounts of merchandise. Rattalino (2018) also stated that sustainability is the key to being competitive in the market with economic and social objectives.

As the Patagonia campaign emphasized the important relationship between apparel and the environment, the demand for environmental consideration and

consumers' interest in shopping for eco-apparel has gradually increased (Blanchard, 2007; Lee, 2011). Likewise, Gam (2011) also mentions that many environmentally friendly products are available in the apparel market due to the increased awareness of environmental issues among consumers. Furthermore, several sustainable apparel brands (e.g., American Apparel, People Tree, and Edun) report the importance of environmental concerns as a crucial factor when developing effective marketing campaigns (Alwitt & Pitts, 1996). According to Alwitt and Pitt (1996), it is reported that consumers are concerned about environmental issues in the purchase decision phase, referring to themselves as "environmentalists." Today's consumers express their preferences toward environmentally friendly produced apparel, so-called "eco-fashion" or "eco-apparel," which plays an important role in the fashion industry. With regard to this, consumers are also willing to pay more for eco-apparel products (Ryding at el., 2015).

Because the increasing consumers' intention is to buy eco-apparel, the size of the eco-apparel market soared. According to Hong and Kang (2019), it is estimated that the revenue of the eco-apparel market will grow from USD 64.95 billion in 2015 to USD 74.7 billion in 2020, with a compound annual growth rate (CAGR) of 11.5 percent. As more consumers express their concerns about environmental protection and their preference for purchasing eco-apparel, several "green consumers" who want to maintain their environmentally friendly shopping habits are also increasing in the clothing market. Specifically, Rothenberg and Matthews (2017) reported that almost 70 percent of consumers in the United States indicated that they prefer to do business with companies driven by an environmentally friendly business strategy. Therefore, it is undeniable that

eco-apparel has acquired a reputation among scholars and practitioners. Environmentally friendly business models embrace ethical and environmental practices. In addition, Dikson (1999) reported that consumers' environmental concerns, knowledge, attitudes, and responsible manners in the disposal of apparel influence their intentions to purchase apparel. Although most consumers tended to express their concerns about environmental issues or purchasing eco-apparel, they were still less knowledgeable about sustainability, despite their educational attainment level (Connell 2010; Kim & Darmhorst, 1998). The absence of knowledge may be indicative of an insufficient definition of sustainable apparel. As Hong and Kang (2019) stated, understanding sustainable clothing's unique definition can not only provide consumers with the right information to make the right sustainable clothing purchase decisions. The transparency of a definition can also enable business stakeholders to formulate strategic marketing plans.

Sustainable apparel can be divided into two categories: socially responsible apparel and environmentally friendly apparel. Socially responsible apparel (or ethical apparel) refers to clothing manufactured "with commitment to the environment, fair labor, education, and other social causes" (Hyllegard, Yan, Ogle, & Lee, 2012). Hustvedt and Dickson (2009) further added that ethical apparel is made under fair labor conditions regarding worker, health, and safety issues; none of which involved animal abuse. Environmentally sustainable apparel (or eco-apparel) is produced under environmentally friendly conditions such as using organic cotton, less water, fewer pesticides, and raw materials (Chang & Watchravesringkan, 2018). Hong and Kang (2019) also refer to eco-apparel as apparel manufactured that uses recycled materials or natural fibers; dyed with

natural resources such as minerals and plants. Bickart and Ruth (2012) observed that

many consumers do not fully understand the meaning of eco-apparel. Perhaps this is

partially due to apparel companies' ineffective marketing communications that fail to

promote eco-apparel's sustainable characteristics. In addition, Hustvedt and Dickson

(2009) contended that consumer acceptance of eco-apparel has been limited due to a lack

of awareness of production processes used for manufacturing apparel and environmental

problems. Therefore, it is recommended that eco-apparel brands consider incorporating

implicit insignia such as seals of approval or eco-labels to differentiate their brand from

others, thus enhancing brand equity.

  To raise consumer confidence in a particular brand and/or company, researchers

suggest providing credible signals to differentiate among brands/companies. As such,

brands and/or companies can apply seals of approval to assure consumers said brands

and/or companies are reliable and credible. A key feature of this type of certification or

seal is the commitment on the brand/company's behalf, to abide by the defined standards

of these certification entities. Researchers have reported that the consumer will feel

confident when they see the seal of approval logo on the advertisement (Parkinson, 1975;

Taufique, Vocino, & Polonsky, 2017).

  According to Parkinson (1975), seals or certifications of approval are "private

aids designed to give the buyer some dependable third-party assurance as to the quality of

the products that they are buying" (p. 2). In general, consumer magazines (*Good

Housekeeping*), professional organizations (BBB, TRUSTe), and governmental agencies

are granted these seals and certifications. In recent years, eco-labels or environmentally

friendly labels have appeared on several apparel products in the U.S., Europe, and Asia as "these labels are the manifestation of industries' efforts to become or to be perceived as environment-friendly" (Nimon & Beghin, 1999, p. 801). According to Taufique et al. (2017), eco-label is a symbolic assurance that informs consumers about the effects on the environment of the production, consumption, and waste phase of the products/services consumed; as such, consumers can trust that the product is made under the environmentally friendly condition.

Recently, the Federal Trade Commission (FTC) of the United States strives to improve the verification and credibility of eco-labeling (Moore & Wentz, 2009). Similarly, the European Union (EU) continues to implement sustainable development in its member states by updating the environmental policy related to eco-labels. These labels must be easily recognized by consumers to help them make informed and conscientious choices about products that have a low environmental impact throughout their lifecycle (McCarthy & Burdett, 1998). In Asia, Taiwan's Environmental Protection Administration (EPA) launched the Green Mark Eco-label program to strengthen the country's environmental protection, especially in the manufacturing sector (Mufidah, Jiang, Lin, Chin, Rachmaniati, & Persada, 2018). Examples of eco-labels used worldwide include the European Union's Ecoflower, the German Blue Angel, the Scandinavia Nordic Swan, the Global Organic Textiles Standard, the Green Product Certification in India, and the USDA Organic. Researchers have stated that although eco-labels can help consumers make responsible decisions, many eco-labels for textile and apparel products found on the market may not be as successful as other product categories (e.g., organic food)

because sustainable practices in the apparel industry are more complicated for consumers to understand given complex supply chain operations (Aspers, 2008; Carrero & Valor, 2012; Ma, Gam, & Banning, 2017). In addition, Atkinson and Rosenthal (2014) suggested companies should consider employing eco-labelling as a strategic means to enhance brand equity; however, the impact of eco-labels on consumer evaluations of brand equity may vary depending on their level of understanding and value of label claims (de Boer, 2003.

The Role of Advertising in Brand Equity Creation

Brand equity is a key marketing concept because of its ability to provide a competitive advantage to firms. Bendixen, Bukasa, and Abratt (2003) have suggested that substantial brand equity will strengthen their competitive advantage, which in turn allows a firm to enjoy its market share, market position, and long-term revenues. Brand equity is a salient part of constructing a brand's identity and strength for the targeted market; thus, it is important to determine the brand's position and its value in consumers' minds (Aaker, 2009; Hameide, 2011; Todor, 2014; Yoo & Donthu, 2001). Moreover, the brand's added value endowed by a brand is based on its past activities to improve its reputation. According to Pappu, Quester, and Cooksey (2005), there are two major perspectives to study brand equity: financial- and customer-based. According to Wang (2010), the financial-based brand equity (FBBE) is defined as an additional economic value offered by a brand that has a potential benefit to generate earnings. The financial perspective emphasizes the value of a brand to the firm (Feldwick, 1996). The measures of brand equity could focus on stock prices or brand replacement (Myers, 2003). On the

other hand, consumer-based brand equity (CBBE) is defined as "the differential effect of brand knowledge on consumer response to the marketing of the brand" (Keller, 1993, p. 2). Brand equity occurs when the consumer is familiar with the brand and holds favorable and unique brand associations in their memory. Driven by cognitive psychology, Aaker (2009) defines brand equity as a set of assets and liabilities associated with a particular brand, such as awareness, customer loyalty, credibility, perceived quality, and brand association. Walgren, Ruble, and Donthu (1995) identified several marketing advantages of a brand with strong equity, including greater brand loyalty, inelastic response to price increase, larger margins, less vulnerability to competitive marketing actions, and brand extension opportunities. They further stated that brand equity is also important for all stakeholders, including retailers, manufacturers, and consumers. For manufacturers, strong brand equity can be a key competitive advantage for firms. For retailers, strong brand equity can positively contribute to all aspects of the retailer's attributes: store atmosphere, store traffic, or consumer desire to purchase products. For consumers, strong brand equity is the key to leading them to purchase products or become loyal to the brand. Therefore, brand equity is not only important for promoting the brands but also for the market position relative to other competitors (Aaker, 2009; Walgren, Ruble, & Donthu, 1995).

Likewise, the brand equity concept can be similarly applied to the eco-apparel market. Kim and Damhorst (1998) report that a brand's environmental concern efforts can attract consumers; therefore, such efforts enhance the possibility of consumers' purchase intention. Chen (2010) also notes that as consumers are becoming more

knowledgeable about environmental issues, companies can improve the brand's equity by stressing the severity of said issues. Improving brand equity elements can impact consumers' perceptions as well as behaviors. It is imperative that companies understand the role of these elements for designing and implementing the strategies that focus on environmental issues; as such, these firms could become a pioneer in an environmental movement. However, the important question remains unanswered: How can companies improve their brand equity? Through which vehicles or mediums can they improve it?

Advertisement is a medium that can shape the consumer's attitude and behavior through the use of visual and verbal information. Researchers (e.g., Aaker & Day, 1974; Hyllegard, Ogle, & Yan, 2009) suggest that consumers' favorable responses and attitudes toward advertisements can lead to purchasing behaviors. As such, advertising can be used as a reliable source of information to convince and persuade the audience (Rodger & Thorson, 2012). Numerous studies have reported that consumers' favorable attitudes toward the advertisements play an important role in enhancing brand equity dimensions such as perceived brand quality, brand association, brand image, and brand awareness (Aaker & Biel, 2013; Chen, 2010; Buil, Chernatony, & Martinez, 2013; Nikabadi, Safui, & Agheshlouei, 2015). In response to the increase in public attention on environmental issues, many companies have chosen advertisements through media or newspaper to introduce environmentally friendly products to consumers in hopes that these unique advertisements will help to build consumers' values and translate them into transaction (Baldwin, 1993). Suki (2013) states that advertisements with environmental concern

messages are likely to raise consumers' awareness about environmentally friendly

products because they promote products or ideas about reducing environmental harm.

Several researchers (e.g., Chang, Zhang, & Xie, 2015; Tsai, 2007; Yan, Dillard, &

Shen, 2012) have suggested that to change consumers' attitudes and subsequent

behaviors, a message-framing technique is required to construct persuasion. These

previous studies have demonstrated the robustness of the message-framing technique in

several contexts, especially in advertising. Tversky and Kahneman (1981) stated that

negatively framed (i.e., loss frame) information has a larger influence on consumers'

judgment and decisions about products than positively framed (i.e., gain frame)

information. The reason negatively framed information holds more potency is because

losses and gains are valued differently in the context of environmental concern. If the

product advocated in the message represents positive environmental outcomes from the

use or purchase of the brand to consumers (potential gains), a positively framed message

should be more persuasive. If the product advocated in the message presents negative

environmental outcomes to consumers due to making poor decisions in choosing the

brand (potential losses), then a negatively framed message should be more persuasive.

Researchers (e.g., Tsai, 2007; Yan, Dillard, & Shen, 2012) have suggested that the use of

appropriately framed messages can enhance the claim's persuasiveness because the

message frame strategy is driven by the hedonic principle of motivation and cognitive

bias. However, despite its persuasive effectiveness, a message-framing strategy has

always been controversial because some cases work better with a negatively framed

message. In contrast, other cases work better with a positively framed message (Tsai,

2007). In addition, previous studies on the effectiveness of message-framing have revealed mixed findings as to which type of framing is more effective (Chang & Lee, 2010; Dijkstra, Rothman, & Pietersma, 2011; Donovan & Jalleh, 1999; Yan et al., 2012). For example, in Dijkstra et al.'s (2011) study on the consumption of fruits and vegetables, they found that the positively framed messages seemed to reach their goal of persuading consumers into consuming more fruits and vegetables as compared to the negatively framed messages. On the other hand, in the context of child poverty, Chang and Lee (2010) found that negatively framed messages (e.g., "Without your help, an unfortunate child will remain living in the dark") in charitable donation advertisements were more persuasive than positively framed messages (e.g., "With your help, an unfortunate child can have an opportunity for a bright future"). Therefore, negatively framed messages were likely to arouse viewers' consciousness and sympathy regarding the serious consequences should one take no action (p. 2913). Donovan and Jalleh (1999) added that the effectiveness of message-framing techniques is dependent on the context and the situation. Positively framed messages can be more effective in one situation, whereas negatively framed messages can be more effective in another. Several scholars (e.g., Jin et al., 2017; Jin, Zhang, & Chen, 2017; Yan et al., 2012) revealed that positively framed messages tend to be more persuasive if a behavior is associated with low risks. However, negatively framed messages tend to be less convincing if a behavior is associated with high risks.

Research Gap

Although many advertisements employ environmental messages to attract

consumers who are interested in environmental problems, consumers are still skeptical

about environmental claims because the claimed messages do not contain imagery

information which can enhance the persuasiveness of advertisement. (Testa, Iraldo,

Vaccari, & Ferrari, 2015). According to Eurobarometer (2009), seven out of ten people in

the European Union (EU) do not trust a firm's own environmental and ethical claims.

Three in ten people in the EU also responded that companies should provide better

product information about their environmental messages when they advertise it. In

addition, fifty percent of EU citizens stated that visual representation will be beneficial to

promote the advertisement about environmental issues because this creates transparency

in the market, likely enhancing consumer trust. Juslin, Ahonen, and Hansen (2001)

reported that the presence of eco-labels in the advertisements has positively influenced

the consumers' attitude because the eco-label shows a clear indication of communication

tools to appeal to green advertising. One of the biggest challenges in an environmental

advertisement of eco-apparel is to find an effective way to communicate with consumers.

Olsen, Slotegraaf, and Chandukala (2014) reported that how messages are framed

(positively or negatively) can be a significant persuasive factor. Yan et al. (2012) stated

that as positively framed messages bring positive emotion, this can increase

persuasiveness in communicating with consumers. Olsen et al. (2014) also mentioned

that message-framing techniques can promote communication between brands and

consumers as brand managers focus on generating environmentally sustainable brand

identity in the advertisements. Thus, message-framing techniques can be beneficial to increase consumers' attitudes toward the brand and its advertisement in environmentally sustainable apparel. However, there have not been many studies about the relationship between message-framing techniques and consumer attitudes toward the brand and its advertisement in the context of eco-apparel. Given the inconsistent findings regarding the effect of environmental framing messages on consumers' attitudes toward the ad and the brand, to date, very few studies have simultaneously examined the effects of eco-labels and framing message strategies on consumers' responses (Eurobarometer, 2009). Therefore, the current study investigates the lack of substantial studies of simultaneously examined effect of eco-labels and framing messages in the context of environmentally friendly apparel.

When a firm presents an environmental advertisement, an eco-label's presence in the advertisement can possibly impact the brand image, brand credibility, brand loyalty, and perceived brand quality of the products. Alamsyah, Othman, and Mohammed (2020) explained that an eco-label is one of the important key attributes in evaluating the environmentally friendly brand's identity because the presence of the eco-label can enhance the brand image and brand credibility as an environmentally friendly brand. Dekhili (2014) further stated that the presence of eco-labels in the advertisement can also help consumers to distinguish between environmentally friendly products and conventional products as it improves the products' credibility. On the other hand, in Grundey's study (2009) on eco-marketing and eco-labelling, he found that when the study participants were uncertain about the authenticity of eco-labels, they were likely to

display a lower degree of loyalty toward the advertised brand. However, in the context of consumption of fruits, the presence of eco-labels tended to enhance the perceived quality of products. For example, Maria et al. (2001) found that consumers prefer to choose eco-labeled apples over regular apples because the eco-label denotes the apple's quality. Therefore, based on these previous studies, eco-labels tend to positively influence the brand image, credibility, and perceived quality, but not the brand loyalty (Alamsyah at el., 2020; Dekhili, 2014; Grundey, 2009; Maria et al., 2001). However, there has not been much research on how eco-labels affect brand equity in the context of eco-apparel. In addition, although most of the research on framing has focused on the effects of the type of message-framing on attitudes (Bickart & Ruth, 2012; Chang et al., 2015) and decision-making, e.g., donation behavior (Chang & Lee, 2009), little attempt has been made to directly examine the effects of environmental sustainability message-framing on consumer evaluations of brand equity in the context of eco-apparel.

Purpose of the Study

The statements and considerable literature suggest the predictive utility of the eco-label and message-framing techniques on consumer attitudes. However, not much is known about the effects of eco-label and message-framing on consumer evaluations of brand equity. Therefore, the purpose of the present study is to verify the effectiveness of advertising approaches in the context of sustainable apparel (i.e., eco-apparel). Specifically, the objective of the study is three-fold:

1. To investigate the main effects of the eco-label (absence versus presence of eco-label) and the type of message-framing (positively versus negatively framed) on consumer attitudes toward the advertisements, consumer attitudes toward the brand, and consumer evaluation of the brand equity as measured in terms of brand image, brand credibility, brand loyalty, and brand perceived quality.

2. To explore the two-way interaction effect of the eco-label and the type of message-framing (positively versus negatively framed) on consumer attitudes toward the advertisements, consumer attitudes toward the brand, and consumer evaluation of the brand equity as measured in terms of brand image, brand credibility, brand loyalty, and brand perceived quality.

3. To examine the relationships between consumer attitudes toward the advertisement, consumer attitudes toward the brand, and consumer evaluation of the brand equity as measured in terms of brand image, brand credibility, brand loyalty, and brand perceived quality.

Significance of the Study

Studying the brand equity of eco-apparel and its influencing factors is beneficial for a company's long-term success because consumers are likely to gravitate toward products with great reputations. Although the success of the eco-labeling program is still debated in literature, some eco-labels have shown to be successful by adding value to products. As Kelly (2007) suggested, to properly manage brands, companies need to

employ effective strategies designed to reinforce and enhance the equity of the brand. Brand equity forms the brand's core value into consumers' perspectives. Also, the formulated brand equity in consumers' minds can either positively or negatively influence the company's future reputation. Thus, it is expected that the results of this study will offer both practical and theoretical contributions.

With respect to practical contributions, the evaluation of the equity of eco-apparel brands can be a salient foundation to better understand consumers' perceptions toward eco-apparel. Building well-established brand equity not only makes brands competitive in the marketplace, but also motivates consumers to purchase the product over competitors. As the study expects to reveal some significant factors in influencing eco-apparel brand equity, such results can provide a guideline for brand managers to consider in which dimensions of brand equity they should invest to attract consumers or which dimensions of brand equity they should revisit. If the brand managers know the strength of their brand equity, they can emphasize it in the advertisements. On the other hand, if the brand managers recognize the brand's weaknesses, they can strengthen said parts in hopes of transforming consumers' overall perception of the brand. For instance, in terms of environmental claims, credibility can be one principal factor. That is, it is expected that the findings of this study will contribute to the deeper understanding of the effects of eco-label and message-framing strategies on consumer attitudes and the evaluation of brand equity in the context of eco-apparel. This transformed brand image shifts consumers' perception of the brand; as such, this will eventually contribute to consumers' future product purchasing. In addition, the message-framing techniques can provide ways to

effectively deliver the messages they intend to convey to consumers. As a result, this leads consumers to have positive attitudes toward advertisements and eco-apparel brands. For example, if positively framed messages are more effective to advertise eco-apparel than negatively framed messages, the brand managers should create the advertisements with positively framed messages such as future benefits of purchasing eco-apparel. As such, messages are likely to persuade consumers by the effectiveness of the message-framing technique.

In terms of theoretical contributions, this study's results will contribute to the apparel branding, advertising, and environmental concerns literature by addressing the gaps in knowledge that exist in three ways. First, there is no known study that examines whether eco-labels and different types of message-framing techniques can be effectively used together as a marketing tool to motivate consumers to engage in purchasing environmentally friendly apparel. The current study addresses this gap by simultaneously examining the eco-label and the type of message-framing's effects on consumers' attitudes toward the advertisements, consumers' attitudes toward the brand, and their evaluations of brand equity. Secondly, several researchers have suggested that replication studies to improve theoretical understanding are needed in order to advance the advertising persuasion and environmental concern literature (Despande, Hoyer, & Donthu, 1986). Likewise, Douglas, Marrin, and Craig (1994) further stated that "strong theoretical and conceptual frameworks are needed, integrating constructs from different research traditions and disciplines' (p. 300) so that we can fully understand how eco-labels are processed by consumers. Third, with an experimental approach, it is expected

that the study will provide a methodological contribution as it will demonstrate how

consumers' attitudes and evaluations of eco-apparel brand equity can be impacted by the

eco-labels and message-framing techniques' persuasiveness.

Definition of Terms

Table 1: Definition of Key Terms

Terminology	Description
Advertising	Advertising is a charged communication medium that uses mass or social media to reach wide audiences for the purpose of selling a product, service or even idea explaining products' features (Moriarty, Mitchell, & Wells, 2012).
Brand Equity	Brand equity refers to assets that are associated with brand association, awareness, credibility, loyalty or perceived quality and added value to the product or service (Aaker, 2009).
Brand Image	Brand image refers to any memories that are linked to a brand (Namkung & Jang, 2013).
Brand Loyalty	Brand loyalty is a behavioral construct that is associated with consumers staying in a brand over competitors, repeating purchases (Nam, Ekinci, & Whyatt, 2011).
Perceived Brand Quality	Perceived quality is often referred to as the individual judgement of consumers about the overall excellence or superiority of the products or services from a brand (Snoj, Pisnik, & Mumel, 2004).
Brand Credibility	Brand credibility refers to a promise that the product or service that are informed in the advertisement offer same quality of products and services in reality (Erdem & Swait, 2004).
Eco-apparel	Eco-Apparel is defined as apparel that is produced using recycled or organic materials in environmentally friendly manufacturing conditions for the purpose of long-time use and prevention of environmental harm while making garments (Perry & Chung, 2016).

Eco-Labeling	Eco-labeling is an accreditation that proves a product's overall excellence from environmental harm awarded by the government or impartial third party that certifies environmental leadership criteria (Žurga & Forte, 2014).
Green Consumers	Green consumers refer to consumers who decide whether to purchase a product or service based on the estimation of environmental or social criteria (Žurga & Forte, 2014).
Message-framing	Message-framing is a strategy to reveal consumers' preferences between discrete options. For instance, a researcher can find people's preference by giving choices between positive and negative messages (Maheswaran & Levy, 1990).
Purchase intention	Purchase intention is a salient indicator of actual purchase among consumers (Chang & Wildt, 1994).
Seals of Approval	Seals of approval is a certification that provides assurance of the quality of products accredited by dependable third-party or even the government (Parkinson, 1975).
Sustainability	Sustainability is defined as an orientation that humans aim to continue living without environmental harm (Robinson, 2004). Sustainability also accounts for fulfilling the needs of direct or indirect future stakeholders considering a better environmental record for the businesses (Rothenberg & Matthews, 2017).

Organization of the Study

Chapter I laid a foundation by providing the background for the study, which overviewed the development of each of the subsequent studies. This chapter also addresses the research objectives for the study as well as the significant contributions that the current study can provide.

In Chapter II, a review of the relevant literature is provided. The literature addresses the foundation of environmental issues, eco-apparel, eco-labeling, message-framing techniques, and brand equity. The conceptual framework and development of hypotheses are also delineated.

Chapter III covers the study methodology, including the selection of stimuli, samples, development of questionnaires, and statistical analysis.

Chapter IV discusses data collection procedure, respondents' characteristics, descriptive statistics, hypotheses testing, and a summary of results of hypotheses.

Chapter V addresses the major findings from the current study, conclusion, implication, limitations, and future research directions.

CHAPTER II

LITERATURE REVIEW

This chapter discusses the relevant literature to uncover research questions previously presented in the introduction. This literature review covers discussion of the following: 1) Foundation of environmental issues and how they impact the apparel industry, 2) Eco-apparel and eco-labeling, 3) Signaling theory, 4) framing effect, 5) consumer attitudes toward the advertisements and the brands, and 6) brand equity. Presented at the end of this chapter is the conceptual framework along with its corresponding formulated hypotheses.

Foundation of Environmental Issues and its Impact on the Apparel Industry

Environmental issues are at the forefront of global crisis, many of which we are forced to face. Environmental concerns are multifaceted and can be classified into seven dimensions: concern for waste, wildlife, health, technology, popular issues, energy awareness, and the biosphere (Zimmer, Stafford, & Stafford, 1994). Due to the various types of environmental harm that can impact our planet, people require consistent solutions. Because environmental concerns are also associated with basic human values, such as protecting our biosphere, it is imperative to find solutions for protecting all dimensions of our environment to sustain our life (Schultz & Zelezny, 1999; Stern & Dietz 1994). Specifically, even if each person is concerned about environmental problems, there are different reasons as to why people care for the environment. To ascertain the reasons as to why people are involved in environmental issues, academics have attempted to study environmental issues in multinational contexts such as studies

comply with environmental codes of conduct used within multinational companies (e.g., Coca-Cola, Nestle, and Nike) (Christmann, 2004; Kilbourne, Beckmann, & Thelen, 2002; Schultz & Zelezny, 1999).

According to Zimmer et al. (1994), these environmental concerns originally derive from the 1900s. While green activists spur ecological movements in Europe, green politics are transferred to consumers' interest in environmental concerns in America (Zimmer et al., 1994). Consequently, American activists who have demonstrated pro-environmental behaviors became aware of discouraging using endangered animals' fur, consuming organic foods, or purchasing cruelty free beauty products (Cherian & Jacob, 2012; Zimmer at et., 1994). In the early 1960s, as members of society acknowledged the haphazard waste of natural resources, they recognized the effects of environmental issues, where they would pose a significant issue in the future. Many of which would cause ozone depletion, acid rain, deforestation, or even water and air pollution; as such, solutions for these issues are indispensable (Zimmer et al., 1994). Many governments and businesses have prepared several strategies for the future to cope with these expected factors of environmental harm. For instance, the United Kingdom Department of Energy and Climate Change's goal is to reduce greenhouse gases (GHGs) by 80 percent from 1990 to 2050 (DECC, 2012). Another example includes Walmart's announcement of its intention to highlight sustainable business development. Executing this development would, for example, include introducing environmentally friendly products in several product categories such as biodegradable diapers and trash bags (Zimmer et al., 1994). Besides said efforts, strategic agendas of environmental issues have been introduced by

many international organizations—such as Organization for Economic Co-operation and Development (OECD), United Nation (UN), and the European Union (EU)—as well as national governments in Finland, Germany, Japan, the Netherlands, and Sweden; all of which aim to develop a sustainable circular economy thereby providing sustainable business opportunities within the industry (Holtström et al., 2019).

While sustainability issues become a prominent matter for business stakeholders, and while many consumers become environmentalists, innovations in sustainable business models create new opportunities for the success of many companies (Joyce & Paquin, 2016). Particularly, academics recommend apparel firms to consider sustainable business innovation as the key to delivering social and environmental responsibility (Bocken, Short, Rana, & Evans, 2014). Furthermore, Holtström, Bjellerup, and Eriksson (2019) investigated how to develop a business model for sustainable apparel consumption. They first identified problems in the current apparel industry system, specifically that current apparel business models focus on different types of products' sales volume rather than sustainable practices. Such models can consist of reducing the production of and renting said apparel, both of which are produced at a higher quality. However, the strategy of renting apparel can lead to returned or recycled products that are not likely to be promoted in this business model because, generally, consumers do not fully comprehend the concept of clothing rental. To overcome this limitation, the study suggested that building strong relationships with customers can construct the spirit of a sustainable community among the brand's users. This approach will encourage

consumers to protect their community by applying pro-environmental behavior (Holtström et al., 2019).

As explained in the above study, the relationship between consumers and environmental issues plays a pivotal role in building sustainable business models. Although people may think that an impact on the environment from one consumer can be relatively diminutive, the cumulative environmental harms caused by multiple consumers are immense (Axelrod, & Lehman, 1993). For example, Americans purchase approximately an average of 64 pieces of clothing each year (Linden, 2016). However, the production of a t-shirt can produce 4.3 kg of carbon dioxide (CO_2). This amount of carbon dioxide (CO_2) can be explained as equivalent to 0.48 gallons of natural gas used, 4.6 pounds of coal burned, or 10 miles driven by a passenger car (Figure 1). Therefore, if an American purchases 64 pieces of clothing in a year, they use 30.72 gallons of gasoline. Although only 10% of Americans purchase 64 pieces of clothing each year, this is a complete waste of energy (Kirchain, Olivetti, Miller, & Greene, 2015).

Figure 1. Environmental Impacts to one t-shirt's worth of cotton.

Source: Kirchain, Olivetti, Miller, & Greene, 2015, *Massachusetts Institute of Technology, Cambridge*

Previous studies (e.g., Khare, 2019; Kim & Damhorst, 1998) reported that people's degree of concern about the safety and sustainability of the environment grows worldwide. In consequence, many manufacturers—including those of which produce apparel—have established corporate social responsibility programs. Additionally, they have infused their own sustainability policies to protect the environment and boost their businesses under sustainable brands. Companies undertaking corporate social responsibility initiatives aim to achieve successful commercialization through their ethical values to protect the natural environment (Parguel, Benoît-Moreau, & Larceneux, 2011). To support the natural environment, today's apparel businesses in different countries (e.g., Canada, United Kingdom, Australia, Japan, and India) are also committed to using more natural materials, such as organic cotton, instead of using chemically processed textiles or synthetic fibers (Hustvedt & Dickson, 2009). For instance, Italian fashion designer, Brunello Cucinelli, established fair trade practices to insulate the environment such that the designer can sustainably source cashmere or other raw textile materials from developing countries, specifically India and Mongolia. Similarly, Patagonia, Stella McCartney, Canada Goose, and Gucci have also earned a pro-environmentalist brand status as they produce their products through environmentally friendly means while considering the volume at which they manufacture products and the impact on the environment (Khare, 2019).

Eco-apparel and Eco-Labeling

Eco-Apparel

According to Perry and Chung (2016), eco-apparel is referred to as apparel produced by manufacturers who consider the environmental impact by producing apparel and using natural, organic, and recycled textiles to prevent any potential environmental harm. The main purpose of promoting environmentally friendly manufactured products such as eco-apparel is to maximize the longevity of products, reduce the use of unnecessary amounts of resources, minimize any potentially harmful pollutants that can be generated by the process of production or disposal of products, and cleanse the past environmental damage (Choim & Han, 2019). Furthermore, the main purpose of eco-apparel can be used as a guide to promoting sustainable product development, create new sustainable dyeing/finishing techniques in apparel manufacturing processes, and even propose new recycling apparel services (Zheng & Chi, 2015).

Given that eco-apparel is a broad topic, there are several studies that discuss eco-apparel on product performance, consumer behavior and purchase intention, and apparel material evaluation along with environmental impact (Cao, Farr, & Heine, 2009; Kirchain et al., 2015; Zheng & Chi, 2015). For example, Cao and her colleagues (2009) examined eco-apparel's performance by comparing two pieces of children's clothes: one made of traditional cotton and the other made of organic cotton. They found that organic cotton knitwear is less prone to discoloration than traditional cotton after washing (Cao et al., 2009). Curwen, Park, and Sarker (2013) also recognized the environmental problems in manufacturing clothing and proposed solutions by exploring the continuous improvement

of environmental protection in the apparel industry. They further noted that when perceived values of apparel are lacking, the design should be creative and innovative enough to enhance the perceived quality of the apparel. It is suggested that if the mark-up price is not competitive with ordinary apparel brands due to the relatively high cost of manufacturing eco-apparel, the company should build its own brand that emphasizes the green marketing concept (Curwen et al., 2013).

However, the concept of green-marketing, which refers to the relationship in the apparel between consumers' environmental impact and environmentally friendly product purchase concern has become popularized in the apparel business. Academics have conducted extensive research on various consumer behaviors relative to environmentally friendly clothing (Gam, 2011; Khare, 2019; Kim & Darmhorst, 1998; Lee, 2010; Perry & Chung, 2016; Rothenberg & Matthews, 2017; Žurga & Forte, 2014). For example, Kim and Darmhorst (1998) found that although most participants in their study indicated that they did not have sufficient knowledge about environmentally friendly apparel, such limited knowledge on eco-apparel still positively influenced their purchase behaviors Such results may imply that with greater knowledge comes, the willingness to purchase eco-apparel. In another study, Lee (2010) examined Chinese consumers' green purchase behavior and reported that peer pressure, social influences, and local environmental participation are the key factors that drive consumers' likelihood of green purchase behavior. In other words, if consumers are exposed to community groups where they share information about green issues, they are likely to participate in green purchases. In addition, Gam (2011) also found that consumers who are highly involved in sustainable

apparel and fashion are likely to purchase environmentally friendly apparel. Zheng and Chi (2015) also further explored consumers' attitudes toward environmentally friendly apparel, and their findings reinforced Kim and Darmhorst's (1998) conclusion that there is a positive relationship between knowledge about environmentally friendly apparel and purchase intention. Last, Gam et al. (2010) also reported that well-educated consumers on environmental issues are willing to pay a high price when it comes to purchasing environmentally friendly products such as eco-apparel. Thus, due to the increased consumer knowledge in environmental issues, these previous studies have demonstrated that many scholars in the marketing field are eager to study consumer behavior regarding environmentally friendly products (Butler & Francis, 1997). Ultimately, these studies indicated that the demand for green or environmentally friendly options has objectively increased in the apparel industry.

Eco-Labeling

The foundation of eco-labeling goes back to the early agriculture business. In the beginning of the agricultural business, there was no foundation of quality assurance from the government. Thus, private organizations started to establish their own standards for the quality of products and organic production (Atănăsoaie, 2013). After private organizations created their own labels, the government also established standards for organic production and product quality (Atănăsoaie, 2013). However, the standards between private and government organizations were different because these two organizations had different measurements in assuring organic production and product quality (Atănăsoaie, 2013). Thus, The International Task Force was established to

coordinate the differences in organic production standards between private organizations and the government. Once the standards for organic production were established, many environmental labels were introduced in many businesses including agriculture (Atănăsoaie, 2013). At the same time, the demand for eco-labels by green consumers has also increased (Moore & Wentz, 2009).

Due to increased attention to eco-labels, a proliferation of eco-label usage is flourishing in many businesses, such as the textile and apparel market (Moore & Wentz, 2009). Taufique, Vocino, and Polonsky (2017) stated that an eco-label is a symbolic indicator that a product has been scientifically verified as environmentally friendly. In addition, the term eco-label refers to a certification that proves that the product with an eco-label is manufactured in environmentally safe and friendly conditions (Lampe & Gazda, 1995). The purpose of eco-labeling was to originally convey the external environmental impact of the production, disposal and even consumption of the product (Atkinson & Rosenthal, 2014). Ultimately, the eco-label's objectives are to offer purchasers useful information about environmental impacts and to motivate the improvement of environmental standards by which business owners or governments practice (Gallastegui, 2002).

Eco-labels are generally categorized by private, independent, and non-partisan organizations or government entities (Lampe & Gazda, 1995). For example, the United Kingdom Eco-Labeling Board (UKEB), jointly developed by the British government and the Global-labelling Network (GEN), is a non-profit eco-labeling organization including North and South America, Asia, and Europe (McCarthy & Burdett, 1998). However, the

Organization for Economic Co-operation and Development (OECD) (1997) designated

three types of eco-labels. Defined by the international organization for standardization,

Type I is an environmental label applicable to a small number of product categories that

have little harm to the environment. These labels are often used to encourage consumers

to purchase products and indicate the product's overall characteristics. Type I is usually

known as an eco-label and is mostly associated with third-party environmental labeling

programs. Type II is an environmental label developed by manufacturers, importers, and

retailers to provide information about environmental impacts. For example, some of Type

II labels are recycled, ozone-friendly, and 60 percent phosphate free-labels (D'Souza et

al., 2007). Lastly, the Type III environmental label denotes a quantified product label

with pre-set indices such as the Environmental Product Declaration (EPD). Thus, while

Type I eco-labels judge the product's quality, Type II environmental labels leave that task

to consumers (OECD, 1997).

Knowledge of Eco-Labeling

The use of eco-labeling is often determined by consumer awareness or the

knowledge of their existence (McEachern & Warnaby, 2008). Knowledge of eco-labels

and environmental concerns often work together to form a positive consumer attitude

toward the environment. Based on Taufique et al. (2017), knowledge of eco-labels also

positively affects the consumer behavior of pro-environmentalist. Thus, eco-labeling

instills basic knowledge in consumers of products' values for environmental protection

(Daugbjerg, Smed, Andersen, & Schvartzman, 2014). In other words, renting knowledge

of eco-labels is very important in the context of environmental consumption (Taufique et

al., 2017). Dorothée, Hlaimi, Lucas, Perraudeau, and Frédéric (2009) pointed out that eco-labels solely provide the information consumers need in the decision-making process, considering the potential products' environmental impact that is otherwise indistinguishable. Thus, many consumers prefer to check environmental labels and purchase products with eco-labels. For instance, McEachern and Warnaby (2008) reported that 71% of respondents who consumed meat products tend to purchase those that contained a value-based label, also known as an eco-label. They further reported that 97% of participants read value-based labels prior to purchasing these products. Dorothée et al. (2009) stated that eco-labeling is a key determinant for consumers to decide whether the seafood is fresh and safe when purchasing seafood. Therefore, it is important that consumers have a complete understanding of eco-labels to make informed decisions that lead to purchasing environmentally friendly products (Daugbjerg et al., 2014). Additionally, most consumers wish retailers would provide products' environmental features and advise conscientious product choices. Whenever consumers shop, they do not possess enough information to assess the product's environmental features in most instances. As a result, consumers rely heavily on certain symbols such as eco-labels or seals of approval to verify said products contain the required green features (Daugbjerg et al., 2014). However, some academics argued that the use of eco-labels in advertisements is insufficient and does not change consumers' purchase behaviors toward environmentally friendly apparel (D'Souza, Taghian, Lamb, & Peretiatko, 2007).

Since the European Commission (EC) established the EC eco-labeling scheme in 1992 – a schedule designed to help consumers' purchase environmentally friendly

products - the European Union (EU) has proposed many regulations to initiate it. These regulations included implementing the following six steps: 1) Feasibility check, 2) Survey Market, 3) Quantification of impact on environment, 4) Assessment, 5) Create criteria, and 6) Decision by EC (McCarthy & Burdett, 1998). Due to the efforts of regulation on eco-label, many types of eco-labels have been circulating for 30 years. The Ecolabel Index (2014), one of the largest global directories of ecolabels, reports that there are 456 eco-labels in 199 countries and 25 business sectors including the food, textiles, and tourism business (Ecolabel Index, 2014). Although many countries such as Canada, Australia, Germany, Sweden, Brazil, India, and Japan have government-sponsored eco-labels, the United States does not have a government-endorsed eco-label program (D'Souza et al., 2007). For example, the NF environment certification is an eco-label that France developed in 1992. The NF environment eco-label provides general criteria for environmental products and publishes approved eco-friendly products. In 1988, Canada introduced the Environmental Choice eco-label to certify products' energy efficiency and the purpose of recycling. Environmental Choice maintains 119 licensees and 29 guidelines. Environmental choice provides approximately 1,400 certified products (Ecolabel Index, 2014). While Canada has Environmental Choice, the United States also has an eco-label developed by a U.S. non-profit organization called "Green Seal." Green Seal was developed in 1989 to improve firms' sustainability efforts of their products and services, thus leveraging the encouragement of environmental purchases among consumers. Green Seal awards "the Green Seal of Approval" to products that cause significantly less environmental harms than that of others. Germany's eco-label "Blue

Angle" is the world's first eco-labeling program created in 1977 by the German government. The purpose of Blue Angel is to set standards; to carefully examine the environmental impact of companies, industries, and trade unions by confirming the protection of resources, and considering greenhouse gas emission and the efficiency of fossil fuel use. However, Blue Angel has not covered the textile and clothing market. On the other hand, the Nordic Swan label recognized in Norway, Sweden, Finland and Iceland, is representative of the textile eco-label. The Nordic Swan label evaluates the use of cotton, polyester, lyocell, viscose, acetate, flax, and wool based on the fiber production process. Another textile eco-label is Oeke-Tex, originally developed by the Austrian Textile Research Institute in Vienna, Austria. Oeke-Tex formulated regulations on testing textile fabrics for harmful substances (McCarthy & Burdett, 1998) (see Table 2).

Table 2: Summary of Eco-label and Its Country of Origin

Eco-label	Country of Origin
NF Environment	France
Environmental Choice	Canada
Green Seal	United States
Blue Angel	Germany
The Nordic Swan	Sweden, Finland, Iceland
Oeke-Tex	Austria

Usage of Eco-Labels on Eco-Apparel

Although many industries use eco-labels, the apparel industry uses eco-labels more frequently than others (Jørgensen & Jensen, 2012). In the apparel industry, even if the attachment of eco-labels bears additional costs to textile products, the premium cost of eco-labeled apparel may be 30% higher than that of ordinary apparel products. For example, Canada's recognized Environmental Choice eco-label will charge an additional 0.5% fee based on the price of the product (up to $1,000,000). However, as the apparel brands mark up 30% of their products, they can cover the amount of 0.5% fees (Nimon & Beghin, 1999). D'Souza et al. (2007) stated that many consumers are likely to pay somewhat higher prices for eco-friendly products over normal products, given they do not want to compromise the products' quality. Sampson (2009) further added that consumers are interested in eco-apparel and pro-environmentalism behavior because most of them tend to have a strong positive attitude toward eco-friendly apparel and green products. Thus, the consumers' attitude is positively related to the purchase intentions of environmentally friendly apparel (Sampson, 2009). Lee (2011) also found that concerned consumers about environmental issues are likely to pay a premium price on eco-apparel to protect the environment.

The Impact of Eco-Labeling on Purchase Behavior

While many environmental concerns over pesticides, residues, and volatile organic compound emissions are regulated and explicitly delivered to consumers, eco-labels instill trust within consumers, thereby influencing their eco-apparel purchasing decisions (McCarthy & Burdett, 1998; Taufique et al., 2017). These scholars further

suggested that eco-labels play an important role in the purchase of environmentally friendly products, including eco-apparel. In addition, eco-labels increase the value of the products to assure the truthfulness and credibility of the claims (Nimon & Beghin, 1999). D'Souza et al. (2007) further clarified that eco-labels from non-partisan third parties can increase the credibility of products and better forms of communication between businesses and consumers. Ultimately, as eco-labeling standardizes the value of a product's environmental influence, it expedites the consumers' decision-making process on purchasing eco-products (Daugbjerg et al., 2014). According to Ryding et al. (2016), many consumers who are passionate about environmental issues are eager to buy sustainable apparel such as eco-apparel due to their desire to participate in pro-environmental activities. Eco-labels can signify trust in eco-product's claims and may encourage consumers to purchase them (D'Souza et al., 2007). Furthermore, eco-labels can increase consumers' satisfaction after purchasing eco-products.

As eco-labels have gained great attention in sustainability literature, many scholars (e.g., Nikolaou & Kazantzidis, 2016; Tang, Fryxell, & Chow, 2004) have attempted to examine the relationship between consumers' attitudes toward environmental concerns and purchase behavior on environmentally friendly products. Tang, Fryxell, and Chow (2004) investigated the influence of eco-labels on consumers' purchase intentions. Their study found that most participants in the consumer survey in Singapore agreed that they would like to have a certification of the product's environmental claims if they want to purchase eco-friendly products. Nimon and Beghin (2017) found that eco-labeled products can deliver a higher environmental quality to

consumers through the eco-labels. Tang et al. (2004) further stated that the eco-labels with both visual and verbal information can positively influence the purchase of green products in the web-based shopping experience. Cai, Xie, and Aguilar (2017) explained that consumers' knowledge of green products, education level, and past purchase experience can increase an awareness of eco-labels, which in turn, prompt consumers to purchase green products. They also mentioned that eco-labels can bring an opportunity to the green furniture market as it enhances retailers' reputation among consumers. In the context of textiles and clothing, Nimon and Beghin (2017) demonstrated that eco-labels can ensure the high environmental quality of the textile products, leading consumers to choose environmentally friendly products.

Signaling Theory

Social science scholars have employed the signaling theory to understand organizational strategies and adaptability as it provides firms the opportunity to integrate symbolic communication of social benefits and communicate them to consumers (BliegeBird et al., 2005). In addition, as signaling theory facilitates symbolic representation, it can explain the potential influence of many predictors of outcomes (Celani & Singh, 2011). Signaling theory is rooted in the study of information economics to minimize the asymmetrical information between two parties which function either as a signaler (i.e., usually the firm, the buyer, and the seller) or a receiver (a consumer) (Boulding & Kirmani, 1993). Myriad academic fields such as management, economics, anthropology, ecology, and biology have applied signaling theory to understand information asymmetry in various contexts (Connelly et al., 2011; Spence, 2002). For

example, in the business context, buyers and sellers have a relationship based on asymmetric information; i.e., while a seller knows everything about the products (e.g., quality, longevity, or durability prior to the sale), a buyer does not have the same amount of information about the product (Boulding & Kirmani, 1993). Despite the asymmetry of information, consumers are likely to experience an information gap (Spence, 2002). Consequently, consumers are not satisfied with the performance they expected from the products/services' claims or advertisements prior to purchasing them because said claims lack appropriate signals to communicate the products/services' features.

In addition, when the advertisement does not contain suggestive signals that can promote a product's strength and attract consumers, this asymmetrical information gap between consumers and the advertisement can interfere with consumers' willingness to purchase the products. For instance, when an advertisement claims a product is environmentally friendly without any substantial signals (e.g., an eco-label), consumers are not likely to trust the claims, therefore are less likely to purchase the advertised products. This may be that the advertised products have fewer attributes to ensure their environmental claims (Atkinson & Rosenthal, 2014). Therefore, it is suggested that delivering appropriate signals is an important strategy for business success as this strategic action is likely to decrease information search cost and perceived risk while enhancing the value of the product.

According to Connelly et al. (2011), signaling theory can be described as consisting of three elements in the signaling environment: signaler, signal, and receiver. First, a signaler is an essential component in signaling theory. A signaler usually refers to

insiders or internal persons (e.g., executives or business managers) who have information

about products or organizations. However, this private information is only provided to

signalers, including the initial sales volume of the sales departments, the brand strategy of

the research and development department, and even ongoing lawsuits or negotiations.

Second, a signal represents "a marketer-controlled, easy-to-acquire informational cue,

extrinsic to the product itself that consumers use to form inferences about the quality or

value of that product" (Bloom & Reve, 1990, p. 59). A signal can be positive or negative

information and the company must decide whether this signal must be communicated to

the seller. Signals can be actions or strategies employed by the seller including, product

warranties, price, advertising, and brand name (Bloom & Reve, 1990). In addition,

signals can contain either positive or negative information and the sellers will decide

which information need to be sent to the consumers depending on their communication

objectives. For example, if there is an apple that a firm wants to sell, the seller may want

to communicate the benefits of consuming an apple to the buyers. On the other hand, if

there is a campaign that promotes smoking cessation, the campaign manager may want to

inform the buyers about the negative consequences that smoking could harm their health.

Once the buyers observe the signal, they may or may not take action based on the

information received depending upon the credibility of the signals. The last component of

signaling theory is the receiver (the buyer). A receiver is defined as an outsider who lacks

information about the products or services that an insider (the seller) offers in the market.

In general, the receiver decides based on what the insider provides. In signaling theory,

consumers are usually viewed as outsiders, and business managers or owners are

described as insiders. Because there is information asymmetry between business managers and consumers, consumers tend to decide whether they want to purchase the product or service based on the information that business managers offer (Connelly et al., 2011).

Although the green market's potential benefits are expected to grow due to the rise of green consumerism, there are still ambiguous claims in advertisements that fail to convince consumers to purchase green products (Crane, 2000). Since green consumption is established based on the credence of claim, the authenticity and credibility of green messages are pivotal in green consumption (Atkinson & Rosenthal, 2014). Crane (2000) contended one of the main reasons why consumers hesitate to purchase green products is that consumers are unsure whether the green products' claims actually improve environmental issues over non-green products. Because ineffective green marketing strategies reduce consumers' interest in purchasing green products, some marketing strategies and tactics about promoting green marketing have been explored in academia (Crane, 2000). Signaling theory explains that manufacturers (signalers) are usually in an advantageous position compared to the consumers (receivers) because manufacturers have information about their products or services that consumers do not possess. This asymmetric information drives uncertainty in consumers about their purchase decisions and renders products or services less attractive.

On the other hand, there are some cases where consumers do not trust companies' claims despite being provided with signaling cues such as labels. Boulding and Kirmani (1993) mentioned that if the credibility of the claimed signal is questionable to

consumers, the untrustworthy signals become ineffective information. Nevertheless, an assurance of signals, such as an eco-label or seal of approval, may provide confidence to consumers in the truthfulness of a message claiming to endorse consumer trust. As Atkinson and Rosenthal (2014) stated, the message's credibility is especially crucial in environmentally friendly products' claims. Furthermore, to promote green marketing, an industry or business uses certain signals, such as environmentally friendly labels or eco-labels, as an indicator of green products (Nimon & Beghin, 1999). For example, Goswami (2008) reported that eco-labels not only are an assurance to consumers who make such purchases of green products, but they also guide consumers to make the right choices. Atkinson and Rosenthal (2014) also found that attaching eco-labels to the products can generate positive responses and attitudes toward environmentally friendly products among consumers. Therefore, the more effective and detailed the labels are used, the more consumers will trust the credibility of the environmental claims.

Framing Effect

Framing effects originated in the gain-loss framing message from the prospect theory by Kahmeman and Tversky (Cheng & Wu, 2010; Gary & Gaeth, 1988; Kahmeman & Tversky, 1979) and are defined as the systematic human tendency to choose different options in terms of gains (positive) and losses (negative) frame (Gonzalez, Dana, Koshino, & Just, 2005). If consumers receive a positive message, it likely relates to gain. Conversely, if consumers receive a negative message, it is likely to be related to loss (Jin, Zhang, & Chen, 2017). Framing effects have been used in clinical, social, business, and educational psychology fields, where scholars studied people's

decision-making processes (Donovan & Jalleh, 1999). Consumers' products or service purchasing decisions may differ within marketing communications depending on which messages (positively or negatively framed) are promoted.

According to the prospect theory, framing effects are generally explained with three types: risky choice, attribute framing, and goal framing (Tversky & Kahneman, 1981). Risky choice framing refers to varying outcomes of potential options with different risk levels. There are two different types of risky choices. The first type occurs when one affirmative option and one risk option are present. Tversky and Kahneman (1981) examined a situation where an Asian disease presented a fatal threat that could claim the lives of six hundred people. The American government prepared for this, thereby presenting two alternative choices for the participants to cope with this situation. Half of the participants received the gains-frame (an affirmative) version of two choices:

Option A: Two hundred individuals are saved.

Option B: A probability of a third of six hundred individuals are saved and two-thirds of which will not be saved.

Results showed that with the gain-frame version, seventy-two percent of the participants chose the non-probabilistic option (Option A) while only twenty-eight percent chose Option B.

However, when presented the other half of the participants with the losses-frame version that reads:

Option C: Four hundred individuals die.

Option D: A probability of a third of six hundred individuals will not die and

two-thirds of which will die.

Results showed that seventy-eight percent of the participants chose the risky

(probabilistic) option (option D) and only twenty-two percent preferred Option C

(Kuhberger, 1998; Tversky & Kahneman, 1981). The interesting findings from risky

choice framing are that once people are placed in risky choice situations, they are more

likely to make risky choices to avoid losses and adopt gains (Peters & Levin, 2008).

Attribute-framing refers to certain characteristics of an object which can be

leveraged in the framing effects - whether the key attribute is framed - in either positive

or negative valence (Levin, Schneider, & Gaeth, 1998). The basis of attribute-framing is

that positive framing effects advocates favorable results, whereas negative framing

effects support unfavorable or less favorable outcomes. Therefore, attribute-framing

works well in situations where there is a need to give insightful information framed

positively or negatively. Attribute-framing effects also help delineate how two different

framing effects influence consumers' decisions represented in advertisements. When

consumers receive information from attribute-framing effects, they directly estimate and

decide whether said information is valid (Levin et al., 1998). For example, Levin (1987)

examined the attribute-framing effect with a meat's fat percentage to assess the likelihood

of purchase intention based on how information is framed. In this study, Levin presented

two contrasting labels to his participants. His first example had shown meat labeled as

"seventy-five percent lean," which implied positive valence. The second example had

shown meat labeled as "twenty-five percent fat," which implied negative valence. After

providing this information, Levin asked participants to evaluate their purchase intention on meat based on these two labels. The seventy-five percent lean meat was high quality, less greasy, great tasting. It was presented as a positive-framing condition, which yielded more favorable results than that of a negative-framing condition (Levin, 1987). Similarly, Schul and Ganzach (1995) introduced the Pollyanna principle. The Pollyanna principle is defined as a process where people treat pleasant items more accurately and positively than unpleasant items (Matlin, 2016). The Pollyanna principle explained that the arousal of positive information primarily dominates the brain because pleasantness works mainly in the memory system. In contrast, the opposite occurs with unpleasantness, which is caused by recognizing negative information. A previous study showed that the consumers' purchasing intention was more favorable when the information was framed with a positive valence than when the same information was framed with a negative valence (Levin, 1987). On the other hand, Lin and Yang's (2014) study, which examined the attribute-framing effect on consumers' purchase intention in online shopping through observed eye tracking, found that the negatively framed advertisement led to a greater number of active eye tracking than the positively framed advertisements. Therefore, it is implied that attribute-framing effects can be employed effectively depending on whether a positively or negatively framed message is used.

The last type of effects is the goal-framing effect. The goal-framing effect manipulates the goal of humans' behaviors or actions, presenting two different framing messages. Goal-framing effects apply to a situation where framed messages are presented to achieve a goal. While a positively framed message is related to potential future

benefits, a negatively framed message is related to the behavior's consequences in the goal-framing effect (Selart, 2004). From a different perspective, positively framed messages have favorable outcomes in achieving their goal, whereas a negatively framed message has unfavorable outcomes. Newman et al. (2012) mentioned that one of the popular types of framing effects in advertising techniques is goal-framing, which is frequently applied in advertisements and health communications. For example, Rothman and Salovey (1997) conducted a study about mammograms using goal-framing. In their study, participants were divided into two groups. The first group of participants received a positively framed message about mammograms. The positively framed message stated that "if you get a mammogram, you take advantage of the best method for early detection of breast cancer." The second group received a negatively framed message about mammograms and warned, "if you don't get a mammogram, you fail to take advantage of the best method for early detection of breast cancer. The result of the study found that the negatively framed message, which was related to the loss, was more effective than the positively framed message, which is related to the gain. Thus, with goal-framing, the common finding was that negative-framing had a more effective outcome than positive-framing (Rothman & Salovey 1997).

Consumers' Attitudes toward the Advertisement and Brands

Consumers' Attitudes toward the Advertisement

Moriarty, Mitchell, and Wells (2009) defined advertising as a "paid form of persuasive communication that uses mass and interactive media to reach broad audiences in order to connect an identified sponsor with buyers (a target audience) and provide

information about products (goods, services, and ideas)" (p. 9). Attitudes are defined as personal feelings and favorable or unfavorable evaluations toward an object or idea (Tsang, Ho, & Liang, 2004). As supply for advertisements increases and myriad information is shared between consumers and companies, companies need to understand consumers' attitudes toward advertisements to deliver their message effectively.

Advertising can be defined by two categories: building a brand and providing guidance. Establishing a brand through advertising can provide information about products through mass media such as TV, magazine, news, radio, and social media (Wang, Zhang, Choi, & D'Eredita, 2002). Thus, building brands via advertising mainly focuses on establishing a positive image toward product, and ultimately leads consumers to purchase products. In addition, building brands through advertising allows companies to communicate with a multitude of people, thereby attracting many audiences. In contrast, providing guidance through advertising focused on helping potential consumers discover interesting information. This advertising is created to cater to consumers' needs and wants. Providing guidance through advertising poses one-to-one communication that leads to potential consumers attracting themselves to the advertisements (Wang et al., 2002).

Mackenzie and Lutz (1989) defined the concept of consumers' attitudes toward the advertisement as "a predisposition to respond in a favorable or unfavorable manner to a particular advertising stimulus during a particular exposure occasion. Under this conceptual definition, attitude toward advertising is comprised solely of affective response to the advertisement stimulus" (p. 49). Attitudes toward advertisements have

two dimensions: cognitive and emotional (Shimp, 1981). For the cognitive dimension, Muehling and McCann (1993) found that consumers' preference for brands can influence their attitude toward advertising. For example, consumers may have positive attitudes toward an advertisement when an attractive endorser (e.g., a celebrity) is shown in the advertisement. On the contrary, if a celebrity is shown whom consumers do not like or is unfit for the ad, they may display negative attitudes toward the advertisement. From an emotional perspective, consumers may have a positive or negative attitude toward the advertisement as the advertising evokes an emotional response. For example, some advertisements may arouse joy, happiness, or nostalgia whereas others evoke emotions such as sorrow, sadness, or despair (Shimp, 1981).

Therefore, depending on how the advertising is created and framed, it can influence consumers' attitudes toward the advertisement. An advertisement is created to include confusing or sexually explicit content that can sway the audience's attitudes. For example, according to Sallam and Wahid (2012), it is reported that the advertisements' messages can affect consumers' attitudes toward the advertisement when consumers lack information about the object in the advertisement. Hasegwa and Yoshida (2003) explained that when the advertisement uses sexually oriented apparel, consumer' attitudes toward an advertisement (e.g., for sports shoes) are positively affected. However, Hyllegard, Ogle, and Yan (2009) found that consumers were likely to view sexually oriented advertisements as more offensive than non-sexual ads. Therefore, the use of appeals and image of the ad and its ad copy content can affect consumers' attitudes.

Consumers Attitudes toward the Brand

According to Batra, Ahuvia, and Bagozzi (2012), a brand is defined as total perceptions and feelings that arouse emotion that consumers possess toward certain products or services identified by the brand's symbol or name. Kaushal and Kumar (2016) elucidated that consumers' attitudes can be an important predictor of a brand preference to consumers. Thus, to be specific, Ranjbarian, Fathi and Lari (2011) defined consumers' attitudes toward the brand by pinpointing their favorable or unfavorable feelings about the brand, which is constructed through advertising. Rossiter and Percy (1997) also defined the term attitude toward the brand as an outcome of the perceived benefits conferred by the brand, and benefits are the satisfaction of needs or wants. Ranjbarian et al. (2011) further noted that there is a relationship between consumers' attitudes toward the brand and its advertisement. According to Yoo, Kim and Stout (2004), it was reported that consumers' attitudes toward the advertisement strongly influence their attitudes toward the brand because both have a positive relationship with purchase intention. Furthermore, Mackenzie, Lutz, and Belch (1986) found that consumers' attitudes toward the advertisement can positively or negatively affect their attitudes toward the brand either directly or indirectly through advertisements from consumers' brand cognitions. Furthermore, Kaushal and Kumar (2016) reported that consumers' attitudes toward the brand mediates the relationship between their attitudes toward the advertisement and their purchase intention. Therefore, making the brand's name in the advertisement is crucial in motivating consumers to purchase a particular brand's products.

Likewise, consumers' attitudes toward the brand can be applied to environmentally friendly brands. As the green market consistently grows in the retail business including apparel companies (e.g., Patagonia, Stella McCartney, Gucci, and LVMH), consumers' attitudes toward the green brand become an imperative topic in the retail market. For example, Kim and Hall (2015) reported that several apparel brands had published green advertisements to increase their environmentally friendly brand image. In addition, Bartels and Hoogendam (2011) found that consumers' attitudes toward the green brand can positively affect purchase intention of organic food products as the green brand attitude mediates the buying behavior.

Brand Equity

Definition of Brand

The earliest use of "brand" derived from the eighteenth century as rigid laws were enforced to protect the products. For example, during the eighteenth century, merchants would attach a hallmark (a set of component marks) to prove their products' quality when trading gold or silver. As industrialization enabled mass production in the nineteenth century; however, consumers and firm managers required identifying the product's origin to distinguish the products from the competitors. In the twenty-first century, technological development such as smartphones or computers flourished for economies and consumerism. Nowadays, everything that is on the market is branded, meaning that brands play an important role in selling products (Hameide, 2011).

According to the American Marketing Association (AMA), a brand is defined as a name, symbol, design, term, or a combination of those components that identify the

sellers' products or services and differentiate them from other competitors (Riley, Singh, & Blankson, 2016). Hameide (2011) refers to a brand as an entity with a distinctive idea that bolsters functional and experiential features of products or services while promising a value reward and economic return to the producers through equity building. Hameide (2011) also added that a successful brand usually has a strong physical and mental identity such as quality of products or brand image, and they consistently produce a positive image in the consumer's mind.

Branding has been an important part of business strategies. As a firm builds a brand that can attract consumers, it can increase the firm's reputation and the company's capital stock performamce (Todor, 2014). Todor (2014) reported that a strong brand can enhance the company's value of up to five to seven percent in share prices and can reduce potential losses in a situation of massive devaluation. She also added that there is a positive relationship between the branding and the financial values of a firm in that the brand strength can explain twenty-five percent variance of the company's value in the market. A brand's value is determined by consumers' reactions to the company's products or services which refers to brand equity. Brand equity is defined as intangible assets or liabilities associated with a value to a brand's products or services (Todor, 2014).

Definition of Brand Equity

Consumers often use the terms "product" and "brand" interchangeably, although there is a distinction between product and brand. A product refers to an object or service that offers functional benefits for consumers. On the other hand, a brand is defined as a name or symbol which represents the value of a product or service beyond its functional

value (Cathy, Cynthia, & Donthu, 1995). Consumers usually prefer products with a brand name or logo over the products without because a brand serves as a certification that signals the quality and value of the products to consumers (Ayanwale, Alimi, & Ayanbimipe, 2005). Consumers' reactions to brands are caused by the fact that a brand's identity of a brand can add value to products. A brand's added value by a brand name or symbol which may convince consumers to purchase products is called brand equity (Cathy et al., 1995). Brand equity can offer several benefits to a firm. A brand that has strong brand equity can increase consumers' preference on the brand, sustain long-term cash flow, raise stock prices, increase competition in the market, and lead to successful marketing (Pappu, Quester, & Cooksey, 2005; Yoo & Donthu, 2001).

Many scholars have researched brand equity in the past decade as it is discussed in various perspectives (Aaker, 1991; Keller, 1993; Yoo & Donthu, 2001). Schivinski and Dabrowski (2014) reported that brand equity is inconclusively discussed without one agreement of its definition. While Keller (1993) defines brand equity as marketing effects that can attribute to a brand's value, the definition of brand equity is varied by behavioral predilections, favorable impressions and attitudinal dispositions. According to Ioannou and Rusu (2012), although brand equity can be defined in several ways, one of the most agreeable definitions of brand equity is the added value to a brand's products. The construct of brand equity, developed by Aaker (1991) and Keller (1993), is mostly used in branding literature (Ioannou & Rusu, 2012). In general, there are three perspectives for researching brand equity: financial-focused brand equity, strategy-focused brand equity, and consumer-based brand equity (Keller, 1993; Pappu et al., 2005). The purpose of

financial-focused brand equity is to evaluate the accounting values, representing the company's assets compared to its liabilities such as a brand for a merger, acquisition, and divestiture. For example, Keller (1993) explained that as Grand Metropolitan determines the difference between acquisition price and fixed assets, they can acquire new brand values. Therefore, as a firm emphasizes on increasing the accounting values, they enhance the brand equity. Strategy-focused brand equity aims to improve marketing productivity. With competitive marketing, a brand or firm seeks to develop better tactical decisions to be competitive in the market. Thus, a firm focuses on a marketing strategy to enhance brand equity.

Another perspective of brand equity is consumer-based brand equity, which is reflected from a consumer's perspective. Consumer-based brand equity is defined as the effect of a brand's knowledge on consumers' response to brand marketing (Pappu et al., 2005). Consumer-based brand equity arises when consumers are familiar with the brand and are closely associated with the brand (Keller, 1993). Consumer-based brand equity can increase consumers' satisfactions and confidence by enabling them to interpret and process information. This brand equity helps develop the firm's efficiency of marketing programs, such as brand extensions, adjustment of prices and profits, competitive advantage, and trade leverage (Keller, 1993).

Green Brand Equity

Since the 1990s, society has become increasingly aware of environmental problems and is expected companies to move toward using an environmental-conscious business model. As a result, today's consumers have become more and more willing to

buy environmentally friendly products. Academics have put in a considerable amount of effort to examine the green brand equity concept by virtue of the several initiatives to create green marketing awareness (Butt, Mushtaq, Afzal, Ong, & Ng, 2017; Chen, 2010). Thus, these scholars (e.g., Butt et al., 2017; Kang & Hur, 2012; Namkung & Jang, 2013) extended the study of brand equity into environmentally friendly products to understand the new concept of green marketing. For example, Butt, Mushtaq, Afzal, Khong, Ong, and Ng (2017) introduced brand equity in environmentally friendly (or green) brands. Butt et al. (2017) defined green brand equity as a brand asset and liability related to environmental concerns, which may increase or decrease the value of a product or service. This green brand equity is not only associated with the brand name or symbol, but it can also increase or decrease the brand value by providing consumers with eco-friendly products or services (Chen, 2010). In addition, Chen (2010) found that green brand image is positively related to green brand equity. According to Butt et al. (2017), it is reported that there is a strong relationship between consumers' knowledge and green brand equity toward environmentally friendly brands.

As companies begin to focus on green brand equity, they plan to launch a green brand to meet consumer needs. Therefore, when firms maintain a green brand image, they gain benefits, such as attracting potential customers concerned about environmental issues, becoming competitive in the market, and having a positive brand image that cares about the environment (Khandelwal, Kulshreshtha, & Tripathi, 2019). Ultimately, substantial brand equity can enable the company to have a competitive advantage by securing a better market position (Butt et al., 2017).

Brand Image

An image is a function to express the salient attributes of a particular product or service compared to one another. Brand image refers to any memories linked to a brand (Namkung & Jang, 2013). Chen (2010) observed that brand images cover experiential benefits along with functional and symbolic benefits. Brand image is useful for marketers by differentiating the brand from other competitors based on brand uniqueness or strength because it can build positive attitudes and feelings in consumers' minds (Namkung & Jang, 2013). To be specific, when there is a difficult situation to differentiate products or services by tangible features of products, brand images can play an important role. A positive brand image can construct the consumers' perception and enhance the attributes of a brand's products or services (Chen, 2010). For example, Apple's and Samsung's smartphones' features, such as hardware and software, are both excellent and have similar functions. However, Apple is more exclusive to Apple users in connecting with other devices, whereas Samsung is more open to any sources. This means that Apple can only connect with other Apple products, such as a MacBook, but Samsung can connect to other brands' products. Such brand image can help consumers decide on which smartphone to purchase. If consumers prefer to have an exclusive user service such as Apple, they may want to purchase Apple's iPhone. Thus, it shows a congruence between brand image and consumers self-image when consumers choose the brand's products or services (Kang & Hur, 2012).

A compelling brand image can enhance a positive attitude toward a brand. Faircloth, Capella, and Alford (2001) carried out a study to examine the effect of brand

image on overall brand attitude. They found a significant positive direct effect between brand image and brand equity (Faircloth et al., 2001). In other words, if a firm has a well-developed brand image, this can enhance brand equity. In green brand equity, Namkung and Jang (2013) denoted that if consumers have a good perception of green brand image, this can significantly increase a firm's green brand equity. As a result, this will lead the firm to be highly competitive in the market. Furthermore, Chen (2010) studied the positive impact of green brand equity, defined as consumers' overall impressions and conceptions toward an environmentally friendly brand, and found that as a green brand image enhances functional, symbolic, and experiential benefits to consumers, it ultimately increases consumers' satisfaction on green products (But et al., 2017). In addition, Chen (2010) also reported that a green brand image could also increase green trust. In other words, consumers are more willing to trust a product or service's environmental performance when the product or services has a favorable brand image.

Brand Credibility

Credibility is one of the popular subjects that are discussed in the academic marketing community. It is built by individuals' experience and previous interactions with a brand's products or services. Credibility can also be explained by an individual's experiential knowledge over time. As people use the products or services from a brand and assess their brand experience, brand's credibility is created from people. Therefore, credibility represents consumers' knowledge and experience about a brand (Kang & Hur, 2012). According to Erdem and Swait (2004), credibility can be defined as the believability of an individual's intentions toward a product or service.

54

When there is asymmetric information between consumers and marketers, and consumers are unsure about the products or services, a brand can serve as a signal that ensures the quality of products or services. If uncertainty levels are higher in selecting products among several options, credibility can impact the consumers' decision-making process. It also reduces the perceived risk and consumers' concerns before purchasing the products. Therefore, when products or services are in the market, one of the most crucial characteristics to emphasize is brand credibility.

Credibility is based on the relationship between consumers and a brand. If consumers can trust the brand, consumers are more likely to choose the brand. Credibility can be explained as two elements: trustworthiness and expertise. Trustworthiness explains if consumers can believe the products or services' information, which is presented by a brand's advertisements or claims. Expertise means that a brand is confident in consistently offering its products or services (Erdem & Swait, 2004). As the brand consistently offers the same quality of the products and services to consumers with trustworthiness and expertise, it also enhances the brand's perceived credibility.

According to Spry, Pappu, and Cornwell (2011), brand credibility is positively related to brand equity. Credibility as a useful marketing strategy increases consumers' perception of the products' or services' quality. Credibility is also an essential factor in increasing consumers' value of a brand, which means that consumers prefer a higher credibility brand. One advantage of brands having higher credibility is that they can expedite consumers' information-gathering process of the products or services. Since consumers are reluctant to spend more resources (e.g., time and effort) to gather

information on products or services, a brand with high credibility can reduce the consumers' information gathering costs, such as time to search the products using the internet (Spry et al., 2011).

Brand Loyalty

Brand loyalty refers to the degree of consumers' attachment experienced by the brand (Liu, Li, Mizerski, & Soh, 2012). Brand loyalty also becomes an ultimate brand objective to build high brand equity (Briliana, 2017). An indicator that the brand has a higher level of equity is a high degree of consumer loyalty. Consumer loyalty to a certain brand is the main factor of nourishment in marketing advantages such as increasing trade leverage, expanding market share, reducing marketing costs, and promoting price premiums (Kang & Hur, 2012).

Consumers' loyalty to a brand has been studied from two perspectives: behavioral loyalty and attitudinal loyalty. Behavioral loyalty is defined as the frequency of repetitive purchase behavior. Ho and Olsen (2011) denoted that behavioral loyalty is also referred to as the cumulative construct, which includes actual consumer behavior and future repurchasing behavior. In fact, behavioral loyalty is positively associated with brand trust, which creates a closer relationship between consumers and the brand. Attitudinal loyalty is defined as the psychological dedication consumers have toward a certain brand's products or services without repetitive purchase behavior (Chaudhuri & Holbrook, 2001; Nam, Ekinci, & Whyatt, 2011). In other words, attitudinal loyalty is consumers' satisfaction with the products or services from a brand, and behavioral loyalty is the tendency of consumers to buy a certain brand's products or services over

time (Liu et al., 2012). Loyal brand consumers are likely to continue a positive

relationship with the brand and make repeated purchases regardless of market changes

(Yu, Cho, & Johnson, 2017). In addition, some scholars (e.g., Curtis, Abratt, Dion, &

Rhoades, 2012) found that there is a positive relationship between consumer satisfaction,

repurchase intention, and brand loyalty. According to their study, consumers who are

satisfied with their purchase experience from a brand are more likely to repurchase the

products, and this experience ultimately leads consumers to commit to the brand (Curtis

et al., 2012).

Perceived Brand Quality

Perceived quality is often referred to as consumers' individual judgements about

the overall excellence or superiority of a brand's products or services (Snoj, Pisnik, &

Mumel, 2004). Perceived quality is built on consumers' subjective evaluations rather than

an objective evaluation of the product's quality. In branding, perceived quality is also

created by consumers' feelings about the brand. Recent scholars (e.g., Namkung & Jang,

2013) created perceived quality assessment tools based on consumers' subjective

perceptions of a brand's products. Thus, an accumulated perceived quality from

consumers' subjective evaluation of perceived quality determines the brand's overall

excellence. When consumers evaluate the quality of a product highly, marketers use this

information to charge premium prices (Namkung & Jang, 2013).

Perceived quality is also understood by the relationship between consumers and

marketers. When marketers strive for active communication with consumers, they can

understand the consumers' needs and wants. With regard to this information, as

marketers improve their products, they can increase their products' perceived quality. Ultimately, such companies' efforts could enhance the brand's competitiveness in the market (Snoj et al., 2004). Namkung and Jang (2013) mentioned that perceived quality is the main driver for brands' consumer retention continued purchase of the brand's products.

Conceptual Framework

Based on the research gap and purpose of the study with the literature review, a conceptual framework for this study is proposed (see Figure 2). This proposed conceptual framework stems from the following research streams: 1) signaling theory (e.g., Boulding & Kirmani, 1993; Spence, 2002); 2) message framing (Cheng & Wu, 2010; Gary & Gaeth, 1988; Kahmeman & Tversky, 1979); 3) eco-labels (e.g., Atănăsoaie, 2013); 4) consumers' attitudes (e.g., Batra, Ahuvia, & Bagozzi, 2012); and 5) green brand equity (e.g., Aaker, 1991; Chen, 2010; Keller, 1993; Yoo & Donthu, 2001).

The conceptual framework suggests how the apparel firm advertises the eco-apparel products with the presence (or absence) of eco-labels and different types of message-framing (positive vs. negative) are directly and indirectly impact on consumers' affective responses as measured in terms consumers' attitudes toward the advertisement and the brand and consumer evaluations of brand equity as measured in terms of brand image, brand credibility, perceived brand quality, and brand loyalty.

Figure 2. The Proposed Conceptual Framework
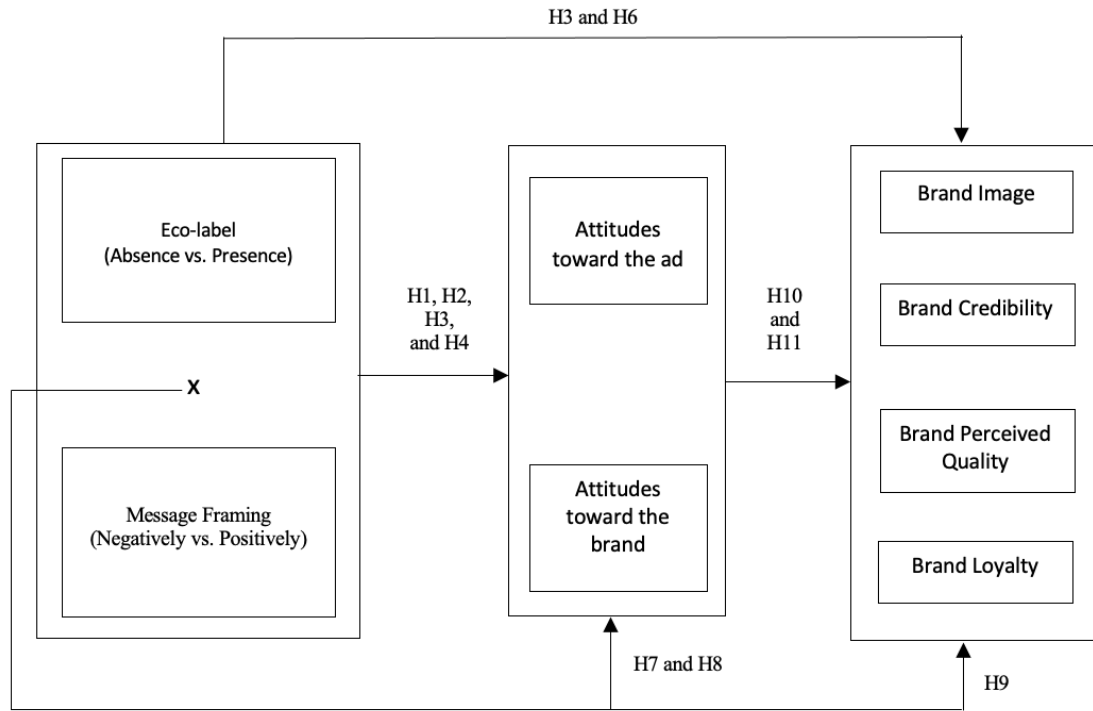
Hypothesis Development

Several hypotheses were developed to investigate the proposed conceptual framework. First, hypotheses 1, 2, and 3 investigate the impact of presence (absence) of the eco-label on consumers' attitudes and brand equity evaluations. Second, hypotheses 4, 5, and 6 examine the impact of negatively (positively) framed messages on consumers' attitudes and brand equity evaluations. Third, hypotheses 7, 8, and 9 explore the interaction effect between the presence (absence) and negatively (positively) framed messages on consumers' attitudes and brand equity evaluations. Lastly, hypotheses 10 and 11 examine the relationships between consumers' attitudes and brand equity evaluations.

59

Examining the Main Effect of Eco-label on Attitudes

Although many eco-apparel brands exist, current eco-Apparel attributes are ambiguous. There are no apparent benefits, such as better quality or design, that eco-apparel can attract consumers. This fact diminishes eco-apparel brand equity and consumer's attitude on eco-apparel. Eco-apparel businesses should ensure consumers that their claim is credible. Based on the Signaling Theory, asymmetric information between consumers and business managers negatively affects consumers' attitudes toward the brand (Cathy et al., 1995). In other words, if consumers receive enough information about the products or service, their attitudes toward the brand will be positive. Trope and Liberman (2010) described that environmental claim such as eco-labels could influence consumers' attitudes toward the advertisements. D'Souza et al. (2007) reported that consumers are likely to display favorable attitudes toward green products with the environmental label attached compared to green products with no credentials (i.e., environmental label). In addition, Guenther, Saunders, and Tait (2012) examined consumer's attitude toward the representation of carbon emission labels in food products in Japan and the United Kingdom (U.K.) and reported consumers prefer to see sustainability credentials such as eco-labels before purchasing these food products. Signaling theory also explains that a signal such as eco-label can increase the credibility of product position as well as improve consumer's attitude toward the eco-apparel (Atkinson & Rosenthal, 2014). Therefore, it is postulated that:

> H1: Consumers' attitudes toward the advertisement will be more favorable
> when the eco-label is present as compared to the eco-label absence.

H2: Consumers' attitudes toward the brand will be more favorable when

the eco-label is in presence as compared to the eco-label absence.

Examining Main Effect of Eco-label on Brand Equity

Brand equity is brand assets related to a brand such as brand name and symbol which can add or subtract a product or service's value provided by a company (Aaker, 1991; Chen, 2010). Aaker (1991) mentioned that brand equity important assets include a brand image, perceived quality and brand loyalty. According to Chen (2010), it was reported that brand image is positively related to consumers' evaluation of brand equity. Faircloth et al. (2001) also added that brand image positively influences brand equity. Keller (1993) proposed that consumers' perceived quality of brand constitutes brand equity. In addition, Aaker (1991) explained the importance of brand loyalty in brand equity.

Eco-labels are mediums that deliver information to consumers about products' environmental implications (Tang et al., 2004). Eco-labels contain visual logos and verbal messages to provide appropriate information to consumers. Based on the rigorous evaluation of multiple attributes of products from third parties such as Green Seal developed in the United States, products are awarded "seals of approval" to prove that the products are environmentally friendly manufactured (Tang et al., 2004). Atkinson and Rosenthal (2014) reported that an eco-label could lead to a positive attitude toward the brand's product as eco-label enhances trust. Reinders and Bartels (2017) explained that the main strategy to enhance the perceived value of green products is to increase brand equity with an effective marketing campaign; thus, consumer evaluations of brand equity

could be enhanced when the eco-label is included in the green products. Furthermore, they stated that eco-label could enhance a positive brand image of green products (e.g., organic products). In other words, this statement implies that eco-labels could signal consumers to develop a positive brand image. According to Larceneux, Benoit-Moreau and Valérie (2012), it is found that eco-labels enhance the attributes of environmentally friendly products, and positively impact brand equity, such as perceived quality. Reinders and Bartels (2017) also found that eco-labels such as organic logos positively enhance consumer evaluations of perceived product quality. Testa, Iraldo, Vaccari, and Ferrari (2015) further reported that a significant signal such as eco-label shown in green products could increase consumer loyalty toward a brand because it is likely to provide assurance to consumers in terms of product quality and instill trust in consumers' decision making process. Therefore, it is expected that consumers' evaluations of brand equity will be more favorable when an eco-label is presented in advertisements as compared to when an eco-label is not presented. Thus, it is postulated that:

> *H3*: Consumers' evaluations of brand equity as measured in terms of a)
> brand image, b) brand credibility, and c) perceived brand quality, and d)
> brand loyalty will be more positive when eco-label is present as compared
> to the eco-label absence.

Examining the Main Effect of Message Framing on Attitudes

Message-framing techniques are widely used in advertising to understand consumers' attitudes toward the brands and advertisements. Message-framing techniques are to manipulate the advertising messages negatively or positively so that they influence consumers' attitudes toward the advertisements and brand (Tsai, 2007). As message-framing techniques can interpret consumers' emotions, it can help to understand consumers' attitudes. Gain and loss framing messages developed by Kaheman and Tversky (1979) explains that gain is related to a positive emotion and loss is related to a negative emotion. To be specific, Yan, Dillard, and Shen (2012) reported that message framing technique is associated with behavioral inhibition (BIS) and approach (BAS) motivational systems because the emotional valence and motivation are highly intertwined. According to Yan et al. (2012), positive emotions are related to appetitive motivation such as BAS and negative emotions are related to aversive motivation such as BIS; this may imply that BAS is associated with a positive emotion such as happiness while BIS is associated with negative emotions such as fear. Thus, it is understood that positively framed messages (e.g., gain) can arouse a positive emotion and negatively framed messages (e.g., loss) can arouse a negative emotion. For example, when consumers who have a positive mood are shopping at grocery stores, they are likely to choose organic products which can help their health for the future. However, if consumers who have a negative mood are shopping at grocery stores, they are more likely to choose economic products to help their present financial situation (Labroo &

Patrick, 2009). Thus, this shows that a positive emotion promotes future benefits while a negative emotion arouses immediate benefits.

In addition, several previous studies found that consumers' attitudes are influenced by the information about environmental issues in several retail businesses such as wine, meat, and apparel (Forbes, Cohen, Cullen, Wratten, & Fountain, 2009; Hustvedt & Dickson, 2009; Sanchez-Sabate & Sabaté, 2019; Trope & Liberman, 2010). Trope and Liberman (2010) also mentioned that the environmental messages could influence the consumers' attitudes toward the advertisements. Forbes et al. (2009) reported that in wine consumptions consumers' awareness of environmental issues increases, information about environmental issues can affect consumers' attitudes toward selecting wine brands. Sanchez-Sabate and Sabaté (2019) noted that when consumers receive more messages about environmental impact on meat consumption, they are likely to change their meat purchase because of their environmental concerns. Hustvedt and Dickson (2009) reported that a symbol such as eco-labelling could influence consumers' attitudes toward choosing apparel brands.

As such, message-framing techniques can be applied to understand consumers' attitudes toward the brand and advertisements. Therefore, it is expected that:

H4: Consumers' attitudes toward the advertisement will be more favorable when environmental messages are positively framed as compared to when they are negatively framed.

64

H5: Consumers' attitudes toward the brand will be more favorable when

environmental messages are positively framed as compared to when they

are negatively framed.

Examining the Main Effect of Message Framing on Brand Equity

Message-framing techniques can also be used to understand brand equity. In the

advertisements, brand equity relies on the message that the advertisements contain

because brand equity can vary based on how the messages are constructed. For example,

credibility can affect differently based on the messages framed differently on the

advertisement (Arora, 2000). Kim and Kim (2014) found that when a positively framed

message is delivered with credible sources, there is a positive reaction from the

responses. Navarro-Bailón (2012) mentioned that consistent communication with

consumers is important to increase brand image. Navarro-Bailón (2012) further added

that delivering a consistent message to consumers can positively impact the image of the

brand. Due to consistent positive messages from the brand, Consumers think more about

the brand and consequently, they tend to have a higher evaluation of that brand than other

brands. Specific to the context of the banking industry, Palumbo and Herbig (2000) found

that promotional messages about a certain bank brand through advertising led people to

choose the bank brand over other competitors. It indicates that positive and promotional

messages make consumers more loyal to the brand than competitors. Steenkamp (1989)

denoted that as messages can be a tool that signals attributes of the products, they can be

employed to identify the quality of products and used to enhance the quality of the

65

brand's product. Therefore, it is expected that a positively framed message would interact with high brand equity. It is postulated that:

> H6: Consumers' evaluations of brand equity as measured in terms of a) brand image, b) brand credibility, c) perceived brand quality, and d) brand loyalty will be more positive when environmental messages are positively framed as compared to when they are negatively framed.

Examining the Interaction Effects between Eco-Label and Message Framing on Attitudes

Interaction effects occur when one variable depends on the other variable. Interaction effects can also look at the interaction between variables at each variable's levels (Howell, 2012). Through literature review and hypotheses developments, it is found that eco-labels can deliver the information to consumers about products' attributes and environmental implication (Tang et al., 2004). This information will affect the way consumers evaluate the products. On the other hand, depending on how messages are framed, consumer's attitude toward the advertisement or brand can be different. Specific to the consumers' attitudes, both message-framing technique and the presence (or absence) of eco-label can impact consumers' affective responses. Thus, it is theoretically hypothesized that the presence of eco-label and framing messages will affect consumers' attitudes toward the brand and the advertisements. Therefore, the study postulates that:

> H7: There will be an interaction effect between the presence (absence) of the eco-label and the type of message frames on consumers' attitudes toward the advertisement.

H8: There will be an interaction effect between the presence (absence) of

the eco-label and the type of message frames on consumers' attitudes

toward the brand.

**Examining the Interaction Effects between Eco-Label and Message-Framing on
Brand Equity**

Similar to interaction effects between eco-label and message-framing on

consumers' attitudes toward the brands and advertisements, it is indicated that eco-labels

and framing messages can both impact how consumers evaluate the equity of the brand.

It implies while consumers evaluate the brand's product or service, consumers indirectly

evaluate brand equity, including brand image, credibility, and perceived quality. Through

literature review and hypotheses developments, it is theoretically hypothesized that the

presence of eco-label and framing messages have an interaction effect on consumers'

evaluations of brand equity on eco-apparel—a) brand image, b) brand credibility, and c)

brand loyalty d) brand perceived quality. Therefore, the study postulates that:

H9: There will be an interaction effect between the presence (absence) of

the eco-label and message frames on consumer evaluations of brand equity

as measured in terms of a) brand image, b) brand credibility, c) perceived

brand quality, and d) brand loyalty.

Examining the Relationships between Attitudes and Brand Equity

Several studies found that consumers' attitudes toward the brand and the

advertisements are associated with brand equity such as brand image, brand credibility,

brand loyalty, and brand perceived quality (Faircloth et al., 2001; Hsu, 2012; Park,

MacInnis, Priester, Eisingerich, & Iacobucci, 2010). For example, Faircloth et al. (2001) reported that consumers' positive attitudes toward the brand could enhance brand equity as it leads to a positive brand image. In addition, Park et al. (2010) denoted that consumers' attitudes toward the brands can be an important driver to measure brand equity. According to Hsu (2012), it is found that advertising can influence consumers' evaluation of brand equity on a company's corporate social responsibility initiatives. Based on the literature review and hypothesis development, if there is an main effect for consumers' attitudes toward the brand and the advertisement and consumers' evaluation of brand equity, it is expected that there will be a relationship between consumers attitudes toward advertisement and brand and consumers' evaluation of brand equity. Therefore, the study postulates that:

> H10: There will be a relationship between consumers' attitudes toward the advertisement and consumer evaluations of brand equity as measured in terms of a) brand image, b) brand credibility, c) perceived brand quality, and d) brand loyalty.

> H11: There will be a relationship between consumers' attitudes toward the brand and consumer evaluations of brand equity as measured in terms of a) brand image, b) brand credibility, c) perceived brand quality, and d) brand loyalty.

Chapter Summary

The primary objective of this chapter is to provide relevant information related to the key constructs of signaling theory, message-framing, consumers' attitudes toward the advertisement and the brand, and brand equity. This information is then used to develop the proposed conceptual model. The proposed model will be empirically examined in the following chapter with several testable hypotheses in the context of eco-apparel.

CHAPTER III

METHODOLOGY

Chapter III discussed the methodology that is employed in this study to test the proposed hypotheses in Chapter II, Literature. To be specific, this chapter followed 6 steps: 1) the stimuli selection and pre-tests, 2) research design, 3) instrument and measurement, 4) subjects and procedures, 5) statistical analysis, and 6) chapter summary.

Based on Chapter I, the purpose of the present study is to verify the effectiveness of advertising approaches in the context of sustainable apparel (i.e., eco-apparel). Specifically, the objective of the study is three-fold:

1. To investigate the main effects of the eco-label (absence versus presence of eco-label) and the type of message-framing (positively versus negatively framed) on consumer attitudes toward the advertisements, consumer attitudes toward the brand, and consumer evaluation of the brand equity as measured in terms of brand image, brand credibility, brand loyalty, and brand perceived quality.

2. To explore the two-way interaction effect of the eco-label and the type of message-framing (positively versus negatively framed) on consumer attitudes toward the advertisements, consumer attitudes toward the brand, and consumer evaluation of the brand equity as measured in terms of brand image, brand credibility, brand loyalty, and brand perceived quality.

3. To examine the relationships between consumer attitudes toward the advertisement, consumer attitudes toward the brand, and consumer

70

evaluation of the brand equity as measured in terms of brand image, brand

credibility, brand loyalty, and brand perceived quality.

The details of methodology for conducting the study are explained in the

following section.

Stimuli Selection and Pre-test Study

To select appropriate stimuli, we performed two different pre-tests. These two

pre-tests were developed in Qualtrics and distributed to undergraduate students attending

RCS 464: Global Retail Strategy and Management class in the fall 2020 semester (n =

57) at the University of North Carolina at Greensboro (UNCG). In addition, extra credits

were given to the participants in the pretest. A total of 30 usable data were collected. The

goal of the first pretest was to find the most recognizable eco-label in the market.

Because there are many eco-labels available, we selected three eco-labels based on

countries such as the USDA Organic from the United States, the Ecolabel Flower from

the EU, and the Good Environmental Choice from Australia, and included some global

eco-labels so that participants had various options to select from. A total of six eco-labels

were provided in the pretest: 1) the United State Department of Agriculture (USDA)

Organic, 2) the EU Ecolabel, 3) the Good Environmental Choice from Australia (GECA),

4) the Global Organic Textile Standard (GOTS), 5) the Better Cotton Initiative (BCI),

and 6) the Certified B Corporation (see Table 3). This task was carried out to narrow

down the eco-label that was most recognized by the participants.

Table 3: Eco-Labels Used in Pre-Test

1. United States Department of Agriculture (USDA) Organic		USDA Organic is accredited by the department of agriculture in the U.S. This seal identifies specific types of organic fibers based on compliance with the National Organic Program (NOP) regulation.
2. European Union (EU) Ecolabel		EU Ecolabel is certified by the European Commission. We assure that a company uses limited use of harmful resources for environment and persona health, reduce water and air pollution, and consider color resistance to washing.
3. Good Environmental Choice Australia (GECA)		GECA's eco-label is certified by the Infrastructure Sustainability Council of Australia and a member of Global Ecolabelling Network (GEN), we assure and certify the quality of the sustainable fabrics.

4. Global Organic Textile Standards (GOTS)			Global Organic Textile Standard (GOTS) is the worldwide standard for organic textiles. We are affiliated with several countries such as United States, Germany, United Kingdom, and Japan. We verify and promote organic fabrics to protect the environment.
5. Better Cotton Initiative (BCI)			Better Cotton Initiative (BCI) is a global non-profit organization that promotes the worldwide cotton sustainability program. BCI focus on developing an environmentally friendly cotton production process.
6. B Corporation			B Corporation is responsible business where they put mission on promoting sustainable initiative such as seeking for great social and environmental performance.

In addition, in this pretest, participants received a questionnaire with six different eco-labels along with descriptions of each label. The participants were then directed to answer three questions: 1) "Which of the following eco-labels do you recognize most?

(Choose top 3)", 2) "Which of the following eco-labels do you know best about their

meaning and purpose? (Choose top 3)", and 3) "Which of the following eco-labels do

you think should be included in the advertising for eco-apparel? (Choose top 3)" (see

Table 4) Data were then aggregated and results revealed that the USDA organic label

revealed as rank 1, followed by the EU Eco-label, and the GOTS, respectively. Although

USDA organic label showed as rank 1, the label represents all category of products (e.g.,

foods, textile, and furniture). However, since GOTS was more specified to the context of

apparel, thus, GOTS label was selected for the study.

Table 4: Pretest 1: Questions

1. Which of the following eco-labels do you recognize most? (please select your top 3)

2. Which of the following eco-labels do you <u>know best about their meaning and purpose</u>? (please select your top 3)

3. Which of the following eco-labels do you <u>think it should be included in the advertising for eco-apparel</u>? (please select your top 3)

The second pretest aimed at identifying whether hypothetical scenarios related to two framed messages (positively versus negatively framed message) related to eco-apparel were received by participants as it was intended (emotions, potential benefits, and potential consequences). After viewing the framed messages, either positive or negative,

the participants were directed to answer questions related to assess positive (negative) valence, and potential benefits (potential consequences) about purchasing eco-apparel. To assess positive (negative) valence, participants were asked, "To what extent do you feel about this message in terms of your emotion?" This question was measured on 3 items and these three items were assessed using a seven-point sematic-differential scale his scale was anchored using different adjectives such as positive/negative, good/bad, and optimistic/pessimistic. Then the participants were asked to respond to the next question, "How believable is the scenario you just read that you are likely to encounter these potential consequences if you do not purchase eco-apparel products?" This question was assessed using a seven-point Likert type scale where 1 = "Not believable" and 7 = "Believable." Lastly, the participants were asked to respond to the question, "Given these potential consequences, to what extent are you worried if you do not purchase eco-apparel products?" This question was also assessed using a seven-point Likert type scale where 1 = "Not worried at all" and 7 = "Extremely worried."

In addition, a fictitious eco-apparel brand (SA*LA) was developed by the researcher to eliminate a possible bias from previous brand awareness. Below is information pertaining to positive (gain) framed messages.

> SA*LA, a new clothing company based in Los Angeles, is launching an affordable line of casual clothing for men and women. Its products are made with a blend of recycled and organic cotton without pesticides or chemicals, which can protect the soil and save water. SA*LA CEO encourages consumers to consider buying eco-apparel products because of several <u>POTENTIAL BENEFITS</u> that can happen to our environment, including
> - protecting the environment by using materials that contains less toxins and dyes, and other harmful chemicals,

- reducing the use of unnecessary amounts of textiles,
- reducing water consumption and waste production,
- reducing carbon footprint and will save you money in the long run,
- having unique clothes, and
- having no-allergic reactions to clothes because your clothes are not treated with chemical dyes

Below is information pertaining to negative (loss) framed messages.

SA*LA, a new clothing company based in Los Angeles, is launching an affordable line of casual clothing for men and women. Its products are made with a blend of recycled and organic cotton without the use of pesticides or chemicals, which can protect the soil and save water. SA*LA CEO encourages consumers to consider buying eco-apparel products; otherwise, our environment is likely to face several potential <u>CONSEQUENCES</u> that include:
- endangering the environment because of excessive use of toxins, dyes, and other harmful chemicals,
- wasting unnecessary amounts of textiles,
- using excessive water,
- increasing carbon footprint and will not save you money in the long run, and
- having allergic reactions to clothes because your clothes are treated with chemical dyes

Results showed that both framed messages were supposed to elicit expected valences. That is, the positive framed messages (PFM) received the mean of 6.24 and the negative framed messages (NFM) received the mean score of 3.80. For the question related to perceived believability of the scenario, the results showed that the PFM received the mean score of 5.88 and the NFM received the mean score of 5.29. These results demonstrated that these two framed messages were viewed as believable by the participants. For the question related to concern, the results showed that the PFM

received the mean score of 4.18 and the NFM received the mean score of 4.55. These results also revealed that the participants in the NFM revealed that they were more worried about the negative consequences if they did not purchase eco-apparel as compared to those who viewed the PFM. Based on the results from the pre-tests, it was concluded that framed messages were being manipulated effectively and will be employed in the final data collection.

Research Design

To examine all proposed hypotheses, a 2 (Eco-label: Absence vs. Presence) x 2 (Framed Messages: Positive vs. Negative) between-subject design was employed. As a result, there were four different scenarios. Scenario 1 was related to the absence of eco-label with positive framed messages about purchasing eco-apparel. Scenario 2 was related to the absence of eco-label with negative framed messages about purchasing eco-apparel. Scenario 3 was related to the presence of eco-label with positive framed messages about purchasing eco-apparel. Scenario 4 was related to the presence of eco-label with negative framed messages about purchasing eco-apparel (see Appendix A). The participants were randomly assigned to one of the four scenarios. There were two independent variables (main effects): eco-labels and framed messages. There were six dependent variables: consumers' attitudes toward the advertisement, consumers' attitudes toward the brand, and four dimensions of brand equity: brand image, brand credibility, perceived brand quality, and brand loyalty.

Instrument

The extant literature was carefully complied related to concept and measurement of variables being studied in the study. As a result, a structured questionnaire was developed, consisting of the following sections. First, participants were asked to read a hypothetical scenario about the eco-apparel advertisement, followed by a questionnaire used to assess consumers' attitudes toward the advertisement, consumers' attitudes toward the brand, and four dimensions of brand equity: brand image, brand credibility, perceived brand quality, and brand loyalty. Next, participants were asked to answer general questions regarding their emotions after viewing the ad, the believability of the ad, and the concern over the potential benefits (negative consequence) if they purchased (did not purchase) the advertised eco-apparel. Lastly, demographic questions were asked.

Measurements

The current study's measurement scales were adapted from various studies, including consumer attitudes towards the advertisement, consumers' attitudes toward the brand, and brand equity (e.g., Chen, 2010; Erdem & Swait, 1998; Lau, 1999; Faircloth, Capella, & Alford, 2001; Kareklas, Carlson, & Uehling, 2012; Tsang, Ho, & Liang, 2004). Table 5 summaries the major constructs that were employed in the current study.

Consumers' Attitudes toward the Advertisement

Consumers' attitudes toward the advertisement was adopted from Flynn, Goldsmith, and Stacey (2010), Mackenzie and Lutz (1989), and Shimp (1981) and based on five items (e.g., "Good/Bad", "Like/Dislike"). The scale revealed acceptable reliability and validity in previous studies (Faircloth et al., 2001; Goldsmith et al., 2010;

Karelas et al., 2012; Tsang et al., 2004). Although some previous studies used a Likert-type scale to measure consumers' attitudes (Karelas et al., 2012; Tsang et al., 2004), a sematic differential scale was more widely used in attitudinal and behavioral studies (Faircloth et al., 2001). Participants wwere asked to rate all five items assessing their attitudes toward the advertisement on 7-point semantic differential scales (e.g., "Informative/Uninformative").

Consumers' Attitudes toward the Brand

Consumers' attitudes toward the brand were adopted from Ahuvia and Bagozzi (1992), Faircloth et al. (2001), and Ranjbarian Fathi and Lari (2011) and based on five items (e.g., "Good/Bad", "Pleasant/Unpleasant"). The scale revealed acceptable reliability and validity in previous studies (Ranjbarian Fathi & Lari, 2011). Participants were asked to rate all five items assessing their attitudes toward the advertisement on 7-point semantic differential scales (e.g., "Attractive/Unattractive")

Brand Equity

The current study conceptualized consumer-based brand equity as consisting of brand image, brand credibility, perceived brand quality, and brand loyalty. These four dimensions of brand equity have been extensively investigated in previous studies (e.g., Chen, 2010; Kang & Hur, 2012; Kim & Oh, 2020). In addition, several studies showed that brand equity is measured in the context of environmentally friendly products (Chen, 2010; Kang & Hur, 2012; Kim & Oh, 2020). However, brand reputation/awareness, one of the dimensions of brand equity developed by Aaker (1991), was removed in this study

because the brand that was employed in this study is a fictitious brand created by the researcher. For the same reason, brand association was also excluded in this study.

The four dimensions of brand equity are brand image, brand credibility, perceived brand quality, and brand loyalty were assessed using a 7-point Likert-type scale where 1 = "Strongly disagree" to 7 = "Strongly agree"). These scales revealed acceptable reliability and validity in previous studies (Chen, 2010; Erdem & Swait, 1998; Lau, 1999).

Brand Image

Brand image were adapted from Chen's (2010) study. In his study, green brand image is regarded as a set of consumers' perceptions on green products related to environmental commitments and environmental concerns. This brand image scale were measured with four items (e.g., The brand is regarded as a great benchmark of environmental commitments," and "The brand is successful about environmental performance").

Brand Credibility

Brand credibility were adapted from Erdem and Swait (1998). This brand credibility scales were measured by five items (e.g., "This advertisement is concerned to behave responsibly regarding the environment").

Perceived Brand Quality

Perceived brand quality was adapted from Erdem and Swait (1998). A total of five items were used to assess perceived brand quality (e.g., "I believe this eco-apparel t-shirt uses environmentally friendly materials to protect the environment").

Brand Loyalty

Brand loyalty was adapted from Lau (1999). This brand loyalty scale was measured with four items (e.g., "If another brand is on a sale, I will generally buy the other brand instead of this one" and "This advertisement is concerned to behave responsibly regarding the environment").

Demographic Information

Demographic information was assessed related to participants' 1) gender, 2) age, 3) major, 4) ethnicity, 5) year at school, and 6) monthly allowance. Data pertaining to gender, ethnicity, and year at school was nominal (categorical data) and data pertaining to age was ratio data. Data related to monthly allowance was ordinal data.

Table 5: Summary of Key Measurements

Construct (No. of Items)	Item Description	Sources
Consumer Attitudes towards the Advertisements (5 items)	Based on the above advertisement, please rate the scales below by checking (X) in the empty space, according to how you feel about the advertisement. (Dislike/Like, Unfavorable/Favorable, Bad/Good, Boring/Interesting, and Uninformative/Informative)	Faircloth at el., (2001)
Consumer Attitude towards the Brand (5 items)	Based on the above advertisement, please rate the scales below by checking (X) in the empty space, according to how you feel about the brand (Dislike/Like, Unfavorable/Favorable, Bad/Good, Unpleasant/Pleasant, and Unattractive/Attractive)	Faircloth at el., (2001)
Brand Image (4 items)	The brand is exceptional in terms of environmental commitment.	Chen (2010)

	The brand is professional about environmental reputation. The brand is successful about environmental performance. The brand is well established about environmental concern.	
Brand Credibility (4 items)	The brand's product claims are believable. This brand has the ability to deliver what it promises. I do not trust the brand's product claims. This brand reminds me of someone who is competent and knows what s/he is doing.	Erdem & Swait (1998)
Brand Loyalty (4 items)	I would prefer this product over other products from non-sustainable brands. I would like to share this brand with my friends and family. If another brand is on sale, I will generally buy the other brand instead of this one. This brand would be my first choice if I need eco-apparel.	Lau (1999)
Brand Perceived Quality (5 items)	I believe the quality of this eco-apparel t-shirt is better than a normal t-shirt. I believe this eco-apparel t-shirt will last longer than a normal apparel. Based on the advertisement, the quality of eco-apparel t-shirt is high. This brand is one of quality.	Erdem & Swait (1998)

	This brand always represents very good products.	

Subjects and Procedure

Data was drawn from a convenience sample of students attending the University of North Carolina at Greensboro in the spring 2021 semester. A convenience sampling method was used because of several benefits: lower cost, a high participation rate, and shorter time in data collection. Questionnaires was administered through Qualtrics because of several benefits. First, it saved time. Second, it allowed for a vast number of participants. Third, it reduced the time of data collection. To maximize the sample size and enhance statistical power, the questionnaire was sent out to students in several different classes (with the permission of the instructor), offered through the Consumer Apparel and Retail Studies program (APD252 Studio II: Patternmaking and Draping 3; CRS231:Introduction to Apparel and Related Industries; CRS 262: Fashion Marketing ; CRS 312: Technical Apparel Analysis; CRS 363: Global Sourcing of Apparel and Related Consumer Product; CRS 481: Contemporary Professionals Issues in CARS; RCS 361: Fundamentals of Retail Buying and Merchandising). These participants were be asked to voluntarily participate in the study. As such, this gave participants the option to refuse to participate in the study if they wish. Participants had the time needed to complete the questionnaire. To prevent overlapping of student samples, we asked the participants not to participate in the study if they had already completed the survey from other classes. Furthermore, Qualtrics can track the IP addresses of participants; therefore,

repeated surveys are minimal. Extra credits were given to the participants as well. As a result, approximately 147 responses were collected.

Using college students as a sample has been found to be appropriate for social science research because college students are more homogeneous than non-student subjects (Bornstein, Jager, & Putnick, 2013; Gam, 2011; Jung & Jin, 2014; Kim & Kim, 2014; Lee, 2011; Perterson, 2001, Sun, Teh, & Linton, 2018) Peterson, 2001). Homogeneity of samples has many benefits including minimizing random errors (Calder, Phipllips, & Tybouts, 1981) and desirable for theory testing (Calder et al., 1981).

Additionally, Amazon Mturk was used to collect more data followed by two reasons. First, since the pandemic of COVID-19 affected to reduce the entire class size in the U.S. universities, there were not enough number of samples from gathering only UNCG. Second, as there was not enough sample size from UNCG, this potentially caused less statistical power, and led some results not to be significant. However, if the significance level of the data analysis falls below up to 10% at 95% confidence level where sample size is between 100 to 200, it is called acceptable margin of error (Suresh & Chandrashekara, 2012). As the margin of error is affected by sample size, gathering more sample size was recommended to find significance for the current study's data analysis. Thus, Amazon Mturk was employed to increase sample size. In order to screen out Mturk participants, the survey only applies to people located in the United States and studying at a university/college. Through the Amazon Mturk website, it can set specific locations to participate in the survey. Qualtrics' IP tracking is used to strengthen the screening of unexpected participants who are not in the United States. To distinguish

whether the participants are college students, Qualtrics' first question asks whether they are students. If the respondent answers yes, they can complete the survey. However, if participants said no, they were removed from the survey. To further ensure the quality of the survey, demographic questions were set up in the last part of this survey. Therefore, even if participants lied that they were students at the beginning of the survey, they would be filtered out by checking demographic information. All participants from Amazon Mturk who completed the survey received USD $1.00 as a benefit of participation.

Statistical Analysis

Data obtained in the study was analyzed using the Statistical Package for the Social Sciences (SPSS). Descriptive analysis was conducted (e.g., frequency, means, and modes) on the final data set pertaining to demographic information. The reliability (i.e., Cronbach's alpha, α) of each multi-item scale was assessed prior to subsequent analyses. A series of Multivariate Analysis of Variance (MANOVA), along with a series of Tukey's Honestly Significant Difference (HSD) post-hoc tests was employed to answer H1 through H9. A series of simple regression was performed to answer H10 and H11.

Chapter Summary

This chapter provided detailed information pertaining to research methodology (i.e., the stimuli selection and pre-tests, research design, instrument, measurements, subjects and procedures, and statistical analysis) that was used to answer all hypothesized relationships addressed in Chapter II.

CHAPTER IV

RESULTS

In this chapter, the results of the statistical analysis provide the answer to each hypothesis that was proposed in chapter 2. This chapter includes the following sections: (1) Data Collection Procedure; (2) Characteristics of Respondents; (3) Descriptive Statistics; (4) Hypothesis Testing; (5) A Summary of the Results of Hypotheses; and (6) Chapter Summary.

Data Collection Procedure

The structured survey was made available through Qualtrics, an online survey development service that gathers data in an organized manner that is compatible with Statistical Package for the Social Sciences (SPSS). The Qualtrics survey was conducted with students at the University of North Carolina at Greensboro. One hundred and forty-seven participants filled out the survey. Of these, seven responses were deleted because they were incomplete, leaving the total of 140 usable responses. In order to enhance the sample size, it was determined that additional responses were needed. As a result, the Qualtrics survey was made available in Mturk. One criterion used to select qualified participants was that they must be college students. A fee of USD1.00 per qualified participants was allocated as a payment to use this Mturk service. There was a total of forty Mturk participants responding to the survey; however, only twenty-four responses

were valid. Therefore, the final sample consisted of one hundred sixty-four usable responses to be used in the subsequent analysis.

Prior to combining data from two different sources (UNCG and Mturk), an independent samples t-test between UNCG data (n=140) and Mturk data (n=24) was conducted. If the results show that the two data sets (UNCG and Mturk data) are not significantly different in any item, the data from these two sources can be combined and used for subsequent analysis. The results show that there is no significant difference between UNCG data and Mturk data on all items, except two items assessing brand image ("The brand is professional about environmental reputation," t-value = 2.36, p < .05 and "The brand is well established about environmental concern," t-value = 3.586, p < .001) and one item assessing brand credibility ("This brand reminds me of someone who is competent and knows what s/he is doing," t-value = 2.31, p < .05) (see Table 6). As such, these three items were removed before proceeding with the subsequent analysis.

Related to five items assessing consumers' attitudes toward the advertisements, the results of the independent samples t-test showed that all five items revealed insignificant differences between UNCG data and Mturk data ("Dislike/Like," t-value = -.710, p = .479; "Unfavorable/Favorable," t-value = -.084, p = .933; "Bad/Good," t-value = .075, p = .940; "Unpleasant/Pleasant," t-value = -1.29, p = .197; and "Uninformative/Informative," t-value = 1.67, p =.10). Therefore, all five items from UNCG data and Mturk data were combined for the subsequent analysis.

In terms of five items assessing consumers' attitudes toward the brand, the results of the independent samples t-test showed that all five items revealed insignificant

differences between UNCG data and Mturk data ("Dislike/Like," t-value = -.003, p

= .997; "Unfavorable/Favorable," t-value = 1.45, p = .149; "Bad/Good," t-value = 1.13, p

= .257; "Unpleasant/Pleasant," t-value = .907, p = .366; and "Unattractive/Attractive," t-

value = -.900, p =.370). Therefore, all five items from UNCG data and Mturk data were

combined for the subsequent analysis.

In comparing four items assessing brand image, the results of the independent

samples t-test showed that two items revealed insignificant differences between UNCG

data and Mturk data ("The brand is exceptional in terms of environmental commitment,"

t-value = 1.38, p = .180 and "The brand is successful about environmental performance,"

t-value = .774, p = .440). Therefore, these two items from UNCG data and Mturk data

were combined for the subsequent analysis. However, the results also revealed significant

differences between UNCG data and Mturk data on two items ("The brand is professional

about environmental reputation," t-value = 2.36, p = .02 and "The brand is well

established about environmental concern," t-value = 3.58, p = .001; as such, these two

items were removed from the subsequent analysis.

In terms of four items assessing brand credibility, the results of the independent

samples t-test showed that three items revealed insignificant differences between UNCG

data and Mturk data ("The brand's product claims are believable," t-value = 1.33, p

= .190; "This brand has the ability to deliver what it promises," t-value = .349, p = .728;

and "I do not trust the brand's product claims," t-value = -.973, p = .332, respectively).

Therefore, these three items from UNCG data and Mturk data were combined for the

subsequent analysis. However, the results also revealed significant differences between

UNCG data and Mturk data on one item ("This brand reminds me of someone who is competent and knows what s/he is doing," t-value = 2.31, p = .022); thus, this item was removed from the subsequent analysis.

Related to five items assessing brand perceived quality, the results of the independent samples t-test showed that all five items revealed insignificant differences between UNCG data and Mturk data ("I believe the quality of this eco-apparel t-shirt is better than normal t-shirt," t-value = 1.11, p = .266; "I believe this eco-apparel t-shirt will last longer than normal apparel," t-value = -.175, p = .861; "Based on the advertisements, the quality of eco-apparel t-shirt is high," t-value = .999, p = .319; "This brand is one of quality," t-value = .021, p = .983; and "This brand always represents very good products," t-value = .003, p = .997; respectively). Therefore, these five items from UNCG data and Mturk data were combined for the subsequent analysis

Lastly, related to four items assessing brand loyalty, the results of the independent samples t-test showed that all four items revealed insignificant differences between UNCG data and Mturk data ("I would prefer this product over other products from non-sustainable brands," t-value = .463, p = .644; "I would like to share this brand with my friends and family," t-value = .243, p = .809; "If another brand is on sale, I will generally buy the other brand instead of this one," t-value = .777, p = .438; and "This brand would be my first choice if I need eco-apparel," t-value = -.981, p = .328; respectively). Therefore, these five items from UNCG data and Mturk data were combined for the subsequent analysis.

Table 6: Independent t-test between UNCG Data and MTurk Data

D.V		Mean (SD)	t-value	p-value
Consumers' attitudes toward the advertisements				
Based on the above advertisement, please rate the scale below by checking in the empty space, according to how you feel about the advertisement.				
Dislike/ Like	UNCG	5.02 (1.53)	-.710	.479
	Mturk	5.30 (1.26)		
Unfavorable/ Favorable	UNCG	5.01 (1.51)	-.084	.933
	Mturk	5.18 (1.36)		
Bad/Good	UNCG	5.20 (1.37)	.075	.940
	Mturk	5.15 (1.38)		
Unpleasant/ Pleasant	UNCG	4.57 (1.98)	-1.29	.197
	Mturk	5.30 (1.12)		
Uninformative /Informative	UNCG	5.64 (1.36)	1.67	.100
	Mturk	5.15 (1.42)		

Consumers' attitudes toward the brand

Based on the above advertisement, please rate the scale below by checking in the empty space, according to how you feel about the brand.

Dislike/Like	UNCG	5.37 (1.18)	-.003	.997
	Mturk	5.50 (1.46)		
Unfavorable/ Favorable	UNCG	5.35 (1.35)	1.45	.149
	Mturk	5.00 (1.33)		
Bad/Good	UNCG	5.55 (1.16)	1.13	.257
	Mturk	5.35 (1.42)		
Unpleasant /Pleasant	UNCG	5.47 (1.32)	.907	.366
	Mturk	5.10 (1.41)		

Unattractive /Attractive	UNCG Mturk	4.81 (1.58) 5.25 (1.41)	-.900	.370

Brand Image

The brand is exceptional in terms of environmental commitment.	UNCG Mturk	5.62 (1.09) 5.30 (1.26)	1.38	.180
The brand is professional about environmental reputation.	**UNCG Mturk**	**5.50 (1.24) 4.80 (1.50)**	**2.36**	**.02**
The brand is successful about environmental performance.	UNCG Mturk	5.34 (1.26) 5.15 (1.34)	.774	.44
The brand is well established about environmental concern	**UNCG Mturk**	**5.53 (1.17) 4.70 (1.30)**	**3.58**	**.001**

Brand Credibility

The brand's product claims are believable.	UNCG Mturk	5.34 (1.32) 5.15 (1.04)	1.33	.19
This brand has	UNCG Mturk	5.14 (1.24) 5.15 (1.38)	.349	.728

the ability to deliver what it promises.				
I do not trust the brand's product claims.	UNCG Mturk	3.18 (1.64) 3.65 (1.78)	-.973	.332
This brand Reminds me of someone who is competent and knows what s/he is doing.	**UNCG Mturk**	**5.23 (1.24) 4.70 (1.38)**	**2.31**	**.022**

Brand Perceived Quality

I believe the quality of this eco-apparel t-shirt is better than normal t-shirt.	UNCG Mturk	4.95 (1.31) 4.60 (1.35)	1.11	.266
I believe this eco-apparel t-shirt will last longer than normal apparel.	UNCG Mturk	4.91 (1.36) 5.10 (1.48)	-.175	.861
Based on the advertisement, the quality of eco-apparel t-shirt is high.	UNCG Mturk	4.81 (1.43) 4.45 (1.27)	.999	.319
This brand is one of quality.	UNCG Mturk	4.84 (1.30) 4.90 (1.33)	.021	.983

This brand always represents very good products.	UNCG Mturk	4.88 (1.26) 5.05 (1.46)	.003	.997

Brand Loyalty

I would prefer this over other products from non-sustainable brands.	UNCG Mturk	4.78 (1.54) 4.70 (1.38)	.463	.644
I would like to share this brand with my friends and family.	UNCG Mturk	4.83 (1.53) 4.80 (1.60)	.243	.809
If another brand is on sale, I will generally buy the other brand instead of this one.	UNCG Mturk	4.72 (1.53) 4.20 (1.54)	.777	.438
This brand would be my first choice if I need eco-apparel.	UNCG Mturk	4.37 (1.59) 4.80 (1.47)	-.981	.328

Characteristics of Respondents

The demographic characterizes of respondents are summarized in Table 7. Among the respondents in the final study (n = 164), nearly 76% were females (n = 124) and almost 18% were males (n = 29). The respondents were predominantly Caucasians (43.3%, n = 71), followed by African Americans/Black (32.3%, n = 53), Asian (10.4%, n = 17), multiracial (9.7%, n = 16), and Hispanic (4.3%, n = 7). The majority of respondents (79.2%, n = 130) were aged between 18-23 years, almost 17% (n = 28) were between ages of 24-30 years. Approximately 31% (n = 50) indicated their year at school as juniors; 26.2% (n = 43) were sophomores, 25.6% (n = 42) were seniors, 9.8% (n = 16) were freshmen, and 8% (n = 13) were graduates. In addition, the majority of respondents (81%, n = 133) were Consumer, Apparel, and Retail Studies major. Lastly, related to monthly income, almost 63% (n = 98) reported a monthly income of less than 1,000 USD (see Table 7).

Table 7: Demographic Characteristic of the Respondents (n=164)

Demographic Variables	UNCG	Mturk	Total (%)
Gender			
Male	16	13	29 (17.6)
Female	113	11	124 (75.6)
Prefer not to mention	11	0	11 (6.8)
Age			
18-20	67	3	70 (42.7)
21-23	53	7	60 (36.5)
24-26	12	7	19 (11.5)
27-30	6	3	9 (5.4)
31 and above	2	4	6 (3.6)
Major			

Consumer, Apparel, and Retail Studies	129	4	133 (81.1)
Others (Business, and science etc.)	11	20	31 (18.9)

Ethnicity			
Caucasian/White	50	21	71 (43.3)
African American/Black	53	0	53 (32.3)
Hispanic	7	0	7 (4.3)
Asian	15	2	17 (10.4)
Multiracial	15	1	16 (9.7)

Year at School			
Freshman	16	0	16 (9.8)
Sophomore	38	5	43 (26.2)
Junior	48	2	50 (30.5)
Senior	36	6	42 (25.6)
Graduate	2	11	13 (7.9)

Monthly Gross Income			
Under $500	42	2	44 (28.2)
$500 - $749	28	4	32 (20.5)
$750 - $999	17	5	22 (13.5)
$1,000 - $1,499	29	6	35 (22.4)
$1,500 - $1,999	7	2	9 (5.8)
$2,000 or more	10	5	15 (9.6)

Descriptive Statistics

Table 8 shows the descriptive statistics (i.e., means, standard deviations, and reliabilities) for the variables. The means of all constructs were above the midpoint (i.e., 4.00), ranging from 4.66 (Brand Loyalty) to 5.41 (Brand Image).a The standard deviation ranged from 1.03 ($M_{Brand\ Image} = 5.41$) to 1.27 ($M_{Consumers'\ attitudes\ toward\ the\ advertisement} = 5.08$), suggesting substantial variances in the responses.

To ensure the reliability of the variables, Cronbach's alpha was calculated. Cronbach's alpha is a widely used measure for assessing the reliability of a psychometrically developed scale (Peter, 1979). Cronbach's alpha was originally developed by Lee Cronbach in order to measure the internal consistency of a scale. The value of the Cronbach's coefficient ranges from 0 and 1, where 0 indicates a completely unreliable measure and 1 indicates a completely reliable measure (Tavakol & Dennick, 2011). Nunnally and Bernstein (1994) recommend that the reliability of all latent constructs should exceed the benchmark of 0.70 as an indication of acceptable measures. Table 8 shows the reliability of all measures used in the study. Overall, information from Table 8 indicates that all measures were reliable, except brand loyalty ($\alpha = 0.69$) and brand credibility ($\alpha = 0.67$) that displayed reliability close to 0.70. The values for Cronbach's coefficients ranged from 0.67 (brand credibility) to 0.92 (consumers' attitudes toward the brand). In summary, all measures demonstrated acceptable degree of reliability.

Table 8: Descriptive Statistics of Major Variables

Major Variables	Mean (SD)	Alpha
Consumers' Attitude		
Toward the advertisement (5 items)	5.08 (1.27)	.89
Toward the brand (5 items)	5.28 (1.15)	.92
Consumers' Evaluation of Brand Equity		
Brand Image (2 items)	5.41 (1.03)	.80

Brand Credibility (3 items)	5.07 (1.04)	.67
Brand Loyalty (4items)	4.66 (1.10)	.69
Perceived Brand Quality (5 items)	4.86 (1.13)	.90

Hypothesis Testing

Different statistical techniques were employed to test the proposed hypotheses. All hypotheses were tested using the Statistical Package for the Social Science (SPSS). A series of multivariate analysis of variance (MANOVA) was performed to examine hypotheses 1 through 9. A series of simple regression was performed to test hypotheses 10 and 11.

Examining the Main Effects of Eco-label and Message-Framing on Consumers' Attitudes

To test hypotheses 1, 2, 4, and 5 which predicted the impacts of eco-label and message-framing on consumers' attitudes toward the advertisements and consumers' attitudes toward the brand, multivariate analysis of variance (MANOVA) was conducted using eco-label (absence versus presence) and message-framing (negative versus positive) as the independent variables (i.e., between-group variables). The dependent variables include consumers' attitudes toward the advertisement and consumers' attitudes toward the brand.

H1 and H2 examined relationships between eco-label and consumers' attitudes toward the advertisement and consumers' attitudes toward the brand. MANOVA results revealed no significant main effect for eco-label, Wilks' Lamda = 0.999, $F_{(2, 151)} = 0.074$,

$p = .929$, $\eta^2 = .001$. According to Hair et al. (2010), the Wilks' Lamda statistic was

employed because "it is the one of most immune to violations of the assumptions

underlying MANOVA, while maintaining the greater power" (p. 162). Furthermore,

Box's M was not significant (Box's M = 14.273, p = .125), providing insufficient

evidence that the covariance matrices differ. Thus, these data were appropriate for the

MANOVA procedure. Further, the univariate main effect of eco-label was insignificant

on both consumers' attitudes toward the advertisement, $F_{(1, 152)} = 0.002$, $p = .964$, η^2

$= .000$ ($M_{Absence\ of\ Eco-Label} = 5.07$ versus $M_{Presence\ of\ Eco-Label} = 5.06$) and consumers'

attitudes toward the brand, $F_{(2, 151)} = 0.037$, $p = .848$, $\eta^2 = .000$ ($M_{Absence\ of\ Eco-Label} = 5.30$

versus $M_{Presence\ of\ Eco-Label} = 5.24$) (see Table 9). Therefore, H1 and H2 were not

supported.

Table 9: Summary of Hypothesis 1 and Hypothesis 2 Testing Result

Attitudes toward …	Mean (SD)		F-value	p-value
	No-Label	Label		
	MANOVA-Wilk's Lambda		.074	.929
	Univariate F tests			
Advertisement	5.07 (1.16)	5.06 (1.37)	.002	.964
Brand	5.30 (1.07)	5.24 (1.25)	.037	.848

H4 and H5 examined relationships between message framing and consumers'

attitudes toward the advertisement and consumers' attitudes toward the brand. MANOVA

results revealed a significant main effect for message framing, Wilks' Lamda = 0.891, $F_{(2, 151)} = 9.252$, $p < .001$, $\eta^2 = .109$. Further, the univariate main effect of eco-label was

significant on both consumers' attitudes toward the advertisement, $F_{(1, 152)} = 4.780$, p

$< .05$, $\eta^2 = .030$ and consumers' attitudes toward the brand, $F_{(2, 151)} = 15.771$, $p < .001$, η^2 $= .094$ (see Table 10).

Given the significant differences in consumers' attitudes toward the advertisement and consumers' attitudes toward the brand, post-hoc comparison was recommended. Prior to conducting the post-hoc comparisons, the Levene's test of equality of error variances was performed. Results revealed that although the groups were not equivalent, the insignificant difference of Levene's test of equality of error variances on both two dependent variables, consumers' attitudes toward the advertisement, $F_{(3, 152)} = 1.060$, p $= .368$ and consumers' attitudes toward the brand, $F_{(3, 152)} = 1.042$, $p = .376$, indicated they had similar variances. Therefore, the Tukey's HSD test was employed conduct post-hoc comparisons. Results revealed that respondents' attitudes toward the advertisement were more favorable when environmental messages were positively framed than when they were negatively framed ($M_{Positive\ Frame\ Messages} = 5.28$ versus $M_{Negative\ Frame\ Messages} = 4.83$, $p < .05$). Likewise, respondents' attitudes toward the brand were more favorably when environmental messages were positively framed than when they were negatively framed ($M_{Positive\ Frame\ Messages} = 5.62$ versus $M_{Negative\ Frame\ Messages} = 4.90$, $p < .05$). Therefore, H4 and H5 were supported.

Table 10: Summary of Hypothesis 4 and Hypothesis 5 Testing Result

Attitudes toward …	Mean (SD)		F-value	p-value
	Positive	Negative		
	MANOVA-Wilk's Lambda		9.25	.001**
	Univariate F tests			
Advertisement	5.28 (1.17)	4.83 (1.27)	4.78	.03*
Brand	5.62 (1.00)	4.90 (1.21)	15.77	.001**

Examining the Main Effects of Eco-label and Message-Framing on Brand Equity

To test hypotheses 3 and 6 which predicted the impacts of eco-label and message-framing on consumers' evaluations of brand equity as measured in terms of brand image, brand credibility, perceived brand quality, and brand loyalty, multivariate analysis of variance (MANOVA) was conducted using eco-label (absence versus presence) and message-framing (negative versus positive) as the independent variables (i.e., between-group variables). The dependent variables includes brand image, brand credibility, perceived brand quality, and brand loyalty.

H3 examined relationships between eco-label and consumers' evaluations of brand equity. MANOVA results revealed no significant main effect for eco-label, Wilks' Lamda = 0.973, $F_{(2, 151)}$ = 1.002, p = .409, η^2 = .027. Furthermore, Box's M was not significant (Box's M = 41.452, p = .117), providing insufficient evidence that the covariance matrices differ. Thus, these data were appropriate for the MANOVA procedure. Further, univariate results showed that there were no significant main effect of eco-label for brand image, $F_{(1, 149)}$ = 1.125, p = .291, η^2 = .007 ($M_{Absence\ of\ Eco-Label}$ = 5.56 versus $M_{Presence\ of\ Eco-Label}$ = 5.34), brand credibility, $F_{(1, 149)}$ = 0.013, p = .908, η^2 = .000 ($M_{Absence\ of\ Eco-Label}$ = 5.06 versus $M_{Presence\ of\ Eco-Label}$ = 5.05), perceived brand quality, $F_{(1, 149)}$ = .706, p = .402, η^2 = .005 ($M_{Absence\ of\ Eco-Label}$ = 4.81 versus $M_{Presence\ of\ Eco-Label}$ =

4.93), and brand loyalty, $F_{(1, 149)} = 0.353$, $p = .553$, $\eta^2 = .002$ ($M_{\text{Absence of Eco-Label}} = 4.65$

versus $M_{\text{Presence of Eco-Label}} = 4.73$ (see Table 11). Therefore, H3 was not supported.

Table 11: Summary of Hypothesis 3 Testing Result

Brand Equity	Mean (SD)		F-value	p-value
	No-Label	Label		
	MANOVA-Wilk's Lambda		1.002	.409
	Univariate F tests			
Brand Image	5.56 (.98)	5.34 (1.11)	1.125	.291
Brand Credibility	5.06 (1.05)	5.05 (1.15)	.013	.908
Brand Loyalty	4.65 (1.10)	4.73 (1.04)	.353	.553
Perceived Brand Quality	4.81 (1.04)	4.93 (1.16)	.706	.402

H6 examined relationships between message-framing and consumers' evaluations

of brand equity. MANOVA results revealed significant main effect for message-framing,

Wilks' Lamda = 0.924, $F_{(2, 151)} = 3.005$, $p < .05$, $\eta^2 = .076$. Furthermore, Box's M was not

significant (Box's M = 41.452, $p = .117$), providing insufficient evidence that the

covariance matrices differ. Thus, these data were appropriate for the MANOVA

procedure. Further, univariate results showed that there were significant main effect of

message-framing for brand image, $F_{(1, 149)} = 11.102$, $p < .001$, $\eta^2 = .069$, brand credibility,

$F_{(1, 149)} = 5.090$, $p < .05$, $\eta^2 = .033$, perceived brand quality, $F_{(1, 149)} = 3.930$, $p < .05$, η^2

$= .026$. However, there was marginally significant main effect of message-framing for

brand loyalty, $F_{(1, 149)} = 3.639$, $p = .058$, $\eta^2 = .024$ (see Table 12).

Given the significant differences in consumers' evaluations of brand image, brand credibility, perceived brand quality, and brand loyalty (marginally), post-hoc comparison was recommended. Prior to conducting the post-hoc comparisons, the Levene's test of equality of error variances was performed. Results revealed that although the groups were not equivalent, the insignificant difference of Levene's test of equality of error variances across four dependent variables, brand image, $F_{(3, 152)} = 1.167$, $p = .325$, brand credibility, $F_{(3, 152)} = .175$, $p = .913$, perceived brand quality, $F_{(3, 152)} = 1.292$, $p = .279$, and brand loyalty, $F_{(3, 152)} = .839$, $p = .474$, indicated they had similar variances. Therefore, the Tukey's HSD test was employed conduct post-hoc comparisons. Results revealed that respondents' evaluations of brand image, brand credibility, and perceived brand quality were more favorable when environmental messages were positively framed than when they were negatively framed (Brand Image: $M_{Positive Frame Messages} = 5.73$ versus $M_{Negative Frame Messages} = 5.17$, $p < .05$; Brand Credibility: $M_{Positive Frame Messages} = 5.25$ versus $M_{Negative Frame Messages} = 4.86$, $p < .05$; and Perceived Brand Quality: $M_{Positive Frame Messages} = 5.04$ versus $M_{Negative Frame Messages} = 4.70$, $p < .05$, respectively). In addition, respondents' evaluations of brand loyalty were more favorably when environmental messages were positively framed than when they were negatively framed ($M_{Positive Frame Messages} = 4.84$ versus $M_{Negative Frame Messages} = 4.53$, $p = .058$). Therefore, H6 was partially supported.

Table 12: Summary of Hypothesis 6 Testing Result

Brand Equity	Mean (SD)		F-value	p-value
	Positive	Negative		
	MANOVA-Wilk's Lambda		3.005	.020*
	Univariate F tests			
Image	5.73 (.95)	5.17 (1.07)	11.102	.001***

Credibility	5.25 (1.02)	4.86 (1.14)	5.090	.026*
Loyalty	4.84 (1.02)	4.53 (1.10)	3.639	.058^{mar}
Perceived Quality	5.04 (1.08)	4.70 (1.10)	3.930	.049*

***p-value: p < .001
**p-value: p < .01
*p-value: p < .05
mar: approaching significant (marginally)

Examining the Interaction Effects between Eco-Label and Message Framing on Consumers' Attitudes

Hypothesis 7 posited that there would be a two-way interaction effect of eco-label and message-framing on consumers' attitudes toward the advertisement. Specifically, when the respondents viewed the advertisement with the presence of eco-label along with positive framed information, their attitudes toward the advertisement were expected to higher as compared to when they viewed the advertisement with no eco-label present and negative framed information. The results of MANOVA revealed no significant interaction effect, Wilks' Lamda = 0.991, $F_{(2, 151)}$ = .713, p = .492, η^2 = .009. Moreover, the univariate interaction effect of eco-label and message-framing on consumers' attitudes toward the advertisement was not significant, $F_{(1, 152)}$ = .326, p = .569, η^2 = .002 ($M_{\text{Absence of Eco-Label and Positive Framed Messages}}$ = 5.23 versus $M_{\text{Absence of Eco-Label and Negative Framed Messages}}$ = 4.90 versus $M_{\text{Presence of Eco-Label and Positive Framed Messages}}$ = 5.35 versus $M_{\text{Presence of Eco-Label and Negative Framed Messages}}$ = 4.75) (see Table 13). Thus, H7 was not supported.

Hypothesis 8 posited that there would be a two-way interaction effect of eco-label and message-framing on consumers' attitudes toward the brand. Specifically, when the respondents viewed the advertisement with the presence of eco-label along with positive framed information, their attitudes toward the brand were expected to higher as compared to when they viewed the advertisement with no eco-label present and negative framed information. The results of MANOVA revealed no significant interaction effect, Wilks' Lamda = 0.991, $F_{(2, 151)}$ = .713, p = .492, η^2 = .009. Moreover, the univariate interaction effect of eco-label and message-framing on consumers' attitudes toward the brand was not significant, $F_{(1, 152)}$ = 1.179, p = .279, η^2 = .008 ($M_{\text{Absence of Eco-Label and Positive Framed Messages}}$ = 5.55 versus $M_{\text{Absence of Eco-Label and Negative Framed Messages}}$ = 5.03 versus $M_{\text{Presence of Eco-Label and Positive Framed Messages}}$ = 5.71 versus $M_{\text{Presence of Eco-Label and Negative Framed Messages}}$ = 4.80) (see Table 13). Thus, H8 was not supported.

Table 13: Two-Way Multivariate Analysis of Variance (MANOVA) of Eco-label and Message Framing on Attitudes

Independent Variable	Dependent Variable	F-value	p-value
	MANOVA-Wilk's Lambda Univariate F tests	9.252	< .001
Message Framing	Attitudes toward the advertisements	4.780	.030*
	Attitudes toward the brand	15.771	< .001
	MANOVA-Wilk's Lambda Univariate F tests	.074	.929
Eco-label	Attitudes toward the advertisements	.002	.964
	Attitude toward	.037	.964

	the brand		
	MANOVA-Wilk's Lambda	.713	.492
	Univariate F tests		
Message Framing	Attitudes toward	.326	.569
	the advertisements		
X			
Eco-label	Attitudes toward	1.179	.279
	the brand		

Examining the Interaction Effects between Eco-Label and Message-Framing on Brand Equity

Hypothesis 9 posited that there would be a two-way interaction effect of eco-label and message-framing on consumers' evaluations of brand equity. Specifically, when the respondents viewed the advertisement with the presence of eco-label along with positive framed information, their evaluations of brand image, brand credibility, perceived brand quality, and brand loyalty were expected to higher as compared to when they viewed the advertisement with no eco-label present and negative framed information. The results of MANOVA revealed no significant interaction effect, Wilks' Lamda = 0.985, $F_{(2, 151)}$ = .546, p = .702, η^2 = .015. Moreover, the univariate interaction effect of eco-label and message-framing on brand image was not significant, $F_{(1, 149)}$ = .133, p = .716, η^2 = .001 ($M_{Absence\ of\ Eco-Label\ and\ Positive\ Framed\ Messages}$ = 5.84 versus $M_{Absence\ of\ Eco-Label\ and\ Negative\ Framed\ Messages}$ = 5.230 versus $M_{Presence\ of\ Eco-Label\ and\ Positive\ Framed\ Messages}$ = 5.60 versus $M_{Presence\ of\ Eco-Label\ and\ Negative\ Framed\ Messages}$ = 5.12). Likewise, the univariate interaction effect of eco-label and message-framing on brand credibility was also insignificant, $F_{(1, 149)}$ = .015, p = .903, η^2 = .000 ($M_{Absence\ of\ Eco-Label\ and\ Positive\ Framed\ Messages}$ = 5.23 versus $M_{Absence\ of\ Eco-Label\ and}$

Negative Framed Messages $=$ 4.86 versus $M_{Presence\ of\ Eco\text{-}Label\ and\ Positive\ Framed\ Messages}$ $=$ 5.28 versus

$M_{Presence\ of\ Eco\text{-}Label\ and\ Negative\ Framed\ Messages}$ $=$ 4.86). In addition, the univariate interaction

effect of eco-label and message-framing on perceived brand quality was also

insignificant, $F_{(1,\ 149)}$ $=$ .000, p $=$ .983, η^2 $=$ .000 ($M_{Absence\ of\ Eco\text{-}Label\ and\ Positive\ Framed\ Messages}$ $=$

4.97 versus $M_{Absence\ of\ Eco\text{-}Label\ and\ Negative\ Framed\ Messages}$ $=$ 4.62 versus $M_{Presence\ of\ Eco\text{-}Label\ and}$

$_{Positive\ Framed\ Messages}$ $=$ 5.12 versus $M_{Presence\ of\ Eco\text{-}Label\ and\ Negative\ Framed\ Messages}$ $=$ 4.77). Lastly,

the univariate interaction effect of eco-label and message-framing on brand loyalty was

also insignificant, $F_{(1,\ 149)}$ $=$ .896, p $=$ .345, η^2 $=$ .006 ($M_{Absence\ of\ Eco\text{-}Label\ and\ Positive\ Framed}$

$_{Messages}$ $=$ 4.73 versus $M_{Absence\ of\ Eco\text{-}Label\ and\ Negative\ Framed\ Messages}$ $=$ 4.56 versus $M_{Presence\ of\ Eco\text{-}}$

$_{Label\ and\ Positive\ Framed\ Messages}$ $=$ 4.99 versus $M_{Presence\ of\ Eco\text{-}Label\ and\ Negative\ Framed\ Messages}$ $=$ 4.50)

(see Table 14), brand . Thus, H9 was not supported.

Table 14: Two-Way Multivariate Analysis of Variance (MANOVA) of Eco-label and
Message Framing on Consumers' evaluation of Brand Equity

Independent Variable	Dependent Variable	F-value	p-value
	MANOVA-Wilk's Lambda	3.005	.020*
	Univariate F tests		
Message Framing	Image	11.102	< .001
	Credibility	5.090	.026*
	Loyalty	3.639	.058[mar]
	Perceived Quality	3.930	.049*
	MANOVA-Wilk's Lambda	1.002	0.408
	Univariate F tests		
Eco-label	Image	1.125	.291
	Credibility	.013	.908
	Loyalty	.353	.553
	Perceived Quality	.706	.402
	MANOVA-Wilk's Lambda	.546	0.702
	Univariate F tests		

Message Framing X Eco-label	Image	.133	.716
	Credibility	.015	.903
	Loyalty	.896	.345
	Perceived Quality	.000	.983

*F-value: significant, $p < .05$
**F-value: significant, $p < .001$

Examining the Relationships between Consumers' Attitudes and Brand Equity

Hypothesis 10 proposed that consumers' attitudes toward the advertisement would have an impact on brand equality as measured in terms of brand image, brand credibility, perceived brand quality, and brand loyalty. To test hypothesis 10, a series of simple regressions were performed independently using consumers' attitudes toward the advertisement as an independent variable and four dimensions of brand equity (i.e., brand image, brand credibility, perceived brand quality, and brand loyalty) as dependent variables.

Results revealed that consumers' attitudes toward the advertisement significantly affected brand image ($R^2 = .270$, adjusted $R^2 = .265$, $F_{(1, 152)} = 56.14$, $p < .001$; $\beta = .52$, t-value $= 7.49$, $p < .001$), brand credibility ($R^2 = .281$, adjusted $R^2 = .276$, $F_{(1, 146)} = 57.109$, $p < .001$; $\beta = .53$, t-value $= 7.58$, $p < .001$), perceived brand quality ($R^2 = .408$, adjusted $R^2 = .405$, $F_{(1, 152)} = 104.93$, $p < .001$; $\beta = .64$, t-value $= 10.24$, $p < .001$), and brand loyalty ($R^2 = .378$, adjusted $R^2 = .376$, $F_{(1, 151)} = 91.91$, $p < .001$; $\beta = .62$, t-value $= 9.59$, $p < .001$) (see Table 15). Hence, H10 was supported.

Table 15: Simple Regression Results of Consumers Attitudes towards the Advertisements on Consumers' Evaluation of Brand Equity

D.V	Coefficients (β)	t-value	p-value	R-squared	F-value
Image	0.519	7.49	.001**	.27	56.14***
Credibility	0.530	7.56	.001**	.28	57.11***
Loyalty	0.615	9.59	.001**	.38	91.91***
Perceived Quality	0.639	10.24	.001**	.41	104.93***

***p-value: p <.001

Hypothesis 11 proposed that consumers' attitudes toward the brand would have an impact on brand equality as measured in terms of brand image, brand credibility, perceived brand quality, and brand loyalty. To test hypothesis 11, a series of simple regressions were performed independently using consumers' attitudes toward the brand as an independent variable and four dimensions of brand equity (i.e., brand image, brand credibility, perceived brand quality, and brand loyalty) as dependent variables.

Results revealed that consumers' attitudes toward the brand significantly affected brand image ($R^2 = .291$, adjusted $R^2 = .286$, $F_{(1, 157)} = 64.30$, $p < .001$; $β = .54$, t-value = 8.02, $p < .001$), brand credibility ($R^2 = .202$, adjusted $R^2 = .197$, $F_{(1, 151)} = 38.30$, p $< .001$; $β = .45$, t-value = 6.19, $p < .001$), perceived brand quality ($R^2 = .351$, adjusted $R^2 = .347$, $F_{(1, 156)} = 84.43$, $p < .001$; $β = .59$, t-value = 9.19, $p < .001$), and brand loyalty ($R^2 = .343$, adjusted $R^2 = .339$, $F_{(1, 156)} = 81.39$, $p < .001$; $β = .59$, t-value = 9.02, $p < .001$) (see Table 16). Hence, H11 was supported.

Table 16: Simple Regression Results of Consumers Attitudes towards the Brand on Consumers' Evaluation of Brand Equity

D.V	Coefficients (β)	t-value	p-value	R-squared	F-value
Image	0.539	8.02	.001**	.29	64.29***
Credibility	0.450	6.19	.001**	.20	38.30***
Loyalty	0.586	9.02	.001**	.34	81.39***
Perceived Quality	0.593	9.19	.001**	.35	84.43***

**p-value: p <.001

The results of tested all hypotheses are summarized below in Table 17.

Table 17: Summary of All Tested Hypotheses

Hypothesis Number and Its Description		Analysis	Results
H1	Consumers' attitude toward the advertisement will be more favorable when the eco-label is present as compared to the eco-label absence.	Two-way MANOVA	Not Supported
H2	Consumers' attitude toward the brand will be more favorable when the eco-label is present as compared to the eco-label absence.	Two-way MANOVA	Not Supported
H3	Consumers' evaluations of brand equity as Measured in terms of a) brand image, b) brand credibility, c) perceived brand quality, and d) brand loyalty will be more positive when eco-label is present as compared to the eco-label absence.	Two-way MANOVA	Not Supported
H4	Consumers' attitudes toward the advertisement will be more favorable when environmental messages are positively framed as compared to when they are negatively framed.	Two-way MANOVA	Supported
H5	Consumers' attitudes toward the brand will be more favorable when environmental	Two-way MANOVA	Supported

	messages are positively framed as compared to when they are negatively framed.		
H6	Consumers' evaluations of brand equity as measured in terms of a) brand image, b) brand credibility, c) perceived brand quality, and d) brand loyalty will be more positive when environmental messages are positively framed as compared to when they are negatively framed.	Two-way MANOVA	Partially Supported
H7	There will be an interaction effect between the presence (absence) of the eco-label and the type of message frames on consumers' attitude toward the advertisement.	Two-way MANOVA	Not Supported
H8	There will be an interaction effect between the presence (absence) of the eco-label and the type of message frames on consumers' attitude toward the brand.	Two-way MANOVA	Not Supported
H9	There will be an interaction effect between the presence (absence) of the eco-label and the type of message frames on consumer evaluations of brand equity as measured in terms of a) brand image, b) brand credibility, c) perceived brand quality, and d) brand loyalty.	Two-way MANOVA	Not Supported
H10	There will be a relationship between consumers' attitudes toward the advertisement and consumer evaluations of brand equity as measured in terms of a) Brand image, b) brand credibility, c) brand perceived quality, and d) brand loyalty.	Simple Regression	Supported
H11	There will be a relationship between consumers' attitudes toward the	Simple Regression	Supported

brand and consumer evaluations of
brand equity as measured in terms of
a) Brand image, b) brand credibility,
c) brand perceived quality, and
d) brand loyalty.

Chapter Summary

Chapter 4 provided statistical analysis (i.e., descriptive statistics and item

reliability, MANOVA, and regression) and findings related to the hypotheses proposed in

Chapter 2. The following chapter addresses conclusions that are related to these findings.

Theoretical and managerial implications are also provided, and Chapter 5 concludes with

limitations and future research directions.

CHAPTER V

DISCUSSION AND CONCLUSIONS

This chapter summarizes key findings and links them to the research objectives and literature discussed in Chapter 2. This chapter consists of four main sections: (1) Discussion of Major Findings; (2) Conclusions; (3) Implications; and (4) Limitations and Future Research Directions.

Discussion of Major Findings

The purpose of the present study is to verify the effectiveness of advertising approaches in the context of sustainable apparel (i.e., eco-apparel). Three primary objectives guided the study: (1) investigating the main effects of the eco-label (absence versus presence of eco-label) and the type of message-framing (positively versus negatively framed) on consumer attitudes toward the advertisements and toward the brand, and consumer evaluation of the brand equity as measured in terms of brand image, brand credibility, brand loyalty, and brand perceived quality; (2) exploring the two-way interaction effect of the eco-label and the type of message-framing (positively versus negatively framed) on consumer attitudes toward the advertisements, consumer attitudes toward the brand, and consumer evaluation of the brand equity as measured in terms of brand image, brand credibility, brand loyalty, and brand perceived quality; and (3) examining the relationships between consumer attitudes toward the advertisement, consumer attitudes toward the brand, and consumer evaluation of the brand equity as measured in terms of brand image, brand credibility, brand loyalty, and brand perceived quality.

Objective 1: Examining the main effects of the eco-label (absence versus presence) and the type of message-framing (positively versus negatively framed) on consumers' attitudes toward the advertisement, consumers' attitudes toward the brand, and consumers' evaluations of brand equity

In answering the first objective, hypotheses 1, 2, 3, 4, 5, and 6 proposed the main effects of the eco-label and the type of message-framing on consumers' attitudes toward the advertisements, consumers' attitudes toward the brand, and consumers' evaluations of brand equality as measured in terms of brand image, brand credibility, perceived brand quality, and brand loyalty. Hypotheses 1 and 2 predicted that the presence of the eco-label on the advertisement would positively impact consumers' attitudes toward the advertisement and the brand. Results revealed that neither the presence nor the absence of the eco-label had any impact on both consumers' attitudes toward the advertisement and the brand. The results of the current study contradict previous research, which supports the significant impact of the presence of the eco-label on consumers' attitudes toward sustainable products such as organic food (Daugbjerg et al., 2014; Dorothée, et al., 2009; McCarthy & Burdett, 1998; Taufique et al., 2017). This may be that these previous studies examined the impact of the eco-label related to food that seems to have serious implications to health as compared to apparel, to which consumers seem to pay less attention regarding consumption. Although McEachern and Warby's (2008) findings revealed that 97% of their study's participants read value-based labels prior to purchasing meat products, suggesting they seemed to focus on the food label, the participants in the current study may not pay any attention to the eco-label when deciding on apparel

115

purchases. In addition, Nimon and Beghin (1999) further stated that although consumers were aware of the environmental benefits of purchasing eco-apparel products (for example, potential harmful effects of clothing from toxins), their awareness did not translate into their apparel purchase decisions. Another underlying reason for this insignificant effect of the eco-label on consumers' attitudes toward the advertisement and the brand is that the advertised apparel products may have insufficient attributes to ensure their environmental claims (Atkinson & Rosenthal, 2014; Hustvedt & Dickson, 2009). In other words, images containing only eco-labels may not indicate a certain level of trust in the claims by consumers. Lastly, the study's participants may question the credibility of the claimed signal, leading to ineffective communication related to the advertised products (Boundling & Kirmani, 1993). As such, the study's results may imply that although the use of the appropriate signal such as eco-labels can fill the information gap between the retailer and the consumer, using the eco-label as a symbol may be inadequate to offer all attributes of sustainable products to enhance what they know about eco-apparel (Atkinson & Rosenthal, 2014; Hustvedt & Dickson, 2009).

Hypothesis 3 predicted that the eco-label's presence on the advertisement would positively impact consumers' evaluations of brand equity. Results revealed whether the advertisement included the eco-label or excluded the eco-label, such practice had no significant effect on consumers' evaluations of the brand equity as measured in terms of brand image, brand credibility, perceived brand quality, and brand loyalty. Although Atkinson and Rosenthal (2014) and Goswami (2008) explained that the eco-label could positively aid in consumer decision-making when it comes to environmentally friendly

products as it increases consumer trust and credibility on products, the eco-label signal employed in the current study may not instill enough trust and credibility as it contained insufficient information by only including a logo and name, leading to the eco-label's insignificant effect on evaluation of brand equity. Another explanation of the eco-label's insignificant effect on brand equity is that while Nimon and Beghin (1999) noted that eco-labels could assure the truthfulness of the environmental claims as to the eco-label plays as a representation of environmentally friendly approval, the degree of consumer-based brand equity is difficult to enhance when the consumers were not familiar with the brand (Keller, 1993). Furthermore, brand equity in the context of green products is not only constructed with the label's logo, but it reflects consumer knowledge about the logo and products. This may imply that the study's participants may not possess a high degree of knowledge related to the sustainability issues; as such, they were less likely to rate the quality of the advertised brand favorably (Chen, 2010; Butt et al., 2017). In addition, Larceneux, Benoit-Moreau, and Renaudin (2012) stated that using the eco-label tended to be less effective with high brand equity. In this current study, the means of all four dimensions of brand equity were above 5.00, indicating a high degree of brand equity; as such, the high degree of dimensions of brand equity could possibly explain the insignificant effects of the eco-label.

Hypotheses 4 and 5 predicted that the positively framed messages would create a stronger effect on consumers' attitudes toward the advertisement and the brand compared to the negatively framed messages. Results revealed that positively framed messages had a stronger effect on consumers' attitudes toward the advertisement and the brand

compared to the negatively framed messages. Our current study's result was consistent

with previous studies (Donovan & Jalleh, 1999; Forbes et al., 2009; Hustvedt & Dickson,

2009; Labroo & Patrick, 2009; Levin, 1987; Lin & Yang, 2014; Newman et al., 2012;

Rothman & Salovey 1997; Sanchez-Sabate & Sabaté, 2019; Trope & Liberman, 2010),

which reported individuals who viewed positive framed message were more likely to

display favorable attitudes toward the advertisement and the brand higher than those who

viewed negative framed messages. Likewise, hypothesis 6 also predicted that the

positively framed messages would create a stronger effect on consumers' brand equity

evaluations. Our study also revealed consistent findings with previous studies (Hasegawa

& Yoshida, 2003; Hyllegard, 2009; Newman et al., 2012; Shimp, 1981), which reported

consumers were more likely to rate brand image, brand credibility, perceived brand

quality, and brand loyalty high when they read the positively framed messages as

compared to when they read negatively framed messages. This result implies that as the

advertisements serve as a source of information, the way in which the message is framed

not only positively influences consumers' attitudes but also changes their brand equity

evaluations (Hyllegard, 2009; Newman et al., 2012). In addition, our findings reflected

the goal-framing effect in that when framed messages are presented to achieve a goal

(positively framed), consumers are more likely to evaluate the claims positively, leading

to the favorable image of the advertised brand (Newman et al., 2012; Selart, 2004).

However, Rothman and Salovey (1997) contended that in certain situations (e.g., health-

related products), negatively framed messages might be more effective than positively

framed messages. That is, in Rothman and Salovey's (1997) study that focused on

mammograms, which is directly related to an individual's health condition, a negatively framed message intrigued more individuals. However, specific to the context of the study, eco-apparel does not directly affect an individual's health condition; a negatively framed message was not as effective as a positively framed message, i.e., as it does not immediately threaten individuals' health when making apparel purchase decisions.

Objective 2: Examining the Interaction Effects of eco-label (absence versus presence) and message-framing (positively versus negatively framed) on consumers' attitudes toward the advertisement, consumers' attitudes toward the brand, and consumers' evaluations of brand equity

In answering the second objective, hypotheses 7, 8, and 9 proposed the interaction effect between the eco-label and the type of message-framing on consumers' attitudes toward the advertisements, consumers' attitudes toward the brand, and consumers' evaluations of brand equality. Although previous studies suggested the potential interaction effect between the eco-label and message-framing on consumers' attitudes toward organic food and brand loyalty (Arora, 2000; Steenkamp, 1989; Tang et al., 2004; Trope & Liberman, 2010), we did not find this interaction effect on consumers' attitudes toward the advertisement and the brand as well as consumers' evaluations of brand equity as measured in terms of brand image, brand credibility, perceived brand quality, and brand loyalty regarding eco-apparel. As Tang et al. (2004) explained, although the green market's potential benefits are expected to grow given the rise of consumerism, some consumers are still suspicious about advertising claims, rendering them to unhesitatingly engage in purchasing green products. In addition, Atkison and Rosenthal (2014) stated

that given that green consumption is established based on the credence of claims, the green messages' credibility and authenticity are critical in predicting consumers' attitudes and purchase behaviors toward green products. Crane (2000) further added that one of the important reasons consumers hesitate to purchase sustainable products is because they are uncertain whether buying sustainable products would minimize environmental issues compared to purchasing non-sustainable products. In addition, Bloom and Reve (1990) mentioned that signals with positive or negative prices are more effective in conveying communication goals to consumers than signals with neutral prices. Although in the current research, the information in the advertisement is positive and negative, the eco-label only displays the logo and does not have any substantial positive or negative valence. Therefore, since the GOTS label used in this study is only used as a symbolic representation to show a neutral price to consumers, it may lead to lower communication efficiency.

Objective 3: Examining the relationships between consumers' attitudes toward the advertisement, consumers' attitudes toward the brand, and consumers' evaluations of the brand equity

In answering the last objective, hypotheses 10 and 11 proposed the relationships between consumers' attitudes toward the advertisement, consumers' attitudes toward the brand, and consumers' evaluations of the brand equity as measured in terms of brand image, brand credibility, perceived brand quality, and brand loyalty. This current study found a significant relationship between consumers' attitudes and their evaluations of different dimensions of brand equity, and such findings are consistent with previous

studies findings which reported that the consumer's attitude is a significant predictor of perceived brand equity (Chen, 2010; Hsu, 2012; Kaushal & Kumar, 2016; Kim & Hall, 2015; Sallam & Wahid, 2012; Wang et al., 2002; Yoo et al., 2004). Our findings also indicated that consumers' favorable attitude toward the advertisements is positively associated with consumer's evaluations of brand image and brand credibility (Hsu, 2012; Yoo et al., 2004). In other words, promotional advertising about eco-apparel could possibly arouse consumers to display favorable attitudes toward the brand; as such, this may lead to a positive evaluation of eco-apparel, trusting the brand and the advertisement's claim (Kim & Hall, 2015). Our findings may also imply that consumers who like the advertisement about eco-apparel can potentially become loyal consumers in the future. This significant relationship between consumers' attitudes toward the brand and their evaluation of brand equity can also positively influence future purchase behavior as consumers' favorable evaluations of brand equity can assist firms in maintaining sustainable cash flow and increasing competitiveness in the market (Bartels & Hoogendam, 2011; Pappu et al., 2005, Yoo & Donthu, 2001).

Conclusions

In conclusion, findings from the current study contribute to marketers' and scholars' understanding of the impact of eco-label and message-framing techniques on consumers' attitudes toward the advertisement, consumers' attitudes toward the brand, and their brand equity evaluations regarding eco-apparel. First, our results showed that unlike previous studies on eco-label use on organic products, the current study found that the eco-label was not an effective tool to enhance consumers' attitudes and their

evaluations of brand equity. However, our findings suggested that brands can employ message-framing techniques, especially positively framed messages to convey the eco-apparel's benefits, enhancing consumers' attitudes and their eco-apparel brand evaluations. In addition, the current study also provides evidence that when a message about eco-apparel is framed in a positive manner, consumers are likely to have positive attitudes toward eco-apparel advertisements and the brand. Next, this study showed that there is no significant interaction effect between eco-label and message-framing on consumers' attitudes and their brand equity evaluations. However, only message-framing significantly affected consumers' attitude and their brand equity evaluations. This means whether eco-label is present or absent, consumers' attitudes toward eco-apparel will not alter. However, when the message is positively framed, consumers' attitudes toward eco-apparel are likely to change. In addition, while consumers' brand equity evaluations did not significantly differ whether or not the eco-label is shown in the advertisement, their brand equity evaluations tended to be different from how the message was framed. Last, the study's findings demonstrate that consumers' attitudes toward the advertisement and consumers' attitudes toward the brand are important determinants of consumers' evaluations of brand image, brand credibility, perceived brand quality, and brand loyalty dimensions of brand equity. That is, consumers tend to evaluate the brand equity of eco-apparel favorably when their attitudes toward the advertisement and the brand are positive.

Managerial and Theoretical Implications

There are several managerial and theoretical implications for both practitioners and academics. The managerial implications stemming from the findings of this study are valuable to eco-apparel brand marketers as the results reveal that consumers' attitudes toward the advertisement and the eco-apparel brand can be significantly influenced by how marketers frame the messages about environmental issues in the advertisement. It is evident that a positively framed message substantiates a more favorable consumer attitude toward the advertisement and the brand. In addition, this positively framed message also enhances the way consumers evaluate the image, credibility, quality, loyalty of the brand. Thus, when marketers/advertisers consider advertising the eco-apparel, they should include positive messages about eco-apparel rather than use negative messages. For example, marketers should include the benefits (e.g., minimize the carbon footprint, save water, and protect from the allergic reaction of using synthetic fiber) if one chooses to purchase eco-apparel instead of non-eco-apparel. In addition, the study's findings indicate that consumers with positive attitudes toward the advertisement and brand tend to evaluate the brand equity favorably. Thus, marketers should try to maintain consumers' positive attitudes toward the brand based on previous suggestions, as favorable attitudes toward the advertisement and the brand are likely to create a positive brand image, enhance brand credibility and perceived brand quality, and establish a higher degree of loyalty toward the brand (Hsu, 2012; Park et al., 2010).

The results of the study theoretically contribute to the literature in several genres: signaling theory, eco-labels, message-framing techniques, consumers' attitudes, and

brand equity. Although many researchers have conducted research about message-framing and eco-label usage on the product in the different categories of goods such as foods (Forbes et al., 2009; Labroo & Patrick, 2009; Sanchez-Sabate & Sabaté, 2019; Trope & Liberman, 2010), little study has examined the impact of eco-label and message-framing on consumers' attitudes and their brand equity evaluations. In addition, no known studies have examined the interaction effect between eco-label and message-framing on consumers' attitudes and brand equity evaluation in the context of sustainable apparel. Our findings deepen the understanding from the prior research on eco-label and message-framing literature by demonstrating the impact of positively framed messages on consumers' attitudes and eco-apparel brand equity evaluations. In addition, signal theory has been applied in the fields of management, ecology, and anthropology to minimize information asymmetry and integrate symbolic communication to achieve social benefits (BliegeBird et al., 2005). As this study adopts signaling theory with a stimulus of eco-label, it expands the application of signaling theory to the context of eco-apparel. This study also contributes to the study of branding as it provides valuable information about how to enhance brand equity evaluations via the use of message-framing and favorable consumers' attitudes.

Research Limitations and Future Research Directions

Although the current study offers several managerial and theoretical considerations, the study contains a few limitations. First, the current study found no effect of eco-label on consumers' attitudes and brand equity evaluations, and such insignificant effects may be product of consumers' lack of comprehension of the meaning

and implications of eco-labels. Therefore, future research should include not only images of eco-labels, but also should contain specific descriptions about eco-labels, such as what the eco-label means and how eco-labels could benefit consumers when they choose to purchase eco-label products. Second, the current study used the simple design of a normal t-shirt. Future studies can replicate this current study by employing appropriate product categories to target markets such as jeans or dresses. According to Curwen et al. (2013), environmentally friendly clothing is usually not different from normal clothing in terms of visuals. Therefore, if the design of an advertised product is creative, it is likely to enhance brand equity dimensions such as brand image. Thus, it is suggested that future study should diversify the apparel product portfolio. The future study should also include the consumers' degree of involvement and knowledge about sustainability as moderators.

Furthermore, future research might adopt the qualitative approach to better understand how consumers perceive and react to the eco-label when evaluating eco-apparel brand equity. In addition, the current research uses a fictitious brand; future research should consider including actual sustainable clothing, as this may increase brand equity. In terms of demographic information, the respondents from this study only employed undergraduate students attending a southeastern university and a few data from Amazon Mturk. The current research shows that the majority of participants are women and young people, such as Gen Z. Future research should include a wider range of participants, such as male participants and millennials who may become the target market for sustainable clothing (Eastman et al., 2014). Lastly, the study used only one eco-label, a global organic textile standard (GOTS); however, there are different eco-labels such as

EU-eco-label, US Organic available in the market. Thus, future study should consider

examining the impact of different eco-labels on consumers' attitudes and brand equity

evaluations.

REFERENCES

Aaker, D. A. (1991). Managing brand equity. New York, NY: Free Press

Aaker, D. A. (2009). *Managing brand equity*. simon and schuster. New York, NY: Free
   Press

Aaker, D. A., & Biel, A. L. (2013). *Brand equity & advertising: advertising's role in
   building strong brands*. Hove, East Sussex, United Kingdom: Psychology Press.

Aaker, D. A., & Day, G. S. (1974). A dynamic model of relationships among advertising,
   consumer awareness, attitudes, and behavior. *Journal of Applied Psychology*,
   59(3), 281–286. doi.10.1037/h0036652

Arora, R. (2000). Message framing and credibility. *Health Marketing Quarterly, 18*(1-2),
   29-44. doi.10.1300/J026v18n01_03

Atânâsoaie, G. S. (2013). Eco-Label and its Role in the Development of Organic
   Products Market. *Economy Transdisciplinarity Cognition*, *16*(1). 122-129.

Atkinson, L., & Rosenthal, S. (2014). Signaling the green sell: the influence of eco-label
   source, argument specificity, and product involvement on consumer trust. *Journal
   of Advertising*, *43*(1), 33-45. doi.10.1080/00913367.2013.834803

Axelrod, L. J., & Lehman, D. R. (1993). Responding to environmental concerns: What
   factors guide individual action? *Journal of environmental psychology*, *13*(2), 149-
   159. doi:10.1016/S0272-4944(05)80147-1

Ayanwale, A. B., Alimi, T., & Ayanbimipe, M. A. (2005). The influence of advertising on consumer brand preference. *Journal of social sciences*, *10*(1), 9-16. doi:10.1080/09718923.2005.11892453

Bickart, B. A., & Ruth, J. A. (2012). Green eco-seals and advertising persuasion. *Journal of advertising*, *41*(4), 51-67. doi: 10.1080/00913367.2012.10672457

BliegeBird, R., Smith, E., Alvard, M., Chibnik, M., Cronk, L., Giordani, L., ... & Smith, E. (2005). Signaling theory, strategic interaction, and symbolic capital. *Current anthropology*, *46*(2), 221-248. doi:10.1086/427115

Bocken, N. M., Short, S. W., Rana, P., & Evans, S. (2014). A literature and practice review to develop sustainable business model archetypes. *Journal of cleaner production*, *65*, 42-56. doi:10.1016/j.jclepro.2013.11.039

Boulding, W., & Kirmani, A. (1993). A consumer-side experimental examination of signaling theory: Do consumers perceive warranties as signals of quality?. *Journal of consumer research*, *20*(1), 111-123. https://doi.org/10.1086/209337

Bornstein, M. H., Jager, J., & Putnick, D. L. (2013). Sampling in developmental science: Situations, shortcomings, solutions, and standards. *Developmental Review*, *33*(4), 357-370. https://doi.org/10.1016/j.dr.2013.08.003

Brécard Dorothée, Hlaimi, B., Lucas, S., Perraudeau, Y., & Salladarré Frédéric. (2009). Determinants of demand for green products: an application to eco-label demand for fish in Europe. *Ecological Economics*, *69*(1), 115–125. https://doi.org/10.1016/j.ecolecon.2009.07.017

Briliana, V. (2017). Identifying Antecedents And Outcomes Of Brand Loyalty: A case of Apparel Brands In Social Media. In *Global Conference on Business and Economics Research* (pp. 1-9). Malaysia: University Putra Malaysia.

Buda, R., & Zhang, Y. (2000). Consumer product evaluation: The interactive effect of message framing, presentation order, and source credibility. *Journal of Product & Brand Management*, *9*(4), 229–242. https://doi.org/10.1108/10610420010344022

Butt, M. M., Mushtaq, S., Afzal, A., Khong, K. W., Ong, F. S., & Ng, P. F. (2017). Integrating behavioural and branding perspectives to maximize green brand equity: A holistic approach. *Business Strategy and the Environment*, *26*(4), 507–520. https://doi.org/10.1002/bse.1933

Butler, S. M., & Francis, S. (1997). The effects of environmental attitudes on apparel purchasing behavior. *Clothing and Textiles Research Journal*, *15*(2), 76-85. https://doi.org/10.1177/0887302X9701500202

Cai, Z., Xie, Y., & Aguilar, F. X. (2017). Eco-label credibility and retailer effects on green product purchasing intentions. *Forest policy and economics*, *80*, 200-208. https://doi.org/10.1016/j.forpol.2017.04.001

Cao, H., Farr, C., & Heine, L. (2009). C2cad: a sustainable apparel design and production model. *International Journal of Clothing Science and Technology*, *21*(4), 166–179. https://doi.org/10.1108/09556220910959954

Cathy, J. C.-W., Cynthia, A. R., & Donthu, N. (1995). Brand equity, brand preference, and purchase intent. *Journal of Advertising*, *24*(3), 25–40. https://doi.org/10.1080/00913367.1995.10673481

Celani, A., & Singh, P. (2011). Signaling theory and applicant attraction outcomes. *Personnel review*, *40*(2), 222-238. https://doi.org/10.1108/00483481111106093

Chang, H. J., & Watchravesringkan, K. T. (2018). Who are sustainably minded apparel shoppers? An investigation to the influencing factors of sustainable apparel consumption. *International Journal of Retail & Distribution Management, 46*(2), 148 – 162. https://doi.org/10.1108/IJRDM-10-2016-0176

Chang, T. Z., & Wildt, A. R. (1994). Price, product information, and purchase intention: An empirical study. *Journal of the Academy of Marketing science*, *22*(1), 16-27. https://doi.org/10.1177/0092070394221002

Chaudhuri, A., & Holbrook, M. B. (2001). The chain of effects from brand trust and brand affect to brand performance: the role of brand loyalty. *Journal of marketing*, *65*(2), 81-93. https://doi.org/10.1509/jmkg.65.2.81.18255

Chen, S. F. S., Monroe, K. B., & Lou, Y. C. (1998). The effects of framing price promotion messages on consumers' perceptions and purchase intentions. *Journal of retailing,* 74(3), 353-372. https://doi.org/10.1016/S0022-4359(99)80100-6

Chen, Y. S. (2010). The drivers of green brand equity: Green brand image, green satisfaction, and green trust. *Journal of Business ethics*, *93*(2), 307-319. https://doi.org/10.1007/s10551-009-0223-9

Cherian, J., & Jacob, J. (2012). Green marketing: A study of consumers' attitude towards environment friendly products. *Asian social science*, *8*(12), 117. doi: 10.5539/ass.v8n12p117

Christmann, P. (2004). Multinational companies and the natural environment:

Determinants of global environmental policy. *Academy of Management Journal*, *47*(5), 747-760. https://doi.org/10.5465/20159616

Choi, D., & Han, T. I. (2019). Green practices among fashion manufacturers:

Relationship with cultural innovativeness and perceived benefits. *Social Sciences*, *8*(5), 138. https://doi.org/10.3390/socsci8050138

Chu, S. C., Kamal, S., & Kim, Y. (2013). Understanding consumers' responses toward

social media advertising and purchase intention toward luxury products. *Journal of Global Fashion Marketing*, *4*(3), 158-174.

https://doi.org/10.1080/20932685.2013.790709

Cobb-Walgren, C. J., Ruble, C. A., & Donthu, N. (1995). Brand equity, brand preference,

and purchase intent. *Journal of advertising*, *24*(3), 25-40.

https://doi.org/10.1080/00913367.1995.10673481

Connell, K. Y. H. (2010). Internal and external barriers to eco-conscious apparel

acquisition. *International Journal of Consumer Studies*, *34*(3), 279-286.

https://doi.org/10.1111/j.1470-6431.2010.00865.x

Connell, K. Y. H. (2011). Exploring consumers' perceptions of eco-conscious apparel

acquisition behaviors. *Social Responsibility Journal, 7*(1), 61-73.

https://doi.org/10.1108/17471111111114549

Connelly, B. L., Certo, S. T., Ireland, R. D., & Reutzel, C. R. (2011). Signaling theory: A

review and assessment. *Journal of management*, *37*(1), 39-67.

https://doi.org/10.1177/0149206310388419

Crane, A. (2000). Facing the backlash: green marketing and strategic reorientation in the
1990s. *Journal of Strategic Marketing*, *8*(3), 277-296.
https://doi.org/10.1080/09652540050110011

Curwen, L. G., Park, J., & Sarkar, A. K. (2013). Challenges and solutions of sustainable
apparel product development: A case study of Eileen Fisher. *Clothing and
Textiles Research Journal*, *31*(1), 32-47.
https://doi.org/10.1177/0887302X12472724

Curtis, T., Abratt, R., Dion, P., & Rhoades, D. (2012). Customer satisfaction, loyalty and
repurchase: some evidence from apparel consumers. *Review of Business*, *32*(1),
47–57. United States: Embry-Riddle Aeronautical University.

Dall'Olmo Riley, F., Singh, J., & Blankson, C. (Eds.). (2016). The Routledge companion
to contemporary brand management (First, Ser. Routledge companions in
business, management and accounting). Routledge, an imprint of the Taylor &
Francis Group.

Daugbjerg, C., Smed, S., Andersen, L. M., & Schvartzman, Y. (2014). Improving eco-
labelling as an environmental policy instrument: knowledge, trust and organic
consumption. *Journal of Environmental Policy & Planning*, *16*(4), 559-575.
https://doi.org/10.1080/1523908X.2013.879038

Davey, E. (2012). The Energy Efficiency Strategy: The Energy Efficiency Opportunity in
the UK. *CHANGE, DOE AC (ed.)*.

Deanna Wang, H. (2010). Corporate social performance and financial-based brand equity. *Journal of Product & Brand Management*, *19*(5), 335-345. https://doi.org/10.1108/10610421011068577

DECC. (2012). The energy efficiency strategy: The energy efficiency opportunity in the UK.

Dickson, M. A. (1999). US consumers' knowledge of and concern with apparel sweatshops. *Journal of Fashion Marketing and Management: An International Journal*, *3*(1), 44-55. https://doi.org/10.1108/eb022547

Dijkstra, A., Rothman, A., & Pietersma, S. (2011). The persuasive effects of framing messages on fruit and vegetable consumption according to regulatory focus theory. *Psychology & Health*, *26*(8), 1036-1048. https://doi.org/10.1080/08870446.2010.526715

Donovan, R., & Jalleh, G. (1999). Positively versus negatively framed product attributes: The influence of involvement. *Psychology & Marketing, 16*(7), 613-613. https://doi-org.libproxy.uncg.edu/10.1002/(SICI)1520-6793(199910)16:7<613::AID-MAR4>3.0.CO;2-F

D'Souza, C., Taghian, M., Lamb, P., & Peretiatko, R. (2007). Green decisions: demographics and consumer understanding of environmental labels. *International Journal of Consumer Studies*, *31*(4), 371–376. https://doi.org/10.1111/j.1470-6431.2006.00567.x

Erdem, T., & Swait, J. (2004). Brand credibility, brand consideration, and choice. *Journal of Consumer research, 31*(1), 191-198. https://doi.org/10.1086/383434

Erdem, T., Swait, J. (1998), "Brand Equity as a Signaling Phenomenon," *Journal of Consumer Psychology*, 7 (April), 131–57. https://doi.org/10.1207/s15327663jcp0702_02

Faircloth, J. B., Capella, L. M., & Alford, B. L. (2001). The effect of brand attitude and brand image on brand equity. *Journal of Marketing Theory and Practice*, *9*(3), 61–75. https://doi.org/10.1080/10696679.2001.11501897

Forbes, S. L., Cohen, D. A., Cullen, R., Wratten, S. D., & Fountain, J. (2009). Consumer attitudes regarding environmentally sustainable wine: An exploratory study of the New Zealand marketplace. *Journal of Cleaner Production*, *17*(13), 1195–1199. https://doi.org/10.1016/j.jclepro.2009.04.008

Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American psychologist*, *56*(3), 218. https://doi.org/10.1037/0003-066X.56.3.218

Galarraga Gallastegui, I. (2002). The use of eco-labels: a review of the literature. *European Environment*, *12*(6), 316-331. https://doi-org.libproxy.uncg.edu/10.1002/eet.304

Goldsmith, R. E., Flynn, L. R., Goldsmith, E., & Stacey, E. C. (2010). Consumer attitudes and loyalty towards private brands. *International Journal of Consumer Studies*, *34*(3), 339-348. https://doi.org/10.1111/j.1470-6431.2009.00863.x

Gam, H. J., Cao, H., Farr, C., & Kang, M. (2010). Quest for the eco-apparel market: a study of mothers' willingness to purchase organic cotton clothing for their children. *International Journal of Consumer Studies*, *34*(6), 648-656. https://doi-org.libproxy.uncg.edu/10.1111/j.1470-6431.2010.00898.x

Gam, H. J. (2011). Are fashion-conscious consumers more likely to adopt eco-friendly clothing? *Journal of Fashion Marketing and Management: An International Journal*. *15*(2), 178-193. https://doi.org/10.1108/13612021111132627

Ganzach, Y., Weber, Y., & Or, P. B. (1997). Message framing and buying behavior: On the difference between artificial and natural environment. *Journal of Business Research*, *40*(2), 91-95. https://doi.org/10.1016/S0148-2963(96)00208-1

Gonzalez, C., Dana, J., Koshino, H., & Just, M. (2005). The framing effect and risky decisions: Examining cognitive functions with fMRI. *Journal of economic psychology*, *26*(1), 1-20. https://doi.org/10.1016/j.joep.2004.08.004

Goswami, P. (2008). Is the urban Indian consumer ready for clothing with eco-labels?. *International journal of consumer studies*, *32*(5), 438-446. https://doi-org.libproxy.uncg.edu/10.1111/j.1470-6431.2008.00716.x

Hameide, K. K. (2011). *Fashion branding unraveled*. London: Fairchild Books, 2011.

Ho, H. T., & Olsen, S. O. (2011). The moderator effects of perceived risk, objective knowledge and certainty in the satisfaction-loyalty relationship. *The Journal of Consumer Marketing*, *28*(5), 363–375. https://doi.org/10.1108/07363761111150017

Holtström, J., Bjellerup, C., & Eriksson, J. (2019). Business model development for sustainable apparel consumption. *Journal of Strategy and Management, 12*(4), 481-504. https://doi.org/10.1108/JSMA-01-2019-0015

Hong, H., & Kang, J. H. (2019). The impact of moral philosophy and moral intensity on purchase behavior toward sustainable textile and apparel products. *Fashion and Textiles*, *6*(1), 1-22. https://doi.org/10.1186/s40691-019-0170-8

Howell, D. C. (2012). *Statistical methods for psychology*. Cengage Learning.

Hsu, K. T. (2012). The advertising effects of corporate social responsibility on corporate reputation and brand equity: Evidence from the life insurance industry in Taiwan. *Journal of business ethics*, *109*(2), 189-201. https://doi.org/10.1007/s10551-011-1118-0

Hustvedt, G., & Dickson, M. A. (2009). Consumer likelihood of purchasing organic cotton apparel. *Journal of Fashion Marketing and Management: An International Journal, 13*(1*),* 49-65. https://doi.org/10.1108/13612020910939879

Index, E. (2014). Ecolabel index. *Retrieved December 12*, 2014.

Ioannou, M., & Rusu, O. (2012). Consumer-based brand equity: a cross-cultural perspective. *Journal of Promotion Management*, *18*(3), 344–344. https://doi.org/10.1080/10496491.2012.696462

Jager, J., Putnick, D. L., & Bornstein, M. H. (2017). II. More than just convenient: The scientific merits of homogeneous convenience samples. *Monographs of the Society for Research in Child Development*, *82*(2), 13-30. https://doi.org/10.1111/mono.12296

Jin, J., Zhang, W., & Chen, M. (2017). How consumers are affected by product

    descriptions in online shopping: Event-related potentials evidence of the attribute

    framing effect. *Neuroscience research,* 125, 21-28.

    https://doi.org/10.1016/j.neures.2017.07.006

Joyce, A., & Paquin, R. L. (2016). The triple layered business model canvas: A tool to

    design more sustainable business models. *Journal of cleaner production*, *135*,

    1474-1486. https://doi.org/10.1016/j.jclepro.2016.06.067

Jørgensen, M. S., & Jensen, C. L. (2012). The shaping of environmental impacts from

    Danish production and consumption of clothing. *Ecological Economics*, *83*, 164–

    173. https://doi.org/10.1016/j.ecolecon.2012.04.002

Jung, S., & Jin, B. (2014). A theoretical investigation of slow fashion: sustainable future

    of the apparel industry. *International journal of consumer studies*, *38*(5), 510-519.

    https://doi-org.libproxy.uncg.edu/10.1111/ijcs.12127

Kahneman, D., & Tversky, A., (1979). Prospect Theory: An analysis of decision under

    risk. *The Econometric Society*, *47(2),* 263-291.

    http://www.jstor.org/stable/1914185

Kang, S., & Hur, W.-M. (2012). Investigating the antecedents of green brand equity: A

    sustainable development perspective: investigating the antecedents of green brand

    equity. *Corporate Social Responsibility and Environmental Management*, *19*(5),

    306–316. https://doi.org/10.1002/csr.281

Keller, K. L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *Journal of Marketing*, *57*(1), 1–22. https://doi.org/10.1177/002224299305700101

Khare, A. (2019). Green apparel buying: Role of past behavior, knowledge and peer influence in the assessment of green apparel perceived benefits. *Journal of International Consumer Marketing*, 1-17. doi: 10.1080/08961530.2019.1635553

Khandelwal, U., Kulshreshtha, K., & Tripathi, V. (2019). Importance of consumer-based green brand equity: Empirical Evidence. *Paradigm*, *23*(1), 83-97. https://doi.org/10.1177/0971890719844428

Kilbourne, W. E., Beckmann, S. C., & Thelen, E. (2002). The role of the dominant social paradigm in environmental attitudes: A multinational examination. *Journal of business Research*, *55*(3), 193-204. https://doi.org/10.1016/S0148-2963(00)00141-7

Kim, H. S., & Damhorst, M. L. (1998). Environmental concern and apparel consumption. *Clothing and Textiles Research Journal*, *16*(3), 126-133. https://doi.org/10.1177/0887302X9801600303

Kim, S., & Kim, D. (2014). The effects of message framing and source credibility on green messages in hotels. *Cornell Hospitality Quarterly, 55*(1), 64-64. https://doi.org/10.1177/1938965513503400

Kim, Y., & Oh, K. W. (2020). Which consumer associations can build a sustainable fashion brand image? Evidence from fast fashion brands. *Sustainability*, *12*(5), 1-19. https://doi.org/10.3390/su12051703

Kirchain, R., Olivetti, E., Miller, T. R., & Greene, S. (2015). Sustainable apparel materials. *Materials Systems Laboratory, Massachusetts Institute of Technology, Cambridge.* http://msl.mit.edu/publications/SustainableApparelMaterials.pdf, (accessed on 29.01.16).

Labroo, A. A., & Patrick, V. M. (2009). Psychological distancing: Why happiness helps you see the big picture. *Journal of Consumer Research*, *35*(5), 800-809. https://doi.org/10.1086/593683

Larceneux, F., Benoit-moreau, F., & Renaudin Valérie. (2012). Why might organic labels fail to influence consumer choices? marginal labelling and brand equity effects. *Journal of Consumer Policy*, *35*(1), 85–104. https://doi.org/10.1007/s10603-011-9186-1

Lau, G. T. (1999). Consumers' trust in a brand and the link to brand loyalty. *Journal of Market Focused Management*, *4*(4), 341–341. https://doi.org/10.1023/A:1009886520142

Lampe, M., & Gazda, G. M. (1995). Green marketing in Europe and the United States: an evolving business and society interface. *International Business Review*, *4*(3), 295-312. https://doi.org/10.1016/0969-5931(95)00011-N

Lee, K. (2010). The green purchase behavior of Hong Kong young consumers: The role of peer influence, local environmental involvement, and concrete environmental knowledge. *Journal of international consumer marketing*, *23*(1), 21-44. https://doi.org/10.1080/08961530.2011.524575

Lee, S. (2011). Consumers' value, environmental consciousness, and willingness to pay more toward green-apparel products. *Journal of Global Fashion Marketing*, *2*(3), 161-169. https://doi.org/10.1080/20932685.2011.10593094

Lin, H.-H., & Yang, S.-F. (2014). An eye movement study of attribute framing in online shopping. *Journal of Marketing Analytics*, *2*(2), 72–80. https://doi.org/10.1057/jma.2014.8

Liu, F., Li, J., Mizerski, D., & Soh, H. (2012). Self-congruity, brand attitude, and brand loyalty: A study on luxury brands. *European Journal of Marketing*, *46*(7/8), 922–937. https://doi.org/10.1108/03090561211230098

Maheswaran, D., & Meyers-Levy, J. (1990). The influence of message framing and issue involvement. *Journal of Marketing research,* 27(3), 361-367. https://doi.org/10.1177/002224379002700310

Matlin, M. W. (2016). Pollyanna principle. *Cognitive Illusions: Intriguing Phenomena in Thinking, Judgment and Memory; Pohl, R., Ed*, 315-335.

McCarthy, B. J., & Burdett, B. C. (1998). Eco–labelling and textile eco–labelling. *Review of Progress in Coloration and Related Topics*, *28*(1), 61-70. https://doi.org/10.1111/j.1478-4408.1998.tb00119.x

McEachern, M. G., & Warnaby, G. (2008). Exploring the relationship between consumer knowledge and purchase behaviour of value-based labels. *International Journal of Consumer Studies*, *32*(5), 414-426. https://doi.org/10.1111/j.1470-6431.2008.00712.x

Memon, N. A. (2008). Organic cotton: a healthy way of life. *Pakistan Textile Journal*, *57*(12), 33–35. Upper Saddle River, NJ: Pearson.

Moore, S. B., & Wentz, M. (2009). Eco-labeling for textiles and apparel. In *Sustainable Textiles* (pp. 214-230). Woodhead Publishing. https://doi.org/10.1533/9781845696948.2.214

Nam, J., Ekinci, Y., & Whyatt, G. (2011). Brand equity, brand loyalty and consumer satisfaction. *Annals of Tourism Research*, *38*(3), 1009–1030. https://doi.org/10.1016/j.annals.2011.01.015

Namkung, Y., & Jang, S. S. (2013). Effects of restaurant green practices on brand equity formation: do green practices really matter? *International Journal of Hospitality Management*, *33*(1), 85–95. https://doi.org/10.1016/j.ijhm.2012.06.006

Navarro-Bailón, M. Á. (2012). Strategic consistent messages in cross-tool campaigns: effects on brand image and brand attitude. *Journal of Marketing Communications*, *18*(3), 189-202. https://doi.org/10.1080/13527266.2011.567455

Nikolaou, I. E., & Kazantzidis, L. (2016). A sustainable consumption index/label to reduce information asymmetry among consumers and producers. *Sustainable production and Consumption*, *6*, 51-61. https://doi.org/10.1016/j.spc.2016.01.001

Niinimäki, K. (2010) Eco-clothing, consumer identity and ideology. *Sustainable Development,* 18, 150-162 https://doi.org/10.1002/sd.455

Nimon, W., & Beghin, J. (1999). Ecolabels and international trade in the textile and apparel market. *American Journal of Agricultural Economics*, *81*(5), 1078-1083. https://doi.org/10.1142/9789813144415_0018

Nimon, W., & Beghin, J. (2017). Ecolabels and international trade in the textile and

apparel market. In *Nontariff Measures and International Trade* (pp. 321-326).

https://doi-org.libproxy.uncg.edu/10.2307/1244087

Organisation for Economic Co-operation and Development (OECD). 1997. Eco-

labelling: Actual Effects of Selected Programmes. *Joint Session of Trade and

Environment Experts.*

Palumbo, F. and Herbig, P. (2000), "The multicultural context of brand loyalty",

European Journal of Innovation Management, 3(3), 116-125.

https://doi.org/10.1108/14601060010334876

Pappu, R., Quester, P.G. and Cooksey, R.W. (2005). Consumer-based brand equity:

improving the measurement – empirical evidence. *Journal of Product & Brand

Management*, 1*4*(3), 143-154. https://doi.org/10.1108/10610420510601012

Parguel, B., Benoît-Moreau, F., & Larceneux, F. (2011). How sustainability ratings might

deter 'greenwashing': A closer look at ethical corporate communication. *Journal

of business ethics*, *102*(1), 15-28. https://doi.org/10.1007/s10551-011-0901-2

Park, C. W., MacInnis, D. J., Priester, J., Eisingerich, A. B., & Iacobucci, D. (2010).

Brand attachment and brand attitude strength: Conceptual and empirical

differentiation of two critical brand equity drivers. *Journal of marketing*, *74*(6), 1-

17. https://doi.org/10.1509/jmkg.74.6.1

Parkinson, T. L. (1975). The Role of Seals and Certifications of Approval in Consumer

Decision-Making. *Journal of Consumer Affairs,* 9(1), 1-14.

https://doi.org/10.1111/j.1745-6606.1975.tb00545.x

Peterson, R. A. (2001). On the use of college students in social science research: Insights

    from a second-order meta-analysis. *Journal of consumer research*, *28*(3), 450-

    461. https://doi.org/10.1086/323732

Perry, A., & Chung, T. (2016). Understand attitude-behavior gaps and benefit-behavior

    connections in Eco-Apparel. *Journal of Fashion Marketing and Management,*

    20(1), 105-119. https://doi.org/10.1108/JFMM-12-2014-0095

Ramasamy, K. (2015). "Comparative study of organic and regular cotton knitted fabrics",

    *Research Journal of Textile and Apparel,*19(3), 45-51.

    https://doi.org/10.1108/RJTA-19-03-2015-B006

Rattalino, F. (2018). Circular advantage anyone? sustainability-driven innovation and

    circularity at Patagonia, inc. *Thunderbird International Business Review*, *60*(5),

    747–755. https://doi.org/10.1002/tie.21917

Robinson, J. (2004). Squaring the circle? Some thoughts on the idea of sustainable

    development. *Ecological economics*, *48*(4), 369-384.

    https://doi.org/10.1016/j.ecolecon.2003.10.017

Rodgers, S., & Thorson, E. (2012) *Advertising theory* (Ser. Routledge communication

    series). https://doi.org/10.4324/9781351208314

Rothenberg, L., & Matthews, D. (2017). Consumer decision making when purchasing

    eco-friendly apparel. *International Journal of Retail & Distribution Management,*

    45(4), 404-418. https://doi.org/10.1108/IJRDM-06-2016-0099

Ryding, D., Caratù, M., Jiang, Q. Q., & Henningers, C. (2016) Eco-fashion's impact on

    young consumers' attitudes and perceptions of the fast-fashion brands. *13th*

    International Circle Conference, Book of abstract. Access Press UK, Lancashire,

    UK. https://www.researchgate.net/publication/313115174

Sampson, L. K. (2009). *Consumer analysis of purchasing behavior for green apparel.*

    [Masters' thesis, North Carolina State university].

    http://www.lib.ncsu.edu/resolver/1840.16/431

Sanchez-Sabate, R., & Sabaté, J. (2019). Consumer attitudes towards environmental

    concerns of meat consumption: A systematic review. *International journal of*

    environmental research and public health, *16*(7), 1-37.

    https://doi.org/10.3390/ijerph16071220

Schivinski, B., & Dabrowski, D. (2014). *The consumer-based brand equity inventory:*

    scale construct and validation (No. 4/2014 (22)). GUT FME Working Paper

    Series A. http://hdl.handle.net/10419/173318

Schmidt, S., Langner, S., Hennigs, N., Wiedmann, K. P., Karampournioti, E., & Lischka,

    G. (2017). The green brand: Explicit and implicit framing effects of ecolabelling

    on brand knowledge. *Cogent Psychology*, *4*(1), 1-24.

    https://doi.org/10.1080/23311908.2017.1329191

Schultz, P. W., & Zelezny, L. (1999). Values as predictors of environmental attitudes:

    Evidence for consistency across 14 countries. *Journal of environmental*

    psychology, *19*(3), 255-265. https://doi.org/10.1006/jevp.1999.0129

Shiv, B., Edell Britton, J. A., & Payne, J. W. (2004). Does elaboration increase or

    decrease the effectiveness of negatively versus positively framed messages?

    Journal of consumer research, *31*(1), 199-208. https://doi.org/10.1086/383435

Snoj, B., Pisnik Korda, A., & Mumel, D. (2004). The relationships among perceived

    quality, perceived risk and perceived product value. *Journal of Product & Brand*

    Management, *13*(3), 156–167. https://doi.org/10.1108/10610420410538050

Shrum, LJ., McCarty, JA., Lowrey, TM., (1995) Buyer characteristics of the green

    consumer and their implications for advertising strategy. *Journal of Advertising*,

    24:71-82. https://doi.org/10.1080/00913367.1995.10673477

Spence, M. (2002). Signaling in retrospect and the informational structure of markets.

    The American Economic Review, *92*(3), 434–459.

Spence, A., Poortinga, W., & Pidgeon, N. (2012). The psychological distance of climate

    change. *Risk Analysis: An International Journal*, *32*(6), 957-972.

    https://doi.org/10.1111/j.1539-6924.2011.01695.x

Spry, A., Pappu, R., & Cornwell, T. B. (2011). Celebrity endorsement, brand credibility

    and brand equity. *European Journal of Marketing*, *45*(6), 882–909.

    https://doi.org/10.1108/03090561111119958

Stern, P. C., & Dietz, T. (1994). The value basis of environmental concern. *Journal of*

    social issues, *50*(3), 65-84. https://doi.org/10.1111/j.1540-4560.1994.tb02420.x

Suki, N. M. (2013). Green products purchases: Structural relationships of consumers'

    perception of eco-label, eco-brand and environmental advertisement. *Journal of*

    Sustainability Science and Management, *8*(1), 1-10.

    https://www.researchgate.net/publication/286162935

Sun, H., Teh, P.-L., & Linton, J. D. (2018). Impact of environmental knowledge and

    product quality on student attitude toward products with recycled/remanufactured

    content: implications for environmental education and green manufacturing.

    Business Strategy and the Environment, *27*(7), 935–945.

    https://doi.org/10.1002/bse.2043

Suresh, K. P., & Chandrashekara, S. (2012). Sample size estimation and power analysis

    for clinical research studies. *Journal of human reproductive sciences*, *5*(1), 7.

    10.4103/0974-1208.97779

Severi, E., & Ling, K. C. (2013). The mediating effects of brand association, brand

    loyalty, brand image and perceived quality on brand equity. *Asian Social Science*,

    9(3), 125. http://dx.doi.org/10.5539/ass.v9n3p125

Tang, E., Fryxell, G. E., & Chow, C. S. (2004). Visual and verbal communication in the

    design of eco-label for green consumer products. *Journal of International*

    Consumer Marketing, *16*(4), 85-105. https://doi.org/10.1300/J046v16n04_05

Taufique, K. M. R., Vocino, A., & Polonsky, M. J. (2017). The influence of eco-label

    knowledge and trust on pro-environmental consumer behaviour in an emerging

    market. *Journal of Strategic Marketing*, *25*(7), 511-529.

    https://doi.org/10.1080/0965254X.2016.1240219

Testa, F., Iraldo, F., Vaccari, A., & Ferrari, E. (2015) Why eco-labels can be effective
marketing tools: Evidence from a study on Italian consumers. *Business Strategy
and the Environment*, 24(4), 252-265. https://doi.org/10.1002/bse.1821

Tsai, S.-P. (2007). Message framing strategy for brand communication. *Journal of
Advertising Research*, *47*(3), 364–377.
https://doi.org/10.2501/S0021849907070377

Tsang, M. M., Ho, S. C., & Liang, T. P. (2004). Consumer attitudes toward mobile
advertising: An empirical study. *International journal of electronic commerce*,
8(3), 65-78. https://doi.org/10.1080/10864415.2004.11044301

Todor, R. D. (2014). The importance of branding and rebranding for strategic marketing.
Bulletin of the Transylvania University of Brasov. Economic Sciences. Series V,
7(2), 59.

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International
Journal of medical education*, 2, 53. 10.5116/ijme.4dfb.8dfd

Yu, U.-J., Cho, E., & Johnson, K. K. P. (2017). Effects of brand familiarity and brand
loyalty on imagery elaboration in online apparel shopping. *Journal of Global
Fashion Marketing*, *8*(3), 193–206.
https://doi.org/10.1080/20932685.2017.1284603

Yan, C., Dillard, J., & Shen, F. (2012). Emotion, motiation, and the persuasive effects of
message framing. *Journal of Communication,* 62(4), 682-682.
doi:10.1111/j.1460- 2466.2012.01655.

Yang, S., Song, Y., & Tong, S. (2017). Sustainable retailing in the fashion industry: A systematic literature review. *Sustainability*, *9*(7), 1-20. https://doi.org/10.3390/su9071266

Yuan, L., & Dennis, A. (2016). The happiness premium: the impact of emotion on individuals' willingness to pay in online auctions. *Ais Transactions on Human-Computer Interaction*, *8*(3), 74–87. https://doi.org/10.17705/1thci.00080

Yoo, B., & Donthu, N. (2001). Developing and validating a multidimensional consumer-based brand equity scale. *Journal of Business Research*, *52*(1), 1–14. https://doi.org/10.1016/S0148-2963(99)00098-3

Zheng, Y., & Chi, T. (2015). Factors influencing purchase intention towards environmentally friendly apparel: an empirical study of US consumers. *International Journal of Fashion Design, Technology and Education*, *8*(2), 68-77. https://doi.org/10.1080/17543266.2014.990059

Zimmer, M. R., Stafford, T. F., & Stafford, M. R. (1994). Green issues: dimensions of environmental concern. *Journal of business research*, *30*(1), 63-74. https://doi.org/10.1016/0148-2963(94)90069-8

Žurga, Z., & Forte, T. P. (2014). Apparel Purchasing with Consideration of Eco-labels among Slovenian Consumers. *Fibres & Textiles in Eastern Europe*, 22(5), 20-27.

Pretest

Section 1: Eco-labels

Before you start the questionnaire, I would like to introduce definitions of eco-apparel and eco-label. *Eco-label is a symbolic indicator to consumers indicating that a product has been scientifically verified as an environmentally friendly product. *Eco-apparel is an environmentally friendly produced apparel that uses less chemical, water, and pesticides.*

** Please keep in mind this information when you answer the following questions. **

Q.1 Which of the following eco-labels do you recognize most? (Please rank them from 1 to 6)

Q.2 Which of the following eco-labels do you <u>know best about their meaning and purpose</u>? (Please rank them from 1 to 6)

 ☐   ☐

 ☐   ☐

 ☐   ☐

Q.3 Which of the following eco-labels do you think it should be included in the advertising for eco-apparel? (Please rank them from 1 to 6)

 ☐   ☐

Section 2 - #1: Advertising Message

1 Please read the following scenario before answering the following questions.

SA*LA, a new clothing company based in Los Angeles, is launching an affordable line of casual clothing for men and women. Its products are made with a blend of recycled and organic cotton without the use of pesticides or chemicals, which can protect the soil and save water. SA*LA CEO encourages consumers to consider buying eco-apparel products because of several potential benefits that can happen to you and your environment, including

·   protecting the environment by using materials that contains less toxins and dyes, and other harmful chemicals
·   reducing use of unnecessary amounts of textiles
·   reducing water consumption and waste production
·   reducing carbon footprint and will save you money in the long run
·   having unique clothes
·   having no-allergic reactions to clothes because your clothes are not treated with chemical dyes

Q.1 To what extent do you feel about this message in terms of your emotion?

	1	2	3	4	5	6	7	
Negative	○	○	○	○	○	○	○	Positive
Bad	○	○	○	○	○	○	○	Good
Pessimistic	○	○	○	○	○	○	○	Optimistic

Q.2 How believable is the scenario you just read that you are likely to gain most of these potential benefits if you purchase eco-apparel products?

	1	2	3	4	5	6	7	
Not believable	○	○	○	○	○	○	○	Believable

Q.3 Given these potential benefits, to what extent are you worried if you DO NOT purchase eco-apparel products?

	1	2	3	4	5	6	7	
Not worried at all	○	○	○	○	○	○	○	Extremely worried

Section 2 - #2: Advertising Message
2 Please read the following scenario before answering the following questions.

   SA*LA, a new clothing company based in Los Angeles, is launching an affordable line of casual clothing for men and women. Its products are made with a blend of recycled and organic cotton without the use of pesticides or chemicals, which can protect the soil and save water. SA*LA CEO encourages consumers to consider buying eco-apparel products because of several <u>potential consequences</u> that can happen to you and your environment, including

·   endangering the environment because of excessive use of toxins, dyes, and other harmful chemicals
·   wasting unnecessary amounts of textiles
·   using excessive water
·   increasing carbon footprint and will not save you money in the long run
·   having allergic reactions to clothes because your clothes are treated with chemical dyes

Q.1 To what extent do you feel about this message in terms of your emotion?

	1	2	3	4	5	6	7	
Negative	○	○	○	○	○	○	○	Positive
Bad	○	○	○	○	○	○	○	Good
Pessimistic	○	○	○	○	○	○	○	Optimistic

Q.2 How believable is the scenario you just read that you are likely to encounter these potential consequences if you DO NOT purchase eco-apparel products?

	1	2	3	4	5	6	7	
Not believable	○	○	○	○	○	○	○	Believable

Q.3 Given these potential consequences, to what extent are you worried if you DO NOT purchase eco-apparel products?

	1	2	3	4	5	6	7	
Not believable	○	○	○	○	○	○	○	Believable

Thank you !

APPENDIX B. FINAL TEST INSTRUMENT

Advertisement: Condition 1

THE UNIVERSITY of NORTH CAROLINA
GREENSBORO

Dear Students:

I am a master's student majoring in Consumer Apparel Retail Studies at The University of North Carolina at Greensboro. I am conducting research to understand consumer attitudes towards eco-apparel in the advertisement. Therefore, your input is important to my study.

You are invited to voluntarily participate in this study and your input is important to my study. Please take about 5 to 10 minutes to complete this study. However, you can choose not to participate in this study as well. There is no risk or benefit to you by participating in this study. If you decide to participate in this study, you are agreeing that you are at least 18 years old and can read and understand English. There are no right or wrong answers to the questions. Your answers will be kept confidential. You are allowed to work at your own pace. You may stop filling out this survey at any time if you feel uncomfortable.

Thank you in advance for your participation. If you have any questions, please feel free to ask the researchers. We would be glad to assist you. In addition, if you have questions concerning your rights as a research subject, you may contact the University of North Carolina at Greensboro the Office of Research Integrity to: ori@uncg.edu.

Sincerely,

Youngdeok Lee Ph.D.
Master's Student
Consumer, Apparel, & Retail Studies
University of North Carolina
Greensboro, NC 27402
Tel: 605-592-6792
Email: y_lee38@uncg.edu

Kittichai (Tu) Watchravesringkan,

Associate Professor
Consumer, Apparel, & Retail Studies
University of North Carolina
Greensboro, NC 27402
Tel: 336-256-2474
Email: k_watchr@uncg.edu

Direction: Please follow the direction step-by-step.

#Please read the following scenario before answering the following questions.

SA*LA, a new clothing company based in Los Angeles, is launching an affordable line of casual clothing for men and women. Its products are made with a blend of recycled and organic cotton without the use of pesticides or chemicals, which can protect the soil and save water.

Q.1 To what extent do you feel about this message in terms of your emotion?

Negative						Positive
1	2	3	4	5	6	7

Bad						Good
1	2	3	4	5	6	7

Pessimistic						Optimistic
1	2	3	4	5	6	7

Q.2 How believable is the scenario you just read that you are likely to gain most of these potential benefits if you purchase eco-apparel products?

Not Believable						Believable
1	2	3	4	5	6	7

Q.3 To what extent are you expected about these potential benefits, if you purchase eco-apparel products?

Not Expected at all						Extremely Expected
1	2	3	4	5	6	7

Q.4 Based on the above advertisement, please rate the scale below by checking (X) in the empty space, according to how you feel about the advertisement.

Dislike	____ ____ ____ ____ ____ ____ ____	Like
Unfavorable	____ ____ ____ ____ ____ ____ ____	Favorable
Bad	____ ____ ____ ____ ____ ____ ____	Good
Boring	____ ____ ____ ____ ____ ____ ____	Interesting
Uninformative	____ ____ ____ ____ ____ ____ ____	Informative

Q.5 Based on the above advertisement, please rate the scale below by checking (X) in the empty space, according to how you feel about the brand.

Dislike quite a lot	____ ____ ____ ____ ____ ____ ____	Like quite a lot
Unfavorable	____ ____ ____ ____ ____ ____ ____	Favorable
Bad	____ ____ ____ ____ ____ ____ ____	Good
Unpleasant	____ ____ ____ ____ ____ ____ ____	Pleasant
Unattractive	____ ____ ____ ____ ____ ____ ____	Attractive

Please indicate your agreement or disagreement with the following statements below.

		Strongly disagree						Strongly agree
Q.6	The brand is exceptional in terms of environmental commitment.	1	2	3	4	5	6	7
Q.7	The brand is professional about environmental reputation.	1	2	3	4	5	6	7
Q.8	The brand is successful about environmental performance.	1	2	3	4	5	6	7
Q.9	The brand is well established about environmental concern.	1	2	3	4	5	6	7
Q.10	The brand's product claims are believable.	1	2	3	4	5	6	7
Q.11	This brand has the ability to deliver what it promises.	1	2	3	4	5	6	7
Q.12	I do not trust the brand's product claims.	1	2	3	4	5	6	7

Q.13	This brand reminds me of someone who is competent and knows what s/he is doing.	1	2	3	4	5	6	7
Q.14	I would prefer this product over other products from non-sustainable brands.	1	2	3	4	5	6	7
Q.15	I would like to share this brand with my friends and family.	1	2	3	4	5	6	7
Q.16	If another brand is on a sale, I will generally buy the other brand instead of this one.	1	2	3	4	5	6	7
Q.17	This brand would be my first choice if I need eco-apparel.	1	2	3	4	5	6	7
Q.18	I believe the quality of this eco-apparel t-shirt is better than a normal t-shirt.	1	2	3	4	5	6	7
Q.19	I believe this eco-apparel t-shirt will last longer than a normal apparel.	1	2	3	4	5	6	7
Q.20	Based on the advertisement, the quality of eco-apparel t-shirt is high.	1	2	3	4	5	6	7
Q.21	This brand is one of quality.	1	2	3	4	5	6	7
Q.22	This brand always represents very good products	1	2	3	4	5	6	7

Demographic Information

1. Gender: _____ Male _____ Female _____ Not to prefer
2. Age _____
3. Major: _____
4. Ethnicity _____

5. Year at school: _____ Freshmen _____Sophomore

_____Junior _____Senior

_____Master _____Ph.D.

6. Your monthly gross income (including scholarships, earnings, allowances etc.):

_____Under $500 _____$500 - $749

_____$750 – $999 _____$1,000 – $1,499

_____$1,500 - $1,999 _____$2,000 or more

Thank you for your time and patience ☺

Advertisement: Condition 2

Dear Students:

      I am a master's student majoring in Consumer Apparel Retail Studies at The University of North Carolina at Greensboro. I am conducting research to understand consumer attitudes towards eco-apparel in the advertisement. Therefore, your input is important to my study.

      You are invited to voluntarily participate in this study and your input is important to my study. Please take about 5 to 10 minutes to complete this study. However, you can choose not to participate in this study as well. There is no risk or benefit to you by participating in this study. If you decide to participate in this study, you are agreeing that you are at least 18 years old and can read and understand English. There are no right or wrong answers to the questions. Your answers will be kept confidential. You are allowed to work at your own pace. You may stop filling out this survey at any time if you feel uncomfortable.

      Thank you in advance for your participation. If you have any questions, please feel free to ask the researchers. We would be glad to assist you. In addition, if you have questions concerning your rights as a research subject, you may contact the University of North Carolina at Greensboro the Office of Research Integrity to: ori@uncg.edu.

Sincerely,

Youngdeok Lee Ph.D.
Master's Student
Consumer, Apparel, & Retail Studies
University of North Carolina
Greensboro, NC 27402
Tel: 605-592-6792
Email: y_lee38@uncg.edu

Kittichai (Tu) Watchravesringkan,

Associate Professor
Consumer, Apparel, & Retail Studies
University of North Carolina
Greensboro, NC 27402
Tel: 336-256-2474
Email: k_watchr@uncg.edu

Direction: Please follow the direction step-by-step.

#Please read the following scenario before answering the following questions.

SA*LA, a new clothing company based in Los Angeles, is launching an affordable line of casual clothing for men and women. Its products are made with a blend of recycled and organic cotton without the use of pesticides or chemicals, which can protect the soil and save water.

Q.1 To what extent do you feel about this message in terms of your emotion?

Negative						Positive
1	2	3	4	5	6	7

Bad						Good
1	2	3	4	5	6	7

Pessimistic						Optimistic
1	2	3	4	5	6	7

Q.2 How believable is the scenario you just read that you are likely to gain most of these potential consequences if you purchase eco-apparel products?

Not Believable						Believable
1	2	3	4	5	6	7

Q.3 Given these potential consequences, to what extent are you worried if you DO NOT purchase eco-apparel products?

Not Worried at all						Extremely worried
1	2	3	4	5	6	7

Q.4 Based on the above advertisement, please rate the scale below by checking (X) in the empty space, according to how you feel about the advertisement.

Dislike	____ ____ ____ ____ ____ ____ ____	Like
Unfavorable	____ ____ ____ ____ ____ ____ ____	Favorable
Bad	____ ____ ____ ____ ____ ____ ____	Good
Boring	____ ____ ____ ____ ____ ____ ____	Interesting
Uninformative	____ ____ ____ ____ ____ ____ ____	Informative

Q.5 Based on the above advertisement, please rate the scale below by checking (X) in the empty space, according to how you feel about <u>the brand</u>.

Dislike quite a lot	____ ____ ____ ____ ____ ____ ____	Like quite a lot
Unfavorable	____ ____ ____ ____ ____ ____ ____	Favorable
Bad	____ ____ ____ ____ ____ ____ ____	Good
Unpleasant	____ ____ ____ ____ ____ ____ ____	Pleasant
Unattractive	____ ____ ____ ____ ____ ____ ____	Attractive

Please indicate your agreement or disagreement with the following statements below.

		Strongly disagree						Strongly agree
Q.6	The brand is exceptional in terms of environmental commitment.	1	2	3	4	5	6	7
Q.7	The brand is professional about environmental reputation	1	2	3	4	5	6	7
Q.8	The brand is successful about environmental performance.	1	2	3	4	5	6	7
Q.9	The brand is well established about environmental concern.	1	2	3	4	5	6	7
Q.10	The brand's product claims are believable	1	2	3	4	5	6	7
Q.11	This brand has the ability to deliver what it promises.	1	2	3	4	5	6	7
Q.12	I do not trust the brand's product claims.	1	2	3	4	5	6	7

Q.13	This brand reminds me of someone who is competent and knows what s/he is doing.	1	2	3	4	5	6	7
Q.14	I would prefer this product over other products from non-sustainable brands.	1	2	3	4	5	6	7
Q.15	I would like to share this brand with my friends and family.	1	2	3	4	5	6	7
Q.16	If another brand is on a sale, I will generally buy the other brand instead of this one.	1	2	3	4	5	6	7
Q.17	This brand would be my first choice if I need eco-apparel.	1	2	3	4	5	6	7
Q.18	I believe the quality of this eco-apparel t-shirt is better than a normal t-shirt.	1	2	3	4	5	6	7
Q.19	I believe this eco-apparel t-shirt will last longer than a normal apparel.	1	2	3	4	5	6	7
Q.20	Based on the advertisement, the quality of eco-apparel t-shirt is high.	1	2	3	4	5	6	7
Q.21	This brand is one of quality.	1	2	3	4	5	6	7
Q.22	This brand always represents very good products	1	2	3	4	5	6	7

<u>Demographic Information</u>

1. Gender: _____ Male _____ Female _____ Not to prefer
2. Age _____
3. Major: _____
4. Ethnicity _____

5. Year at school: _____ Freshmen   _____Sophomore

                     _____Junior   _____Senior

                     _____Master   _____Ph.D.

6. Your monthly gross income (including scholarships, earnings, allowances etc.):

                     _____Under $500   _____$500 - $749

                     _____$750 – $999   _____$1,000 – $1,499

                     _____$1,500 - $1,999   _____$2,000 or more

                     Thank you for your time and patience ☺

Advertisement: Condition 3

Dear Students:

      I am a master's student majoring in Consumer Apparel Retail Studies at The University of North Carolina at Greensboro. I am conducting research to understand consumer attitudes towards eco-apparel in the advertisement. Therefore, your input is important to my study.

      You are invited to voluntarily participate in this study and your input is important to my study. Please take about 5 to 10 minutes to complete this study. However, you can choose not to participate in this study as well. There is no risk or benefit to you by participating in this study. If you decide to participate in this study, you are agreeing that you are at least 18 years old and can read and understand English. There are no right or wrong answers to the questions. Your answers will be kept confidential. You are allowed to work at your own pace. You may stop filling out this survey at any time if you feel uncomfortable.

      Thank you in advance for your participation. If you have any questions, please feel free to ask the researchers. We would be glad to assist you. In addition, if you have questions concerning your rights as a research subject, you may contact the University of North Carolina at Greensboro the Office of Research Integrity to: ori@uncg.edu.

Sincerely,

Youngdeok Lee Ph.D.
Master's Student
Consumer, Apparel, & Retail Studies
University of North Carolina
Greensboro, NC 27402
Tel: 605-592-6792
Email: y_lee38@uncg.edu

Kittichai (Tu) Watchravesringkan,

Associate Professor
Consumer, Apparel, & Retail Studies
University of North Carolina
Greensboro, NC 27402
Tel: 336-256-2474
Email: k_watchr@uncg.edu

Direction: Please follow the direction step-by-step.

#Please read the following scenario before answering the following questions.

SA*LA, a new clothing company based in Los Angeles, is launching an affordable line of casual clothing for men and women. Its products are made with a blend of recycled and organic cotton without the use of pesticides or chemicals, which can protect the soil and save water.

Q.1 To what extent do you feel about this message in terms of your emotion?

Negative						Positive
1	2	3	4	5	6	7

Bad						Good
1	2	3	4	5	6	7

Pessimistic						Optimistic
1	2	3	4	5	6	7

Q.2 How believable is the scenario you just read that you are likely to gain most of these potential benefits if you purchase eco-apparel products?

Not Believable						Believable
1	2	3	4	5	6	7

Q.3 To what extent are you expected about these potential benefits if you purchase eco-apparel products?

Not Expected at all						Extremely Expected
1	2	3	4	5	6	7

Q.4 Based on the above advertisement, please rate the scale below by checking (X) in the empty space, according to how you feel about the advertisement.

Dislike	____	____	____	____	____	____	____	Like
Unfavorable	____	____	____	____	____	____	____	Favorable
Bad	____	____	____	____	____	____	____	Good
Boring	____	____	____	____	____	____	____	Interesting
Uninformative	____	____	____	____	____	____	____	Informative

Q.5 Based on the above advertisement, please rate the scale below by checking (X) in the empty space, according to how you feel about the advertisement.

Dislike quite a lot	_____	_____	_____	_____	_____	_____	_____	Like quite a lot
Unfavorable	_____	_____	_____	_____	_____	_____	_____	Favorable
Bad	_____	_____	_____	_____	_____	_____	_____	Good
Unpleasant	_____	_____	_____	_____	_____	_____	_____	Pleasant
Unattractive	_____	_____	_____	_____	_____	_____	_____	Attractive

Please indicate your agreement or disagreement with the following statements below.

		Strongly disagree						Strongly agree
Q.6	The brand is exceptional in terms of environmental commitment.	1	2	3	4	5	6	7
Q.7	The brand is professional about environmental reputation	1	2	3	4	5	6	7
Q.8	The brand is successful about environmental performance.	1	2	3	4	5	6	7
Q.9	The brand is well established about environmental concern.	1	2	3	4	5	6	7
Q.10	The brand's product claims are believable	1	2	3	4	5	6	7
Q.11	This brand has the ability to deliver what it promises.	1	2	3	4	5	6	7
Q.12	I do not trust the brand's product claims.	1	2	3	4	5	6	7
Q.13	This brand reminds me of someone who is competent and knows what s/he is doing.	1	2	3	4	5	6	7

Q.14	I would prefer this product over other products from non-sustainable brands.	1	2	3	4	5	6	7
Q.15	I would like to share this brand with my friends and family.	1	2	3	4	5	6	7
Q.16	If another brand is on a sale, I will generally buy the other brand instead of this one.	1	2	3	4	5	6	7
Q.17	This brand would be my first choice if I need eco-apparel.	1	2	3	4	5	6	7
Q.18	I believe the quality of this eco-apparel t-shirt is better than a normal t-shirt.	1	2	3	4	5	6	7
Q.19	I believe this eco-apparel t-shirt will last longer than a normal apparel.	1	2	3	4	5	6	7
Q.20	Based on the advertisement, the quality of eco-apparel t-shirt is high.	1	2	3	4	5	6	7
Q.21	This brand is one of quality.	1	2	3	4	5	6	7
Q.22	This brand always represents very good products	1	2	3	4	5	6	7

Demographic Information

1. Gender: _____ Male _____ Female _____ Not to prefer
2. Age _____
3. Major: _____
4. Ethnicity _____
5. Year at school: _____ Freshmen _____ Sophomore

_____Junior   _____Senior

_____Master   _____Ph.D.

6. Your monthly gross income (including scholarships, earnings, allowances etc.):

_____Under $500   _____$500 - $749

_____$750 – $999   _____$1,000 – $1,499

_____$1,500 - $1,999   _____$2,000 or more

Thank you for your time and patience ☺

Advertisement: Condition 4

THE UNIVERSITY of NORTH CAROLINA
GREENSBORO

Dear Students:

I am a master's student majoring in Consumer Apparel Retail Studies at The University of North Carolina at Greensboro. I am conducting research to understand consumer attitudes towards eco-apparel in the advertisement. Therefore, your input is important to my study.

You are invited to voluntarily participate in this study and your input is important to my study. Please take about 5 to 10 minutes to complete this study. However, you can choose not to participate in this study as well. There is no risk or benefit to you by participating in this study. If you decide to participate in this study, you are agreeing that you are at least 18 years old and can read and understand English. There are no right or wrong answers to the questions. Your answers will be kept confidential. You are allowed to work at your own pace. You may stop filling out this survey at any time if you feel uncomfortable.

Thank you in advance for your participation. If you have any questions, please feel free to ask the researchers. We would be glad to assist you. In addition, if you have questions concerning your rights as a research subject, you may contact the University of North Carolina at Greensboro the Office of Research Integrity to: ori@uncg.edu.

Sincerely,

Youngdeok Lee Ph.D.
Master's Student
Consumer, Apparel, & Retail Studies
University of North Carolina
Greensboro, NC 27402
Tel: 605-592-6792
Email: y_lee38@uncg.edu

Kittichai (Tu) Watchravesringkan,

Associate Professor
Consumer, Apparel, & Retail Studies
University of North Carolina
Greensboro, NC 27402
Tel: 336-256-2474
Email: k_watchr@uncg.edu

Direction: Please follow the direction step-by-step.

#Please read the following scenario before answering the following questions.

SA*LA, a new clothing company based in Los Angeles, is launching an affordable line of casual clothing for men and women. Its products are made with a blend of recycled and organic cotton without the use of pesticides or chemicals, which can protect the soil and save water.

Q.1 To what extent do you feel about this message in terms of your emotion?

Negative						Positive
1	2	3	4	5	6	7

Bad						Good
1	2	3	4	5	6	7

Pessimistic						Optimistic
1	2	3	4	5	6	7

Q.2 How believable is the scenario you just read that you are likely to gain most of these potential consequences if you purchase eco-apparel products?

Not Believable						Believable
1	2	3	4	5	6	7

Q.3 To what extent are you worried about these potential consequences, if you DO NOT purchase eco-apparel products?

Not Worried at all						Extremely worried
1	2	3	4	5	6	7

Q.4 Based on the above advertisement, please rate the scale below by checking (X) in the empty space, according to how you feel about the advertisement.

Dislike	____ ____ ____ ____ ____ ____ ____	Like
Unfavorable	____ ____ ____ ____ ____ ____ ____	Favorable
Bad	____ ____ ____ ____ ____ ____ ____	Good
Boring	____ ____ ____ ____ ____ ____ ____	Interesting
Uninformative	____ ____ ____ ____ ____ ____ ____	Informative

Q.5 Based on the above advertisement, please rate the scale below by checking (X) in the empty space, according to how you feel about <u>the brand</u>.

Dislike quite a lot	____ ____ ____ ____ ____ ____ ____	Like quite a lot
Unfavorable	____ ____ ____ ____ ____ ____ ____	Favorable
Bad	____ ____ ____ ____ ____ ____ ____	Good
Unpleasant	____ ____ ____ ____ ____ ____ ____	Pleasant
Unattractive	____ ____ ____ ____ ____ ____ ____	Attractive

Please indicate your agreement or disagreement with the following statements below.

		Strongly disagree						Strongly agree
Q.6	The brand is exceptional in terms of environmental commitment.	1	2	3	4	5	6	7
Q.7	The brand is professional about environmental reputation	1	2	3	4	5	6	7
Q.8	The brand is successful about environmental performance.	1	2	3	4	5	6	7
Q.9	The brand is well established about environmental concern.	1	2	3	4	5	6	7
Q.10	The brand's product claims are believable	1	2	3	4	5	6	7
Q.11	This brand has the ability to deliver what it promises.	1	2	3	4	5	6	7
Q.12	I do not trust the brand's product claims.	1	2	3	4	5	6	7

Q.13	This brand reminds me of someone who is competent and knows what s/he is doing.	1	2	3	4	5	6	7
Q.14	I would prefer this product over other products from non-sustainable brands.	1	2	3	4	5	6	7
Q.15	I would like to share this brand with my friends and family.	1	2	3	4	5	6	7
Q.16	If another brand is on a sale, I will generally buy the other brand instead of this one.	1	2	3	4	5	6	7
Q.17	This brand would be my first choice if I need eco-apparel.	1	2	3	4	5	6	7
Q.18	I believe the quality of this eco-apparel t-shirt is better than a normal t-shirt.	1	2	3	4	5	6	7
Q.19	I believe this eco-apparel t-shirt will last longer than a normal apparel.	1	2	3	4	5	6	7
Q.20	Based on the advertisement, the quality of eco-apparel t-shirt is high.	1	2	3	4	5	6	7
Q.21	This brand is one of quality.	1	2	3	4	5	6	7
Q.22	This brand always represents very good products	1	2	3	4	5	6	7

<u>Demographic Information</u>

1. Gender: _____ Male _____ Female _____ Not to prefer
2. Age _____
3. Major: _____
4. Ethnicity _____

5. Year at school: _____ Freshmen   _____Sophomore

                        _____Junior   _____Senior

                        _____Master   _____Ph.D.

6. Your monthly gross income (including scholarships, earnings, allowances etc.):

        _____Under $500   _____$500 - $749

        _____$750 – $999   _____$1,000 – $1,499

        _____$1,500 - $1,999   _____$2,000 or more

Thank you for your time and patience ☺

**OFFICE OF RESEARCH
INTEGRITY**
2718 Beverly Cooper Moore
and Irene Mitchell Moore
Humanities and Research
Administration Bldg.
PO Box 26170
Greensboro, NC 27402-6170
336.256.0253
Web site:
www.uncg.ed
u/orc
Federalwide
Assurance
(FWA) #216

To: Youngdeok Lee
Consumer Apparel-Retail Stds

From: IRB

Date: 3/04/2021

RE: Notice of IRB Exemption
Exemption Category: 2.Survey, interview, public observation
Study #: 21-0332
Study Title: Effects of eco-labels and message framing on consumer
attitude towards the advertisement, consumer attitude towards the brand,
and consumer evaluation of brand equity to eco-apparel.

This submission has been reviewed by the IRB and was determined to be
exempt from further review according to the regulatory category cited
above under 45 CFR 46.101(b).

Study Description:

This study explore how eco-apparel which is manufactured in environmentally
friendly condition is perceived to consumers' perception. Thus, using
advertisements that are manipulated by the researchers, the study investigate how

eco-labels and message framing techniques affect consumer attitude towards the advertisement, consumer attitude towards the brand, and consumer evaluation of brand equity: brand image, brand credibility, brand loyalty, and brand perceived quality.

Investigator's Responsibilities

Please be aware that any changes to your protocol must be reviewed by the IRB prior to being implemented. **Please utilize the the consent form/information sheet with the most recent version date when enrolling participants**. The IRB will maintain records for this study for three years from the date of the original determination of exempt status.

Please be aware that valid human subjects training and signed statements of confidentiality for all members of research team need to be kept on file with the lead investigator. Please note that you will also need to remain in compliance
with the university "Access To and Retention of Research Data"
Policy which can be found at http://policy.uncg.edu/university-policies/research_data/.