ECO-LABELED FOOD: HOW ENVIRONMENTALLY-CONSCIOUS CONSUMERS PERCEIVE, INTERPRET, AND USE ECO-LABELS AS SIGNALS

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by

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The undersigned, appointed by the dean of the Graduate School, have examined the thesis entitled

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ECO-LABELED FOOD: HOW ENVIRONMENTALLY-CONSCIOUS CONSUMERS PERCEIVE, INTERPRET, AND USE ECO-LABELS AS SIGNALS

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ABSTRACT

This research explores how different characteristics of eco-labels signal environmental qualities of a product to environmentally-conscious consumers and seeks to understand how environmentally-conscious consumers perceive, interpret, and use eco-labels on food products. Signaling theory serves as the theoretical framework for the study. The guiding research questions for this research are: how do environmentally-conscious consumers interpret and use eco-labels on food products? Why do they use them? How do visual and textual aspects act as signals and shape environmentally-conscious consumers' perceptions and interpretations of eco-labels? By seeking out consumers who already pay attention to eco-labels and conducting semi-structured interviews with a photo-elicitation component, the research will seek to better understand how the intended audience for eco-labels (environmentally-conscious consumers) interacts with eco-labeled products.

Chapter 1: Introduction

The summer of 2015 put a spotlight on the issue of labeling foods. Vermont, Connecticut and Maine had laws that mandated labeling products containing genetically modified (GM) ingredients since 2013 (Saletan, 2015), and more than a dozen other states were considering similar laws (Wise, 2015). Support for these laws came from consumers who demanded the right to know what is in the food they buy and consume regularly. Opponents argued on various fronts: they pointed to the lack of scientific evidence that GM foods are harmful to people, they cautioned against the inevitable price hikes that would come from requiring companies to label their products, and they urged consumers who were worried about GM products to buy organic instead (Wise, 2015). In July of 2016, Congress passed a GMO labeling bill, and President Obama signed the bill into law a few weeks after. However, the bill has received some criticism from food-labeling advocates who claim the new standard discriminates against low-income consumers because companies can use QR codes or 1-800 numbers instead of an outright GMO label, so consumers without access to this technology would not be able to verify whether a food product contains GMOs (Addady, 2016).

The controversy over labeling GM foods highlighted the lack of knowledge consumers have about food and where it comes from, so this research attempts to understand how environmentally-conscious consumers perceive labels on food that detail environmental product attributes and benefits. Skeptics of GM foods warn of unknown risks and claim that GM food production has not been properly tested for the impact it has on human health and the environment. However, the World Health Organization, the

American Medical Association, the National Academy of Sciences, the American Association for the Advancement of Science and most scientists affirm there is no proof that GM foods are unsafe to consume (Saletan, 2015).

Also, LEAF (Linking Environment and Farming), an organization that promotes sustainable agriculture, conducted a survey that showed there is confusion and a general lack of knowledge on how food is produced (Clarke, 2012). The people surveyed could not pair food products with their source. For example, only 41 percent of people correctly matched butter to a dairy cow, and eight percent linked butter to beef cattle (Clarke, 2012).

This is not the first time the food industry has struggled with skepticism and controversies over environmental claims. Crane (2000) reviews a timeline of the history of green marketing, which started in the early 1970s. Amid growing consumer concerns with the environment, firms started to advertise their products as environmentally friendly, but confusion and cynicism over green products and claims led to a backlash against green marketing in the late 1980s and early 1990s.

Now, not only is the food industry struggling to satisfy skeptics and reassure them that certain products are safe to consume, but it is also struggling to educate the general public about where the most basic foods come from. One way to close the gap in knowledge is to use labels to let consumers know more about the how the food is made and processed, where it comes from, and what is in it. Brands can resort to eco-labeling, a voluntary system of environmental performance certification. Eco-labels identify information about a product's process and quality such as social, environmental or animal welfare benefits offered (McEachern & Warnaby, 2008).

Presently, there are more than 450 eco-labels in 199 countries and across 25 industry categories (Atkinson, 2014). These labels aim to educate consumers about what is in their food and the process that products undergo before reaching store shelves, but the sheer amount of labels available can make it difficult for consumers to understand them and to know where the label comes from. Eco-label schemes set different criteria and monitor different characteristics related to quality, safety, health, production, and ethical issues, and they all claim the product is environmentally friendly (McEachern, 2008; Nilsson, Tunçer, & Thidell, 2004). Eco-labels can also be issued by government agencies, non-profit organizations or individual companies (Atkinson & Rosenthal, 2014; Moussa & Touzani, 2008). So even in their aim to educate consumers, the food industry is risking further confusion. For consumers, trusting in the credibility of a label is more often than not "a leap of faith" (Atkinson, 2014).

Most labeling research focuses on nutritional information, ingredients, labeling policy, health and safety aspects, and product origin rather than the communication of social or environmental qualities, and eco-labels have been largely underrepresented in the labeling literature (McEachern & Warnaby, 2008). Because consumers who are concerned with food labeling have the power to influence national policies like the Safe and Accurate Food Labeling Act of 2015, it is important to understand their thought processes about eco-labels. From a managerial perspective, brands can use eco-labels as a point of difference in their products to attract more consumers (Delmas, Nairn-Birch, & Balzarova, 2013). Eco-labels can influence consumer attitudes toward products and brands, and consumers use them as signals of the environmental qualities of the product. This paper links eco-labels to signaling theory, which proposes that two parties can

circumvent information asymmetry, as is evident among manufacturers who produce environmentally friendly products and consumers who are unaware of how the product is made, by having one party (the manufacturer) send a signal (an eco-label) that reveals important information to the other party (the consumer) (Spence, 1973).

The purpose of this study is to understand how environmentally-conscious consumers perceive, interpret, and use eco-labels on food products. This research will seek to conduct semi-structured interviews with environmentally-conscious consumers to determine how they use characteristics of eco-labels, such as visuals, content, or source, as signals to perceive and interpret the eco-label and the product.

Chapter 2: Literature Review

Theories and Concepts

This paper examines environmentally-conscious consumers' perceptions of eco-labels under the framework of signaling theory. Before describing the theory, it's important to establish what is meant by environmentally-conscious consumers and why they are important to this research. Environmentally-conscious consumers are consumers who exhibit behaviors indicative of environmental concern including, but not limited to, "using biodegradable/recycled products, and recycling bottles, cans and newspapers, […] reading packaging labels, contributing to environmental groups, and lobbying politicians" (Iyer & Banerjee, 1993, p. 494). Environmentally-conscious consumers are also motivated by preserving the planet, personal health, and animal life (Ottman, 1991, as cited in Iyer & Banerjee, 1993, p. 494). These consumers are most important to study when researching eco-labels because they are the primary stakeholders. As Heimbach (1981) put it, these consumers are "the 'squeaky wheels' who make the system work" (p. 475). Since these consumers are knowledgeable and concerned about environmental issues, it follows that they pay attention to eco-labels on food. It can then be established that eco-labels serve as signals about product qualities to environmentally-conscious consumers.

Signaling theory proposes the idea that when one party (the agent) communicates information about itself to another party (the principal), the principal is at a disadvantage because they have an information deficit (Atkinson & Rosenthal, 2014). In this case, environmentally-conscious consumers play the part of the principal, while the companies

that use eco-labels on their products are the agent. These consumers must judge products based on an environment of asymmetric information, and they use eco-labels as signals for evaluating product quality.

Spence's (1973) seminal paper proposes that the credibility of a signal determines how effectively it conveys information. He proposes that while asymmetric information is a drawback, it is possible to have more effective communication when the agent sends relevant information to the principal. The principal interprets the communication, or signal, and adjusts their purchasing behavior (Spence, 1973). Spence proposes that achieving equilibrium in information be looked at as a feedback loop. Signals are alterable and subject to manipulation by the agent, so as the principal receives new information, they adjust their probabilistic beliefs. Because the informational loop is ever evolving, total equilibrium may not be achieved. In the realm of eco-labels, laws that regulate farming and food production may change, eco-labeling schemes may evolve, the product may be altered, a brand may add new labels to their packaging, or consumers may seek to learn more about the environment. With constantly changing information, consumers constantly adjust how they perceive certain eco-labels.

Brand names can function as signals since they communicate information about unobservable product characteristics, like higher product quality, than an unbranded product (Tsao, Pitt, & Berthon, 2006). Through an experiment, Tsao et al. found that consumers use brand names to gauge the quality of a product, and branded products were seen as higher in quality than unbranded products. That is, brand names function as effective signals of quality.

For the present study, eco-labels also serve as signals of the quality of a product and whether said product complies with characteristics that an environmentally-conscious consumer looks for. For example, the United States Department of Agriculture Organic label would signal the presence of organic ingredients, so a consumer who is interested in the preservation of the planet can use the eco-label as a signal that the product's organic ingredients help conserve biodiversity (U.S Department of Agriculture, National Organic Program, 2015).

However, there is surprisingly insufficient research that links signaling theory within the realm of eco-labels (Atkinson & Rosenthal, 2014), and there is little research overall on eco-labels and consumer choice and knowledge (Hartmann & Apaolaza-Ibáñez, 2009; McEachern, 2008; McEachern & Warnaby, 2008; Nilsson et al., 2004). Atkinson and Rosenthal (2014) used an experiment to test how consumers use eco-labels as signals to judge a source's credibility and to form attitudes about a brand. They discovered that the source of a label and the specificity of the information in the label functioned as signaling devices for consumers, who in turn used the eco-labels to judge the credibility of the label and inform their purchase decision.

Eco-labels have an important role as signaling devices because of the information asymmetry between manufacturers and consumers. Information asymmetry exists because the manufacturers have more information about the safety, health, ethical, and ecological qualities of a product than consumers (Moussa & Touzani, 2008). Researchers have also shown that the lack of knowledge about product qualities results in a "disparity between what consumers know and what they think they know" (McEachern & Warnaby, 2008, p. 415). To reduce this information asymmetry, manufacturers can use eco-labels

on their products in an attempt to inform and signal consumers about the environmental qualities of the product. In turn, environmentally-conscious consumers can use different elements within eco-labels as signals on how to interpret the label and the product.

Environmentally-conscious Consumers

Eco-labels are a consumer-driven marketing tactic that grew from consumers demanding transparency on a product's quality, safety, health implications, ethical production and other production techniques (McEachern, 2008; Moussa & Touzani, 2008). In the late 1990s, green marketing was reoriented to respond to the backlash against it and to help marketers better target their products (Crane, 2000). Manufacturers and third party organizations have been creating eco-labels to signal specific attributes such as organic, regional-specific, fair trade, power-saving, etc. to appeal to consumers (Moussa & Touzani, 2008). But the question remains as to which consumers want and use eco-labels on products as signals of product quality.

In the United States, retail sales of organic food products were $29.2 billion in 2011, up from $3.8 billion in 1997 (Delmas et al., 2013). Nilsson et al. (2004) found that consumers who regularly buy organic repeat their purchasing pattern and expressed interest and concern in environmental issues, health aspects, animal welfare, and quality of the product. Because organic products and eco-labels are marketed as environmentally friendly, they attract the same consumers whose opinions and knowledge of the environment influence their product preferences (Loureiro & McCluskey, 2003).

Psychographic characteristics such as caring for the environment have been shown to be better explanatory variables regarding purchasing decisions than demographic characteristics, like education or income (Loureiro & McCluskey, 2003). If

belief patterns predict attitudes toward products better than demographic characteristics, it follows that environmentally-conscious consumers feel more positively toward brands that use eco-labels to signal their concern for the environment and actively try to conserve the environment through their practices and the products they market. In a computer-based experiment, participants who placed high value on environmental consequences as a criterion when purchasing food were more affected by eco-labels than participants who valued environmental consequences less, and participants with no environmental concern were not swayed by eco-labels at all (Grankvist, Dahlstrand, & Biel, 2004). Other research studies show similar findings. Manrai, Manrai, Lascu and Ryans (1997) conducted an experiment that found environmental knowledge was related to purchase likelihood, and McEachern and Warnaby (2008) conducted interviews and found consumers' personal beliefs and knowledge shape their attitude toward a behavior, like purchasing an eco-labeled product.

Since motivation and knowledge are important factors that shape persuasion (Petty & Cacioppo, 1986, as cited in Bickart & Ruth, p. 52), Bickart and Ruth (2012) did an experiment to determine the persuasiveness of eco-labels with consumers who had different levels of environmental concern. Their results show that consumers with lower environmental concern used eco-labels to interpret brands and products, while consumers with higher environmental concern used the brand to interpret the eco-label. Consumers with high environmental concern rewarded familiar manufacturers for their efforts on issues that they care about, but consumers with low environmental concern viewed manufacturers as a biased source and saw the eco-labels as less credible. However, Bickart and Ruth used a convenience sample for their study, so this finding presents an

opportunity for further research on the topic. If some environmentally-conscious consumers use the brand as the primary signal to judge a product's quality, it is important to find out how and why they use the eco-label.

It seems that manufacturers are catching up and realizing that environmentally-conscious consumers are a viable market for their products. After the backlash against green marketing in the late 1980s and early 1990s, retailers developed strategies to better appeal to consumers who care about the environment. In "niche greening," marketers targeted consumers with strong environmental preferences and viewed them as highly relevant to strategic development. And with the use of "collaborative greening," organizations banded together to develop green marketing resources that would not have been available to an individual firm (Crane, 2000). These strategies parallel how eco-labels work: they are most useful as signals to consumers with strong environmental concern, and third parties can provide the eco-label for a manufacturer so the individual company does not waste resources creating their own.

Other strategies that green marketers use include fear appeals. According to Obermiller (1995), fear appeals depend on creating or capitalizing on moderate levels of arousal and providing solutions or coping responses. Through a survey, he found that concern for an issue, in this case the environment, is a necessary condition for a message to be effective, and when environmental concern is high, a message becomes more effective if it reinforces consumers' beliefs that individual action makes a difference (Obermiller, 1995). This research further emphasizes that eco-labels are most persuasive when the consumer is concerned with the environment. If environmental concern is low, then the eco-label must increase concern for it to be an effective signal, and if a consumer

is already environmentally-conscious, then the eco-label must provide the consumer with an action they can take to help the environment, like recycling.

Perhaps the most convincing research that shows environmentally-conscious people are more receptive to green claims as signals is a review by Heimbach (1981). He suggests that consumers who care about the environment are the "'squeaky wheels' who make the system work" (p. 475). Because they have real needs, eco-labels are the signals that help environmentally-conscious consumers identify which products comply. Even if a consumer has a statistically rare need, it may still be important for national policy (Heimbach, 1981). For example, a need that exists for only 0.01 percent of the U.S. population still represents more than 31,000 people. Understanding how eco-labels function as signals has practical advantages so manufacturers can help environmentally-conscious consumers be aware of the environmental qualities of a product. Since consumers with high levels of environmental concern are more receptive to eco-labels than the average consumer, the first research question for this study is:

RQ1: Why do environmentally-conscious consumers use eco-labels on food products?

Purchase Intent and Purchase Behavior

If eco-labels serve as signals to clue consumers into environmentally friendly product attributes, the question becomes whether information (i.e. eco-labels) is enough to influence purchase behavior (Horne, 2009). Although some studies cite specific instances when eco-labels affect purchasing decisions, most research suggests that purchase intent does not translate into purchase behavior (Atkinson & Rosenthal, 2014; Crane, 2000; Hoek, Roling, & Holdsworth, 2013; Horne, 2009; Kalafatis, Pollard, East, & Tsogas, 1999; Loureiro & McCluskey, 2003).

McEachern (2008) suggests that knowledge has an effect on purchase behavior of eco-labeled meat, which further indicates that environmentally-conscious consumers may be most swayed by eco-labels. Manrai et al. (1997) conducted a study that also showed consumers' knowledge of the environment was linked to purchase likelihood. However, the relationship between knowledge and consumer choice is not fully understood since purchase behavior is shaped by a consumer's personal beliefs and attitudes toward a behavior, long before the actual purchase (McEachern & Warnaby, 2008). Social practices that are not explicitly centered on consumption actually shape consumers' behavior (Horne, 2009). Also, societal influences like high-profile NGOs can shape attitudes toward different behaviors, and subjective norms (what a person believes others think she should do) have a direct effect on a consumer's intention (Kalafatis et al., 1999). Other research has also shown that cognitive variables like opinions and beliefs influence consumer preferences, and consumers must process information and perceive high quality before they are willing to pay a premium on an eco-labeled product (Loureiro & McCluskey, 2003).

While eco-labels influence attitudes and trust toward the product and label, it is harder to establish a link between an eco-label and its influence on behavior. Even if consumers report concern about the environment and claim willingness to buy, only a few actually follow through, which reveals an attitude-behavior gap (Atkinson & Rosenthal, 2014). Hoek et al.'s (2013) findings suggest that relying on consumers who report their intention to buy overemphasizes their actual behavior. Although eco-labels seek to inform consumers, information in the form of eco-labels is not enough to change a consumer's purchase behavior (Horne, 2009). However, purchase behavior may be

triggered by repeated exposure to the eco-label, which may lead to familiarity and, in turn, stimulate consumers to discover more about the eco-label, the product, and its attributes (Hoek et al., 2013).

Based on these findings, it is logical to conclude that eco-labels do not directly influence a consumer's purchase behavior. Rather, the consumer's previous knowledge of the environment and attitudes and beliefs influence their purchasing decisions. If a consumer is aware of environmental issues, it follows that they buy products that are environmentally friendly or comply with environmental standards. Since eco-labels signal product qualities that coincide with environmentally-conscious consumers' beliefs and attitudes, the eco-label can influence consumers' attitudes toward the product. However, this is a more difficult link to establish without further research. If eco-labels do not explicitly influence environmentally-conscious consumers to buy a certain product, the second research question is:

RQ2a: How do environmentally-conscious consumers use eco-labels?

Perceived Source Credibility Interaction with Eco-Labels

The backlash against green advertising in the late 1980s and early 1990s was associated with consumer confusion about green claims and a general lack of credibility of green advertising (Crane, 2000). Brands struggled to convince consumers of the value of green products and did not label green products appropriately, so consumers perceived green products to be of inferior quality (Crane, 2000). The credibility of eco-labels is still a problem today, and it is a particularly salient concept with environmental claims since consumers are still skeptical about them (Manrai et al., 1997). According to signaling theory, a signal communicates effectively only if the signal is credible (Spence, 1973).

Since consumers cannot easily verify green product claims through information search or personal experience, eco-labels fall under the category of credence claims, which have to be accepted at face value as credible (Atkinson & Rosenthal, 2014). And the majority of eco-labels fail to provide consumers with credible quality assurance schemes (Nilsson et al., 2004). This makes it difficult for consumers to trust that marketers are sending truthful signals about a product.

Atkinson and Rosenthal (2014) look at eco-labels as seals of approval that signal consumers about the environmental qualities and impact of a product. They found that consumers are more likely to view an environmental claim as credible and honest if they trust its brand or source. An early study about the perceptions of seals of approval found that consumers perceived third-party seals as more credible because of the third party's expertise and impartiality (Parkinson, 1975). This finding has been replicated by other studies since. Researchers have found that consumers generally perceive eco-labels that are issued by third parties, such as the government and social movement organizations, as more credible and reputable than eco-labels that are issued by corporations (Atkinson & Rosenthal, 2014; Banerjee & Solomon, 2003; Boström, 2006; Nilsson et al., 2004). Banerjee and Solomon (2003) credit the heightened credibility of government-backed eco-labels to the government's relative stability and higher budget for these programs when compared to corporate labels.

With an experimental design, Atkinson and Rosenthal (2014) found that while corporate labels are more persuasive and generally elicit more positive attitudes from consumers, government-backed eco-labels were still judged to be more credible. Consumers perceive government entities to be particularly trustworthy when the product

has personal health and safety consequences. For food products like milk, consumers view the government as a less biased source since its ultimate responsibility is to ensure people's safety (Atkinson & Rosenthal, 2014). It is important to note that Atkinson and Rosenthal used a convenience sample in their study, so establishing a link between their results and the intended audience for eco-labels is hard. Their finding that corporate labels are more persuasive and elicit more positive feelings seems contradictory to the rest of the research, so finding the reason why some consumers would prefer a corporate eco-label than a governmental one presents an opportunity for further research.

Boström (2006) found that eco-labels backed by other third-party organizations like social movement organizations are also more credible to consumers than corporate labels. By reviewing two case studies, he found that institutional status, expert knowledge, and a recognizable name and logo are symbolic power resources for social movement organizations. Organizations like the World Wildlife Fund and the Red Cross are able to build authority from their symbolic capital. They embody universal values and morals through voluntary participation, human rights, and rational discussions (Boström, 2006).

Through a review of 58 eco-labeling schemes in Europe, Nilsson et al. (2004) found that producer- and retailer-owned schemes were the most common among eco-labeled food. They attribute the credibility of these labels to brand equity, domestic production, or alliances with trustworthy third parties like NGOs and state authorities (Nilsson et al., 2004). Although this finding may seem contradictory, it is useful to note Nilsson et al. reviewed a variety of labels and interviewed key stakeholders who played a part in operating the eco-label schemes. Since consumers' perceptions were not a part of

their study, it is difficult to ascertain a link between the labeling schemes they looked at and the credibility of those labels. However, this study is still useful since it shows that corporate eco-labels use alliances with third parties as a way to signal their trustworthiness.

Other researchers have found other links between environmental claims, their source, and their perceived credibility. Bickart and Ruth (2012) conducted an experimental study and found that consumers whose environmental concern is high actually reward brands for having their own eco-labeling schemes because of their efforts on the issue. However, when these consumers are not familiar with the brand, their skepticism of the label increases because they may not know the criteria for certification or may not recognize the organization behind the eco-label. If consumers do not have the knowledge or ability to verify the certification process behind environmental claims, they judge those claims as less credible (Bickart & Ruth, 2012). This research also used a convenience sample, so their findings that consumers with higher levels of concern for the environment reward brands for creating their own eco-labels presents another opportunity for further research. If consumers do not feel confident about an eco-label, none of the information that the manufacturer tries to communicate will matter to them. Moussa and Touzani (2008) suggest that the credibility of a signal is the main characteristic that consumers use to discern between high-quality and low-quality sellers and products.

If consumers feel differently about corporate eco-labels and governmental eco-labels, it is important to study those differences in-depth. The second research question needs to include:

RQ2b: How do environmentally-conscious consumers interpret eco-labels?

Message Effectiveness

Although credibility is a key determinant in how effectively eco-labels communicate information, the organizations that issue them employ other strategies to signal the environmental qualities of a product. While consumers may see eco-labels that contain simple graphics as a marketing ploy (Teisl, Peavey, Newman, Buono, & Hermann, 2002), other researchers have shown the importance of design and content choices of an eco-label. However, there are few studies in the literature that address how the art and copy of green claims, in particular eco-labels, impact how consumers process and perceive the claim (Atkinson & Rosenthal, 2014; Hartmann & Apaolaza-Ibáñez, 2009).

One study focused on how the color used in calorie labels affected consumers' perceptions of a candy bar's healthfulness (Schuldt, 2013). Even though colors seem to be free of content, colors have symbolic meanings that affect how people think about and perceive them (Elliot, Maier, Moller, Friedman, & Meinhardt, 2007). The color-in-context theory posits that color carries meaning and has a functional value, and it also states that color carries different meanings and has different implications for beliefs and behavior in different contexts (Devine & Plant, 2012). Schuldt (2013) suggests that consumers who are health conscious may be persuaded to think a food product with a green label is a healthier choice. Consumers may also associate the color green with the concept "natural," and other research findings have demonstrated that consumers view natural foods as healthier (Schuldt, 2013; Schuldt & Schwarz, 2010). These findings link healthful impressions to the color green even further; however, since Schuldt (2013) and

Schuldt and Schwarz (2010) used convenience samples, these findings need to be researched more in depth. Since eco-labels are comprised of a graphic, the colors chosen to represent that graphic plays a large role in the eco-label itself. A consumer cannot look at and judge an eco-label without noticing its color, so conducting further research on the meaning that environmentally-conscious consumers ascribe to popular colors in eco-labels, like green, is vital to understanding the role that color plays in the effectiveness of eco-labels as a signal of environmental qualities.

However, another study by Vasiljevic, Pechey and Marteau (2015) that combined color (green vs. white) and emoticons (smiling vs. frowning) found conflicting results. The researchers found that emoticons yielded stronger perceptions of healthfulness than color. In the absence of color, labels that portrayed smiling emoticons affected survey respondents' perceptions of taste and healthfulness of cereal bars and candy bars. The researchers attributed the emoticons' larger influence to their evolutionary significance in communication (Vasiljevic et al., 2015). Devine and Plant (2012) also suggest that certain color associations are rooted in biology since color vision evolved because it was advantageous to survival, and that the meaning of color can be learned through classical conditioning, where exposure to color-meaning pairings create strong associations and can activate specific beliefs and behaviors. However, societal learning and biology are not mutually exclusive when it comes to color associations, and societal learning may reinforce and shape evolutionarily-engrained associations (Devine & Plant, 2012).

Hartmann and Apaolaza-Ibáñez (2009) cite the evolutionary significance of images in environmental claims, particularly images of nature. According to the biophilia hypothesis, humans have an innate attraction toward nature (Wilson, 1984, as cited in

Hartmann & Apaolaza-Ibáñez, p. 722). Their study found that associating a brand with nature images led respondents of the survey to experience emotions that were comparable to the emotions they felt when they were in contact with nature. Even though green advertising research has classified nature imagery as vague and ineffective environmental claims, this particular study found that nature imagery can actually lead to significant effects like more positive feelings toward a brand (Hartmann & Apaolaza-Ibáñez, 2009). By using such designs that signal consumers to think about nature while shopping, manufacturers can add meaning to the verbal claims the eco-labels make.

Green claims about planet preservation were the most common according to a content analysis of 173 print advertisements, and messages about the economic chain focused mainly on production, particularly the use of environmentally friendly materials. However, this study also found that green advertising content lacked specific information on the environmental aspects of a product (Iyer & Banerjee, 1993). In a separate experiment, Atkinson and Rosenthal (2014) showed that more detailed and substantial claims in eco-labels led consumers to report increased trust and more positive attitudes toward the product and label source. And Banerjee and Solomon (2003) conducted a meta-analysis that showed consumers were able to better understand labels with clear and direct information.

Other researchers who studied the information content of eco-labels and green claims show varying results of what consumers want to see in eco-labels. One study showed that green claims should not be too strong or too weak, otherwise, consumers will view them as unachievable or trivial, respectively. Survey respondents were shown car advertisements with claims of reduced pollution in varying degrees (five, 15 or 60

percent less pollution than the average car), and they were most swayed by the moderate 15 percent claim (Manrai et al., 1997). Manrai et al.'s study used a convenience sample, so conducting further research on claim strength is necessary before findings can be generalized to a general public or to environmentally-conscious consumers.

Another study looked at common approaches to green marketing, like "sick baby" appeals, which focus on the severity of the problem, and "well baby" appeals, which focus on the consumer's action and its potential effects (Obermiller, 1995, p. 55). Sick baby appeals were more persuasive when combined with a specific action the consumer could take to mitigate the problem, like buying products in bulk to reduce packaging waste, and well baby appeals were more effective when the issue salience was high, like reducing water usage in a drought-stricken community (Obermiller, 1995). This study also used a convenience sample, so it is important to keep this in mind when judging its findings. While it may not be possible to generalize the effectiveness of sick baby and well baby appeals to a general population, green marketers still use these strategies to communicate environmental information to consumers. Other researchers have shown that specific information communicates environmental claims more effectively (Atkinson & Rosenthal, 2014; Iyer & Banerjee, 1993), and Obermiller's study showed that using specific examples of actions a consumer can take to help conserve the environment enhances sick baby message effectiveness. In this case, sick baby appeals that include information on how to help the environment can be looked at as another example of specific information. Heimbach (1981) claims that if consumers cannot understand information, then that information becomes worthless. A review by Delmas et al. (2013) claims that clear messages avoid "the greenwashing sin of vagueness" (p. 10). These

articles highlight the need for eco-labels to communicate specific and clear messages if they want to be effective signals for consumers. The review also suggests that brands can benefit from using multiproduct eco-labels. Since these labels are available to a multitude of products, they have increased visibility to consumers, are more easily recognizable, and have stronger brand equity (Delmas et al., 2013).

The packaging design of a product is in itself complex since packaging needs to protect and preserve the product, provide for easy handling, provide useful information, and differentiate the product at the store (Jiménez-Guerrero, Gázquez-Abad, & Ceballos-Santamaría, 2015). Because eco-labels provide information that is relevant to environmentally-conscious consumers, they can serve as a point of difference for the product. However, Pancer, McShane, and Noseworthy (2015) conducted an experiment that showed that isolated environmental signals do not function as well as multiple supplementary environmental signals in product packages. Their study showed that consumers viewed a product with an eco-label and no other environmental signals with uncertainty and skepticism, but this skepticism was mitigated when the package had an eco-label and the color green. Consumers sought out additional environmental-related cues to determine product efficacy, so brands that use eco-labels can offer supplementary cues to signal to environmentally-conscious consumers that the product complies with their environmental needs.

All of these studies show that the organizational bodies that manage eco-label schemes and the brands that use eco-labels have a wide range of strategies they can use to signal the environmental qualities of a product through eco-labels. Because of this range,

it becomes important to study how different visuals and text in an eco-label affect consumers' perceptions of the label, so the third research question becomes:

RQ3: How do visual and textual elements of eco-labels act as signals, and how do consumers say they perceive these signals?

Chapter 3: Method

The literature review provided common themes related to eco-labels and how consumers perceive them based on their credibility and visual and textual elements. The literature showed that repeated exposure to an eco-label can lead to familiarity (Hoek et al., 2013), and eco-labels that are more familiar and have higher visibility have stronger brand equity (Delmas et al., 2013). However, the heightened credibility of eco-labels due to familiarity does not necessarily translate into purchase behavior (Atkinson & Rosenthal, 2014). Based on the general finding that eco-labels do not directly influence purchase behavior, but rather, the consumer's knowledge and beliefs influence purchase behavior (Kalafatis et al., 1999; McEachern & Warnaby, 2008), this research aims to understand how and why environmentally-conscious consumers use eco-labels and how they interpret eco-labels. This research also seeks to understand the role that different visual and textual elements play in a consumer's perception and interpretation of eco-labels. Based on the findings that associations between visuals and meaning can be rooted in biology (Devine & Plant, 2012; Wilson, 1984) or in social learning (Devine & Plant, 2012), it is important to study if visuals used in eco-labels elicit the same responses from all consumers or if consumers ascribe their own meanings to the visuals.

Because the research questions for the proposed study deal with human experience and reasoning and attempt to understand how and why consumers act, this research used qualitative methodology (Silverman, 2013). The researcher conducted semi-structured interviews to get an in-depth understanding of people's ideas, opinions, attitudes, and motivations. Interviews are a useful tool for probing for information that

consumers have but may not consider important or may not be conscious of (Berger, 2000; Whyte, 1982). Although unstructured interviews can provide greater breadth than other types of interviews because they do not impose any a priori categories that can restrict the research (Fontana & Frey, 1994), informants can leave out information that may be significant to the researcher through this approach, and researchers can benefit from encouraging the discussion along certain lines in order to get more meaningful information (Whyte, 1982). Semi-structured interviews also allow informants to introduce concepts that the researcher has not yet considered and steer the interview in new directions (Berger, 2000; Lachal et al., 2012).

Though common problems with interviews include people not saying the truth, not remembering accurately, not having useful information, tailoring answers to satisfy the interviewer, and incongruity between communicated and interpreted meaning, these problems can be avoided or minimized by using follow-up questions to probe further answers and encourage informants to keep talking (Berger, 2000). Comparing and crosschecking accounts of different informants can also detect and minimize distorted information, and if informants report conflicting information that cannot be resolved, interviews should still help uncover the nature of the conflict (Whyte, 1982). And although by using semi-structured interviews this research sacrificed quantified information and generalizability, interviews allowed for the freedom to probe answers to deepen their meanings and also allow for meaningful contributions to the literature by providing a deeper understanding of the particular cases studied (Foss, 2004; Whyte, 1982).

This research also used photo-elicitation as a projective aid in the interviews. Photo-elicitation has been found to stimulate statements with richer detail (Lachal et al., 2010; Van Auken, Frisvoll, & Stewart, 2010; Whyte, 1982). Interviews that include photo-elicitation have been found to be longer, more focused, and more effective in getting more profound statements (Van Auken et al., 2010). Because interviews for this research were done away from supermarkets, the typical setting where consumers find eco-labels, the researcher showed informants pictures of several eco-labels to help them place themselves in the scene psychologically (Whyte, 1982). Also, photo-elicitation has been found to empower the informants and promote their agency in the interview, which makes the informant feel like they are directing the interview more so than the researcher. This helps build rapport and make the interview feel more like a natural conversation (Richard & Lahman, 2015; Van Auken et al., 2010). A possible limitation to using photo-elicitation as a projective aid is that informants may focus more on the visuals they see rather than abstract concepts. However, this can be overcome by redirecting the interview and helping the informants identify other design opportunities in the visuals that they see (Bugos et al., 2014).

The informants were chosen based on their attitudes toward the environment. The literature review showed that consumers who are environmentally conscious are more likely to buy eco-labeled products and they are also more receptive to eco-labels (Bickart & Ruth, 2012; Heimbach, 1981; Manrai et al., 1997; McEachern, 2008; McEachern & Warnaby, 2008; Moussa & Touzani, 2008; Obermiller, 1995), so this study only interviewed consumers who display concern for environmental issues and regularly buy eco-labeled products. Because this study is primarily concerned with how and why these

consumers use eco-labels, restricting the interviews to informants who fit these characteristics was not problematic. The interviews were further restricted to people ages 18-34, or the Millennial Generation (Howe & Strauss, 1992). Age has been found to be positively related to the probability of buying organic and local, and the probability of shopping organic and local increases when there is an additional adult in the family (Zepeda & Nie, 2012). Since Millennials fall into the age group where they are getting married and starting families, their age and civil status increases the chance that they will be organic shoppers. Also, because Millennials are entering the workforce and/or transitioning into higher-paying jobs (Detre, Mark, & Clark, 2010), they have more discretionary income they can spend on eco-labeled food. Taylor and Keeter (2010) also indicate that, relative to the rest of the population, Millennials are more likely to engage in sustainable practices like buying local or organic as their income level and education level increase.

This research used a purposive sampling strategy to identify relevant informants who would provide the most useful insights of the phenomenon under study (Crane, 2000; Lachal et al., 2012). Snowball sampling was used to identify informants who are environmentally conscious and purchase eco-labeled food products. Snowballing is a useful sampling method when the population for study is small or dispersed among a larger population (Welch, 1975). Although Welch posits that snowballing may result in missing isolated members of the community in the sample or oversampling members with more extensive contacts, the nature of this research does not call for a fully representative sample of the population. Data sampling for this study was based on the usefulness of data rather than representativeness (Crane, 2000), and although this

research does not provide findings that can be generalized to the public at large, the findings of this research suggest answers to the research questions that provide an initial understanding of how and why environmentally-conscious consumers use eco-labels (Foss, 2004).

A screener questionnaire was distributed on social media and via email to contact acquaintances who are 18-34 years old and fit the definition of an environmentally-conscious consumer as described in the literature review. The screener survey helped the researcher make sure all informants met the same criteria before interviewing them. The researcher did not interview people she knows so the relationship of the researcher with them did not affect findings of the study (Silverman, 2013). Because this research used human beings as the subjects of study, the researcher took special precautions to avoid any harm to them. The participants received information about the research so the researcher could get their informed consent, and the identities of the informants was kept confidential to protect their privacy (Fontana & Frey, 1994).

This research was in part modeled after an article by Lachal et al. (2012), which studied the role of food in family relationships and used photographs as the basis for 12 semi-structured interviews with obese teenagers. The study let the photographs steer the interview, and the researchers reported getting enriched information due to the photographs. Although Lachal et al.'s research used photographs taken by the informants, the present study used pictures of existing eco-labels to aid in the interviews. The eco-labels chosen to aid in the study represent a variety of sources and a range of certifications that include social, environmental and animal welfare certifications. This study included six eco-labels, which are explained in Table 1.

Table 1

Eco-label	Source type	Certification type	Description
USDA Organic 	Government	Environmental welfare	Food must be produced without most conventional pesticides or fertilizers and meat/dairy products must be sourced from animals that are given no antibiotics or growth hormones
Dolphin Safe 	Government	Animal welfare	Delineates fishing methods for tuna that do not deliberately harm dolphins
Rainforest Alliance Certified 	Non-governmental organization	Environmental and social welfare	Promotes fair labor standards and wages, promotes well-being and development of communities, and protects the environment
Fair Trade Certified 	Non-governmental organization	Social welfare	Ensures well-being of workers, safe working conditions, better wages, and community development
Whole Trade Guarantee 	Corporate (Whole Foods)	Environmental and social welfare	Sets standards products must meet, like ensuring better wages and working conditions for workers and environmental responsibility
P&G Future Friendly 	Corporate (Procter & Gamble)	Environmental welfare	Delineates products that save energy, save water, reduce waste and/or are produced from sustainably-harvested materials

The current designs of these labels were used in the research with the exception of the Fair Trade eco-label. An older version of the Fair Trade eco-label was used in order to have more diversity in design and allow for richer answers from informants when it comes to the look of the eco-labels.

Since this research was based on semi-structured interviews, the questions were pre-tested before the main research starts. Pre-testing helped determine which question formats generated the richest answers, if the questions asked conveyed what the researcher actually meant, what was the right verbiage to use, and if the choice and amount of eco-labels for the photo-elicitation component of the interview was effective. Pre-testing the interview questions increases the reliability of this research (Silverman, 2013). The questions that were used in the semi-structured interviews can be viewed in the Appendix.

Similar to Lachal et al. (2012), who conducted 12 interviews, the researcher conducted 13 interviews (in-person and by online video chat). Participants ranged in age from 19 to 30 years old, and both male and female environmentally-conscious consumers were interviewed. The interviews were conducted in Columbia, Mo., in St. Louis, Mo. and online through video chat from late May through July, 2016. Earlier interviews were used to inform subsequent interviews. From earlier interviews, the researcher was able to identify questions that did not reveal useful information or uncovered other data of interest that the research had not yet identified but was be useful for further discussion of eco-labels. The interviews started with questions meant to understand the environmental concern of each participant and to know what specific actions these environmentally-conscious consumers regularly take to lead a more sustainable lifestyle. The participants

were then shown the six eco-labels individually. After describing each eco-label and identifying the message they thought the eco-label was aiming to convey, the researcher read a short description of the certification and asked them about the effectiveness of that communication. The interviews were tape-recorded and fully transcribed to aid the analysis of the data. To transcribe the interviews, the researcher used Rev.com, an online transcription service. In order to keep the visuals organized, the eco-labels were numbered one through six and were presented to the informants in the same order in every interview.

The constant comparative method was used to analyze interview data to identify deeper processes behind informants' statements (Silverman, 2013). By using the constant comparative method, the researcher was able to generate different categories and possible answers to the research questions (Glaser & Strauss, 1967). Analysis of the data began from the start of data collection to inform and direct future interviews (Corbin & Strauss, 1990). At the conclusion of all interviews, incidents were coded into eight main categories and then compared with similar incidents in the category (Glaser & Strauss, 1967). Because this research conducted semi-structured interviews, the informants brought to light other issues and concerns about eco-labels that have not been covered in the literature review, and thus, not included in the research questions.

Chapter 4: Results

The thirteen interviews conducted offer several insights on how and why environmentally-conscious consumers use eco-labels, how they interpret them, and how visual and textual cues act as signals. For the sake of comparison, the results are divided into several categories that correspond to certain themes that continually popped up during the interviews. These categories also correspond to the research questions and attempt to provide possible answers and understandings of how environmentally-conscious consumers interact with eco-labels.

Level Of Environmental Concern

Among the 13 people who were interviewed, there was high variance in their level of environmental concern. This research found that participants' reported behavior differed according to their level of environmental concern. Participants with higher environmental concern tended to have more specific needs, which translated to them looking for or having more knowledge about specific eco-labels. These participants also more often reported tailoring their lifestyles around their environmental concern and taking various steps to reduce their ecological footprint. Living sustainably for them is not just a matter of sustainable consumption, but rather, it is a matter of thoughtful living and actively supporting environmental causes outside of grocery store shelves. However, this research also found that despite the differences in environmental knowledge and concern, the participants' interpretations of the visuals and text in eco-labels were not necessarily tied to their lifestyle or their existing knowledge of environmental causes.

Before discussing how these people interact with eco-labels, it is important to describe the range of their environmental concern. The participants who expressed higher levels of concern for the environment more often mentioned their past knowledge about the environmental causes they find important, which played a part in how they use eco-labels in the store and how much they know about and trust certain programs. Because of the varying degrees of environmental concern, leading a more sustainable lifestyle takes different forms in each participant's day-to-day life.

Those who expressed lower levels of concern typically mentioned large environmental issues, like global warming, as their main concern, and they more often reported recycling as a major way they consume sustainably. Participant 4 said that he cares about "global warming… pretty much environmental stuff in general. I do not know. I am not the best about anything, but just trying to recycle and little things like that, I feel like go a long way." Similarly, Participant 13 said, "I feel like I care about all environmental issues. There's nothing that I would go out of my way to advocate for or against. Obviously, I am concerned about global warming. I am concerned about overdoing with our trash." These participants have a more general interest in the environment and sustainability. They do not necessarily go out of their way to advocate for environmental causes, but they do take steps to reduce their ecological footprint.

When prompted to describe how they consume sustainably, many participants focused on the aftermath of purchase and what happens when they dispose of packaging. Participant 8 expressed concern for product packaging, saying she pays attention to "the packaging of [a product] and if it is going to be something I can recycle or if it is something I can reuse in some way, shape or form." Waste reduction through recycling

and composting were some of the more common answers to the initial questions in the interviews. Participant 8 also said, “I have my worm compost, so I've limited, at least in the last couple of years, I've really limited my waste because I pretty much hardly ever have trash.” In her case, sustainability touches many parts of her life since she takes several actions to reduce trash. Participant 6 said,

> “I also try to minimize as much waste as I can. I feel the question, "Where is a way?" is pretty valid for everyday life. I would rather recycle than throw something away. I would also rather reuse something instead of recycle and even further reduce before I reuse, before I recycle, and before I throw away. Focusing on being efficient with the resources and not wasteful is pretty important to me.”

For this participant, minimizing her ecological footprint is more complex as she tailors her day-to-day life to reducing her waste output. The notion of overconsumption came up frequently in the interviews, which shows that for these participants, sustainability is a thoughtful process where they have to plan out their consumption habits in order to keep up with their waste reduction ideals.

Some of the participants that expressed more concern for and knowledge about environmental causes also mentioned a preference for local foods. Participant 5 said, “I really like local produce and stuff, just because I like supporting my local community.” For her, local produce is first and foremost an issue of being supportive and part of her community instead of solely an effort to shop more sustainably. It is important to keep in mind that while local foods can be a more environmentally friendly option, it is not always the case. Depending on a person’s geographic location, they may live somewhere where food production is nearly impossible and the land must be heavily treated in order to produce any fruits or vegetables. Most of the participants live in Missouri, which has ample agricultural land. Thus, shopping locally for many of the participants is possible

and often a more sustainable option. Participant 6 also mentioned she likes local food because it minimizes food miles, and she said prefers in-season fruits and vegetables. Her interview was interesting because she was the only participant to mention the food miles involved in transporting food, and she was the only person to mention the importance of eating in-season. Foods imported from other states, or even other countries, must be packed into trucks that have to travel countless miles before it reaches grocery store shelves. This process uses fossil fuels and can be less energy-efficient than buying foods produced locally. Also, certain climates make growing some fruits and vegetables virtually impossible, and again, the land must be heavily treated to produce food or greenhouses must be used, but providing the right conditions year-round can be energy draining.

When it comes to the participants who expressed the highest environmental concern, they mentioned politicians and leaders as people with the power to make more eco-friendly decisions and move society toward sustainability. After saying she is invested in long-term sustainability, Participant 7 said, "I do not understand why many of our major leaders in fossil fuels and things like that aren't investing in green technology." This participant suggests that sustainability goes beyond shipping; it goes all the way up to how governments and industries are run. She also suggests that fossil fuels play a larger role in food production than people may realize. In addition to the fuel needed to transport food from the producer to the consumer, fuel is also needed in the actual production of food, whether it is fresh or processed. For this participant, taking leaders' ideas and actions about energy use into consideration is an important way to shop sustainably. Participant 2 also said, "I really look for politicians that are working toward

regulating emissions." She spoke of politicians in a more action-based way than the previous participant. While it might seem obvious that one of the main ways to encourage sustainability in society is through electing leaders who will pursue environmental interests, the idea did not come up in many interviews.

Making Purchasing Decisions

When it came to making purchasing decisions at the store, this research found that shopping for food can be a complex task. First, the participants in the study were price-sensitive, and they reported that the price of a product sometimes overrides the ecological benefits of purchasing an eco-labeled product. When price was not an issue, some participants reported doing research on eco-labels, organizations and brands to learn more about sustainable initiatives and ascertain the products they buy have the environmental benefits they seek. This research also found that eco-labels are sometimes used as tiebreakers in the store. Several participants reported using eco-labels to make a decision between two or more similar products. Another important finding is that eco-labels often serve as an emotional product benefit for these participants since they reported that buying eco-labeled products make them feel better about their purchases.

Although they were not directly asked about their finances, the participants frequently brought up higher prices as a barrier when trying to shop for more eco-friendly products. Participant 13 said, "I was living off of loan money throughout medical school. Really, up until that point, the cheapest thing was the most important thing to me." Taking financial situations into consideration is also important when considering how people lead a more environmentally friendly lifestyle. Just because a person wants to buy the more sustainable choice doesn't mean that he will be able to. Oftentimes, food that is

produced in a more sustainable way is more expensive. Higher costs may be due to a number of reasons: seeds may be more expensive, foregoing pesticides or fertilizers may reduce crop yields, certifying a product as eco-friendly may have high fees, etc. Participant 5 said she cannot afford to buy more sustainable products all the time, Participant 6 said shopping sustainably is dependent on her budget, and Participant 11 said she pays more attention to price than how the food is sourced and produced.

It is important to keep in mind that this research focused on Millennial consumers. Many of these consumers are just beginning to live on their own and make their own purchasing decisions. Some of them, like Participant 13, have student loans to think about in addition to other expenditures that may be new to them. Some participants had jobs, and others were students. Participant 10, a student, said that she would like to do more to reduce her ecological footprint, like composting, but "because of my living situation I can't really do that as easily." Millennials are interesting because the age range from 18 to 34 means that they lead vastly different lives. The younger Millennials who are still students or are just entering the work force may not be able to do as many things for the environment as they would like to. Older Millennials may be more established and have more discretionary income, so it may be easier for them to make eco-friendly purchasing decisions more often. Although all participants mentioned ways in which they try to lead more sustainable lifestyles, shopping sustainably is more accessible to some than others. This trend of wanting to do more for the environment but not being able to take all the actions they would like to is reminiscent of Atkinson and Rosenthal's (2014) finding that there is often an attitude-behavior gap.

In order for eco-labels to be effective signals for consumers, they have to communicate something clearly. However, since the labels tend to be small and cannot house much information, some participants reported doing research on different organizations or labels to be able to understand them better. This is similar to McEachern and Warnaby's (2008) finding that the act of purchasing starts long before people go to the store and that beliefs and attitudes shape behavior. By doing research on eco-labels and products before they buy, consumers shape their beliefs and attitudes about them, which in turn influences their purchase behavior. Participant 4 said, "If it is the reason I buy something, I am going to Google it, just because I want to know what it actually means. I am going to care more after I've learned more about it." For this participant, doing research on an eco-label is a way for him to understand the mission of the label better and be able to make a more informed decision. Because an eco-label may not be a clear signal of the product's environmental benefits, his researching the label is an attempt to close the information gap to make the signal more effective. Looking for more information on a label, or a product, is also common for Participant 10. She said she takes "time to research things before I buy them. Especially if I am going to make a purchase for something that I am going to use long term, I want to make sure that it is something that's ethically sourced." This participant's need for information went beyond some of the other participants since she talked about researching eco-labels as well as individual brands before making a decision on what product is best for her. Learning about the label is helpful to understand the certification process and how strict the guidelines for certification are, and learning more about specific brands is helpful to understand how else the company strives to be environmentally responsible. Even though a product may

be certified Fair Trade, other products produced by the same company may not be as ethically sourced. Participant 10 echoed this notion by saying that if she knows "one particular brand is pretty ethically sourced, even if I have not bought that particular product from them before, I would be more likely to buy it again."

Other participants also mentioned that instead of looking for specific eco-labels, they look for brands they know are more eco-friendly. Participant 6 mentioned specific brands she looks for when shopping, saying that she buys "eco-friendly Seventh Generation cleaning supplies. 360 Full Circle has some eco-friendly ones that are a little more price-friendly." Although she was not speaking directly about food, her mention of brands that comply with her environmental needs is indicative of similar behavior when it comes to food. This participant also mentioned she pays attention to some eco-labels while shopping, but she puts the brand first and prefers to buy brands based on her knowledge of their sustainable practices and production. This notion was also evident in the interview with Participant 7 since she said, "I purchase certain brands based on what I know that they do for the environment and how much they make that a part of their movement." The degree of involvement with the environment seemed to be of high importance to her because it acts as a signal of how eco-friendly an individual product will be. Because she takes the time to learn about a brand's mission, she is more privy to information about the brand's environmental awareness and responsibility and how the brand conducts itself in relation to sustainability. Likewise, Participant 10 said, "I do more research on the brand level, rather than the individual certification level when it comes to figuring out what product I'm going to buy." These interview excerpts suggest that some consumers prefer rewarding brands for their sustainability initiatives than

rewarding the organizations that make the eco-labels. Because eco-labels certify specific things about a product, seeing an eco-label on a product may not mean that it is the most eco-friendly option. For example, when a consumer goes to the store to buy coffee, they will find several brands in the aisle. Some of those brands may have eco-labels, and they may have the same ones. The participants that look for brands before they look for labels might use this as a way to more easily narrow their choices before going to the store and make sure they purchase a product that is as eco-friendly as they expect.

Another trend that surfaced in the interviews is that many participants use eco-labels as a sort of tiebreaker to choose between two similar products. This notion was apparent in several interviews where participants reported they do not have specific labels they look for while shopping, but they appreciate the extra effort that products put forth by certifying their practices and production through eco-labels. Participant 5 said, "If I notice one product has more labels, like Fair Trade or Sustainable or something like that, then I would probably pick that over something that doesn't." In this case, the labels serve as an aid in decision-making. The participant does not go to the store with specific eco-labels in mind that she looks for, but they help her make the ultimate decision of which product to buy. This might seem contradictory to McEachern and Warnaby's (2008) finding that purchasing behavior begins long before a consumer goes to the store. However, this quote suggests that as a consumer, Participant 5 makes the decision of what she will buy before going to the store, but if she finds something similar nearby that has more certifications, she is more likely to choose the latter option. Likewise, Participant 4 mentioned he does not actively look for labels while shopping, but he pays attention to them if they are on the package. Similarly, Participants 1 and 2 said they do

not go out of their way to purchase products with eco-labels on them while shopping, but will often choose the eco-labeled product over its non-labeled counterpart. This suggests that, while these consumers often prefer an eco-labeled product, awareness of eco-labels may not be high even among consumers who exhibit environmental concern. They know about current environmental problems and care about tailoring their lives to help remedy them, whether that means they care mainly about waste reduction or they make bigger changes, like going vegan. However, this does not mean that they know about certification programs. Seeing an eco-label clearly on a package helps them become familiar with them and understand their mission, but many eco-labels are placed on the back of the package where they are harder to find. When the participants notice the eco-labels, most mentioned that it is a positive product attribute and they gravitate toward those products.

On a similar vein, many of the participants who use eco-labels as tiebreakers also reported that they look at eco-labels as an extra product benefit, or a plus. They feel better buying a product that has eco-labels on it, but the label is not necessarily on their list of requirements for the food they purchase. For example, Participant 1 said "if it is on the package, better for me," and Participant 2 said, "For me, it is one of those things that if it is there, it is awesome." This finding serves as a possible reason why eco-labels help inform purchasing decisions in-store for some consumers. If a product has gone to the lengths of being certified by an organization, it appears to be more eco-friendly and more compliant with the consumer's environmental beliefs. Participant 5 was more critical of eco-labels, saying:

> "Sometimes it does seem just like a marketing ploy to me. There are lots of products I know that are produced sustainably but they just can't afford to put that

> label on. If it does have it, it is like an added bonus for me but I am not going to not purchase something if it doesn't have a Fair Trade or hormone free label on it."

This suggests that, while certifications are important to inform consumers about product attributes, some consumers are still skeptical and look at some of these certifications as greenwashing. Participant 5 brought up an interesting point by saying that some products are eco-friendly, but they encounter price barriers to certification through an eco-label. This shows that environmentally-conscious consumers face several difficulties while shopping. They may not be aware of certification programs, or they may not know which programs are more credible than others. They may not have the funds necessary to always buy the more eco-friendly option. They may also be unaware of eco-friendly options out there that have not been certified through an eco-label. The list of difficulties goes on, but it highlights the need for information that is easily accessible to these consumers so that eco-labels can be more effective signals of environmental product benefits.

Eco-Labels And Their Relationships With Brands

Through the interviews, the participants revealed a few interesting trends regarding how eco-labels and brands interact. This research found that some participants viewed eco-labels as brands themselves, while others used the brand or the organization behind the eco-label to interpret the label's meaning. The eco-labels that were easily recognizable to the participants were often reported to be more likable and more effective at communicating the certification. When it came to the eco-label schemes, participants often projected their positive and/or negative associations with the organizations onto their respective eco-labels. In this study, corporate eco-labels in particular were more

often interpreted through the brand than the name of the program. When participants had negative feelings toward an organization, whether it was a brand, NGO or government body, they were more likely to be skeptical of the eco-label and dislike it. Because the participants were shown images of the labels isolated from any package, this research did not find any applicable trends to how eco-labels interact with brands of products that they certify.

The participants were asked to compare the six eco-labels, and the labels that were rated as most effective were often labels with which the participants were most familiar. The participants noticed these labels more because they were attention-grabbing and recognizable marks on a package, and because of this, the eco-labels were often reminiscent of a logo and seen as brands themselves. Logos are supposed to quickly convey what a company does. If eco-labels can be looked at as a logo, they should quickly convey to the consumer what the program is. In truth, most eco-label schemes are too complex for organizations to convey everything the label certifies in a small graphic. However, some labels in this study were more effective at communicating to the participants what the program entails more than other labels. The labels the participants rated as more effective were usually more recognizable in a sea of eco-labels. This is similar to Boström's (2006) finding that a recognizable name and logo are powerful resources for organizations and help them build authority. Participant 1 reported that the USDA Organic label was most effective because he recognized it and has seen it the most out of the other eco-labels. His response is reminiscent of Hoek et al.'s (2013) finding that repeated exposure to a label leads to familiarity, which may in turn make the label more likable to a consumer. Because he was familiar with the USDA Organic label,

Participant 1 was partial to it and thought it communicated more effectively than the other labels. Similarly, Participant 8 reported the Rainforest Alliance Certified label communicated most effectively for her because of "the little frog. I remember the frog. The design is really punchy and graphic. It's really memorable, it really holds your attention." The eco-label acts as its own brand in this case because the participant was able to recall the label and the symbol with which it is associated. In addition to the graphic, the Rainforest Alliance sometimes adds "Follow the frog" as a tagline on packages that have the eco-label. In this way, the organization acts like a brand because it encourages consumers to look for it and buy products based on the frog graphic. Participant 6 reported that she liked the P&G Future Friendly eco-label because it reminded her of "Seventh Generation and forward thinking. It is less focused on convenience in the here and now, and it is outward projection toward what is to come next." This participant had previously mentioned that she frequently buys Seventh Generation products, so the similarity of the P&G label to the brand made her prefer it to other eco-labels. Her positive association with a brand translated to a positive association with the eco-label. However, seeing the label as a logo was distracting to some participants and they missed the point of the certification. Participant 5 disliked the Whole Trade Guarantee eco-label because it "looks like pretty much the same as the Whole Foods logo, so if I didn't look that closely at this I would just brush over it as being a Whole Foods product." In this instance, the brand behind the label and the label itself look too much alike, so the participant could not separate the two and get any meaning from the eco-label. She recognized the brand and understood Whole Food's mission, but the heavy branding of the eco-label overshadowed its message.

On a similar vein, when it came to the corporate eco-labels, several participants used the brands to interpret what the label meant. This is reminiscent of Bickart and Ruth's (2012) finding that some consumers use brands to interpret eco-labels. In their study, they found that consumers with higher degrees of environmental concern were more likely to interpret eco-labels through the brand. However, in this study, several participants referenced Whole Foods's and P&G's brand missions regardless of their level of environmental concern. Participant 2, whose father works for P&G and is familiar with the brand, said that the P&G Future Friendly label communicates to her that "buying this product, you are making a conscious decision to support a company that is taking steps to ensure that these products are sustainable and healthy for future generations." The P&G website states that they strive to improve the lives of its consumers and to help communities where they are present to prosper. Because of this brand mission, the participant instantly made the connection that the eco-label means the product strives to improve communities for the future. She made a positive association between the label and the company that organizes it because the brand is taking extra steps toward sustainability. Other participants were also aware of P&G as a brand, but they were not aware of its brand mission or inner workings, so they did not mention if the brand helped them interpret the label as often as they mentioned Whole Foods as helping them understand an eco-label. Before hearing what the Whole Trade Guarantee label certifies, Participant 4 reported, "It probably means that the food they are buying is either organic or local or better somehow. That is Whole Foods's whole thing." Because he was familiar with the brand and its mission, he was able to gather some details of the certification, albeit not every aspect of it, and give meaning to the eco-label through the

brand. Participant 8 had a different interpretation of the Whole Foods label. The first thing she said about the label was that she thought it communicated that "whatever you are buying will be expensive." This participant used her previous experiences with the grocery store chain to judge the label. Whole Foods is knows for having higher-end and higher-priced foods because they are all supposed to be more sustainably and ethically sourced products. Having this knowledge, the participant believed the label was a signal for higher prices. Participant 9 was also able to use the Whole Foods brand to interpret the eco-label, but she added that,

> "It is really, first and foremost, showing that this is a Whole Foods initiative. It's familiar because of that. I think maybe if they can just refer back to themselves as Whole Foods and people already have an impression of Whole Foods as doing some of those things, maybe that could be how it brings that knowledge out."

This participant made the association between the eco-label and the brand instantly, but this quote suggests that Whole Foods may be assuming too much and expecting too much of its consumer. It assumes the consumer is familiar with the brand and its mission, it expects that people will easily be able to make the jump between brand and label, and it assumes that people will just know that the certification program has a similar mission as the mother brand. This notion was illustrated in the interview with Participant 7 since she found the Whole Trade Guarantee eco-label confusing because she did not know much about Whole Foods. She said, "Even after hearing what it is that they are trying to convey with it I still don't think it really gets to what they are saying." Because she was not familiar with the brand, she was not able to interpret the eco-label and gather any meaning from it.

Some participants who used the outside brand to interpret the eco-label had negative associations with the label based on the brand or organization behind the

certification. Signaling theory posits that a signal is only effective if it is credible, so when participants viewed the organization behind a label with skepticism, that negative association translated to the label. On a general note, Participant 7 had a hard time understanding how some brands and products fit into the sustainability conversation when they seem not to be sustainable inherently. She gave the example of Cheez-Its and said, "You know exactly what you are getting. It is still a processed cheese cracker, what is the point? What are you really removing from it? You would be better served eating something fresh either way." Because she was skeptical of the product itself, it translated to any eco-label the product may have. When she sees labels such as "all-natural" on products that are processed, she is distrustful that the certification means anything. There was also no shortage of criticism of Whole Foods and its eco-label. As previously discussed, Participant 8 had a negative association with the label because she thinks Whole Foods is an expensive grocery store. Participant 10 also had a negative association with the eco-label because she felt that "despite what it might be trying to promote, […] it very much seems to be a promotion of their own brand more than anything." Participant 7 had a similar reaction, saying, "It is like they want to keep themselves the focus. It is not really about the partners that they are working with; it is not really about what they are doing for anyone else." Also, Participant 6 said, "I am pretty skeptical of it because it is not really communicating anything to me except that Whole Foods as a corporation approves the product." These responses suggest that the eco-label looks too corporate and too similar to the brand. The participants felt like the eco-label was more so about playing up the brand than it was about promoting its mission of sustainability and fair trade practices, which weakens the eco-label. Participant 7 also shared her skepticism

of the Rainforest Alliance certification because of her previous experience with the organization. She had previously bought Rainforest Alliance Certified wood and later did research about the program. She said,

> "Are they better than other logging industries in that region? Yes. Did they hold up their bargain? Oh no. Since then I've been a little distrustful of that because doing the research actually it wasn't something that was sustainable. […] If I hadn't had that little urge I would have just trusted this label and gone, 'No they've got the little frog, it's all in green.' I would have trusted the label."

Her research on the label led to her discovering weaknesses of the organization and the certification, which resulted in her dislike and distrust of the label. She mentioned her initial urge to trust the label because of the frog and the green, two environmental cues that signaled sustainability to her. However, because her research made her distrust the eco-label, it was not an effective signal for her after her initial interaction with it.

Eco-Label Source And Credibility

Similar to other studies that posit that the credibility of a label is based upon the consumer's trust in its source and third parties are more credible sources (Atkinson & Rosenthal, 2014; Banerjee & Solomon, 2003; Boström, 2006; Nilsson et al., 2004; Parkinson, 1975), this study found that the participants more often reported increased trust in third-party certifications than corporate certifications. Participants often had the association of corporate eco-labels with private interests and believed that corporations' initiatives go without oversight, which made them think corporations are less authentic and trustworthy when it comes to environmental responsibility. None of the participants reported higher trust in the corporate labels than in government or non-governmental labels, but the participants were split fairly evenly in those who reported more trust in governmental sources and those who reported more trust in non-governmental sources.

Those who preferred eco-labels backed by the government often placed weight on the status and power of the government as a figure of authority and a watchdog for its citizens. Other participants' preference for non-governmental labels often stemmed from a belief that NGOs strive to help communities and are more transparent than the other two sources. However, this research also found that some participants did not give much thought to the source of an eco-label while shopping, so sources may not affect the credibility or the effectiveness of an eco-label when consumers are in-store.

To start, several participants had negative perceptions of the corporate labels because they were less inclined to trust a source with private interests. Even though, as discussed above, there were a few participants who rewarded P&G and Whole Foods for striving to take steps toward sustainability, most participants did not have that association. Some participants reported disliking the corporate eco-labels because the companies that organize those label schemes are motivated by financial interests. Participant 3 said that "it doesn't necessarily mean anything, but they want you to buy more of their stuff." Because companies generally want consumers to purchase more of their products, this participant interpreted corporate eco-labels as just another marketing tactic. This notion is supported by Delmas et al.'s (2013) finding that eco-labels serve as a point of difference for brands and products. In this case, Participant 3 views corporate eco-labels as just that: an attempt by the brand to differentiate their product. However, she did not view this point of difference as a positive, rather, to her it seemed like greenwashing. This perception was also evident in Participant 5's comment that brands "don't really care that much about the community aspect of it. I think they just care more about trying to get more people to buy their product." Because private companies have

private interests, this participant suggests that companies do not work toward the public good. Rather, their private labels just serve to sell more products and give the company a higher profit margin. Participant 6 took this notion further by saying, “I am jaded in terms of corporations that they are always just out to make a buck and do not care too much about the people that might be suffering or affected by their practices.” In her case, the perception is that companies do not only care about making a profit, but they also may be hurting individuals and communities in the process of making their product. It is not just that a private company may not care about bringing good to a community; this participant implies that a company may actually harm a community. The participant admits her own bias, but that does not take away from the fact that she believes that when it comes to making eco-labels, private companies are ignorant of the harm they cause at best, and at worst, they are cognizant of the harm they cause but care more about turning a higher profit.

Other participants also had negative associations with corporate labels because they perceived these organizations to have less validity because there is no outside source that confirms that what the company claims is the truth. Participant 9 said that corporate eco-labels are “be the least believable or seem the least authentic. It's just what they're claiming about themselves. […] You can't usually just trust what someone says about themselves.” This participant suggests that corporations can more easily bend the truth or make their sustainability efforts sound better than they actually are. Participant 2 echoed this notion in saying, “The P&G Future Friendly and Whole Foods, those are corporations… they could be artificial movements.” She also suggests that corporations can easily make themselves sound better through marketing efforts or movements.

Private companies may not truly care about sustainability, but they may just go along with popular environmental movements or invent their own causes in order to be a more attractive choice to consumers. Similarly, Participant 10 said, "I think that I tend to automatically view corporate sponsorships as being less honest or trustworthy. There cannot be a lot of oversight for that program." Both of these participants suggest that because corporations can put forth eco-labels and act by themselves, there is an aspect of accountability missing from these eco-labels. Their perception is that there is no other body or organization that can validate the corporation's claims, thus, the label seems less trustworthy.

In contrast to their beliefs regarding corporate eco-labels, many participants put more trust behind the government because it is the government. The general perception was that the government is supposed to protect its citizens and look out for people's well being. Participant 1 said, "They are supposed to protect consumers. […] They have more weight. I mean it is the United States government, what is the company, Procter & Gamble, compared to the United States government?" This suggests that the government has more resources available to it than a private company might have, which gives the government more authority in certifying the environmental responsibility of a product. Whereas private companies may also have plenty of resources available, the perception seemed to be that those companies allocate more of their resources toward becoming more profitable. However, the government's resources are more likely to be allocated toward projects that protect citizens and improve their lives and communities. Participant 9 brought up an interesting idea in saying that government sources appear "familiar and it inspires maybe just a sense of patriotism that people already have, or they just expect that

their democracy is working perfectly for them, and everything is designed to protect them like they would hope." Being able to put the words "United States" on a product is a powerful symbolic resource for governmental eco-labels. Because the United States is one of the most powerful countries in the world, it suggests that those eco-labels have real weight and authority. It reflects democracy because people demand to know more about their food and its production, so the fact that the United States government produces its own labels to certify sustainable and ethical processes shows that it is listening to its citizenry.

Participant 7 also brought up an interesting point when she said, "The US Department of Commerce does not care whether or not you buy dolphin safe tuna. They don't care they just want you to know." Governmental eco-labels are meant to be informational more than anything else. They're not meant to sway a person's opinion of a product or make a company more profitable. Rather, the perception is that the government wants people to be more informed consumers so they can make purchasing decisions that are better aligned with their beliefs. Although several participants favored government sources, there was also some skepticism regarding the government because some participants did not see the government work as they think it should. With different governmental bodies and branches blocking each other's initiatives often, some participants did not view the government as being as effective or efficient as it should, and this perception translated to how they viewed governmental eco-labels. Participant 10 believed that "most government regulation, especially as it comes to consumer welfare or consumer education, are typically less stringent than I would expect them to be." Because this participant sees the government as being less able to regulate these types of

initiatives, she did not believe that labels such as the USDA Organic or USDC Dolphin Safe hold as much weight as they appear to have. In contrast to some of the other participants, she does not believe that attaching the United States government to an eco-label makes it mean it is more credible. Participant 5 said,

> "I am not a big fan of the USDA. […] You see organic on a lot of products, like granola bar and cereals and stuff like that that are really processed… I think a lot of people feel like it might be healthier or something but I just feel like it's a gimmick for a lot of companies to put organic on a product and make it look healthier than it is."

In this case, the participant's dislike of the particular government department translates to a dislike and distrust of the label. Her perception is not so much that the government is less effective than it appears to be, rather, she looks at products that hold the label USDA Organic that do not necessarily make sense in her mind and lets that color her perception that the government may not be as sincere with people about what their certification means.

When it came to NGOs, some participants had the perception that they are the source most likely to help communities and be most truthful in their certifications. There was a general perception among the participants that NGOs have good intentions and strive to help people. Participant 10 said she views this source as "more accountable to their donors and things like that, so I feel like there's a lot more transparency within the NGO realm because I think the public sort of demands that." Because this participant was familiar with the NGOs represented in this study, she perceived those labels as being more transparent and credible. Her perception that NGOs are accountable to their stakeholders also helps to explain why she is more partial to this source than any other. She suggests that it is harder for NGOs to lie to the public or have different intentions

than what they claim, so this is inherently a more credible source. Participant 9 believed that non-governmental certifications are more comprehensive and effective at labeling sustainable products because people from different backgrounds participate and are involved with NGOs. She also said, "The more people that have different interests to begin with, but that are all coming together and advocating for the same thing, that is the best standard of how to know what is something you should trust." Her perception of NGOs as diverse organizations helped her make the association that they are more likely to help different groups of people.

However, some participants were also distrustful of NGOs and viewed them as a less credible source. Participant 7 tied them to corporations in the sense that NGOs are motivated by money and donations by saying, "It is donations, funders, grants. When things have an inherent motive behind them that is beyond just informational it can take a little bit away from it because your own leanings come into it." In this instance, this participant is skeptical of NGO certifications because these are organizations that have to please their stakeholders. They are not organizations that exist to only inform people, rather, they try to make their programs attractive to funders to they donate more and the NGO is able to grow and do more work. She did not suggest that the work that NGOs do is bad or invalid, but her comment suggests that NGOs are not as effective or helpful to the public as some people would perceive them to be. Participant 8 was also similarly distrustful of NGOs. She suggested these organizations may be less able to regulate their certifications, and she asked, "Who is actually policing it? Is this non-profit big enough for them to be able to police this and actually follow up to see these processes are being implemented in farms and agriculture or in the rainforest?" Although NGOs may have

good intentions, they may not be as effective at certifying sustainability as a bigger, more powerful organization. The label might seem like a good initiative, but if the organization cannot keep up with it and cannot regulate it, then it is not a credible eco-label.

Although the participants had different ideas on what source was more credible and why, two participants suggested that source credibility may not be as important. When the researcher asked the question of which eco-label source was most credible, Participant 2 answered, "I do not know that if you had not asked me that question, that it would have influenced my purchasing decision at all." This suggests that the credibility of an eco-label source may not be something that all consumers think about while shopping. As discussed above, several participants brought up their distrust of corporate eco-labels when discussing the P&G Future Friendly and Whole Trade Guarantee labels. However, there were not many participants that initially questioned the government or NGO sources. When prompted, they were able to give answers and reasoning as to why one source was better than the other, but often, those answers were based on previous experiences and perceptions of the government or NGOs rather than research that one source was better than the other. Similarly, Participant 13 said, "I do not want to say that the source necessarily makes the label more or less effective. I do not think it necessarily means that they are more or less effective." This suggests that the credibility of an eco-label does not equal the effectiveness of conveying a message. In a way, this contradicts signaling theory, but what these participants suggest is that the credibility of the source may not influence the credibility of the eco-label.

Eco-Labels Are A Greenwashing Trend

Although many participants reported that brands and organizations made them skeptical of an eco-label, this research also found that other participants were distrustful of them and generally viewed them as fluff. Thus, Crane's (2000) report that there is general confusion about and a lack of credibility of green claims in advertising can also be applied to eco-labels. Manrai et al. (1997) also reported that eco-labels struggle at being credible signals to consumers. This research found that the main reason why participants viewed an eco-label as fluff is because they seemed vague. Some participants noted that they found the organization tied to the eco-label to be confusing, some reported that the title of an eco-label was vaguely worded, and others also said that the certification process of any eco-label seemed unclear. All of this added up to a vague message and an unclear signal to these participants, which many interpreted as a signal of greenwashing. Thus, the general misunderstanding of eco-labels among participants created feelings of skepticism and made them think of eco-labels as just another greenwashing tactic.

Some interviews suggest that a lack of understanding of the organization or certification process made the participants distrust the eco-labels. Participant 1 found the Rainforest Alliance Certified eco-label confusing because he did not understand the organization. He said, "What is a Rainforest Alliance? It could be just a company named Rainforest Alliance. A little more context would be necessary." The vagueness of the name of the organization and the language used in the eco-label prompted him to view the eco-label as less credible. Because the eco-label fails to explain what it certifies, he was confused about the eco-label and the organization behind it, thus he was inclined not to trust it and brush it off as a way for a brand to just seem more eco-friendly. Similarly,

Participant 5 had a hard time trusting the Whole Trade Guarantee label because she also did not understand the organization of the label. She said, "It just seems a little bit gimmicky to me because they are just copying what Fair Trade does but putting their brand on it." This suggests that because this eco-label is too similar to another label she trusts more, the Whole Trade Guarantee label has less meaning for her. It feels like a greenwashing attempt by Whole Foods because instead of using an eco-label that already exists, they made their own program to certify their products. Instead of acting as a signal of corporate social responsibility, the reinvention of the Fair Trade label with the Whole Foods branding on it made her skeptical of the certification. Similarly, Participant 2 said she is "skeptical of the labels that go on the side of boxes, just because I know that it is just about signing some agreement with somebody else that will say that you are doing something." In this case, her misunderstanding of how certification processes work makes her distrustful of most eco-labels. Some certification processes are more stringent than others, and while it can be true that some eco-labels do not have much meaning behind them or do not certify much environmental responsibility, other organizations, like the USDA, have strict guidelines on how the product must be made before awarding the eco-label to it. However, her perception of lenient guidelines across the board makes her especially skeptical and critical of all eco-labels.

For some participants, the concept of an eco-label seemed like a marketing ploy and did not feel inclined to blindly trust what an eco-label says. Speaking about eco-labels generally, Participant 4 said, "People greenwash stuff a lot, where they just act like that is an actual label that means something. I work with a labeling company, and anybody can make a label and make their thing certified." For him, the idea that labels

are not completely exclusive and any brand or product can make their own label seemed dubious. This suggests that, although the concept itself seems like a greenwashing attempt, corporate labels are less credible for him than other types of labels. Because of this, he does not believe that eco-labels necessarily mean much. Similarly, Participant 7 said she was especially doubtful when it came to labeling products as "all-natural" because "there's absolutely no regulatory base behind that. Any company can label something as all-natural and it is not actually based on anything." In this case, her knowledge of regulations behind some types of certifications colors the way that she thinks about certain eco-labels. Because she knows that some eco-labels do not have any legitimating factors to them, she is hesitant to trust those eco-labels. This participant previously mentioned that she typically does research and reads the fine print on eco-labels and brands, which makes her a good example of how a consumer with a high degree of environmental concern may approach eco-labels in-store. If she is not already aware of the eco-label, it seems like greenwashing to her, and she only trusts green claims after she has done the research. By itself, an eco-label does not necessarily mean much to this participant, but it becomes a more credible and effective signal after she has done research and closed the information gap, even if just by a little.

Environmentally-Conscious Consumers Want More Information

When it came to the message that the eco-labels try to convey, most participants agreed that they needed more information to get a more accurate picture of the certification program. First, the researcher found that there was not enough information about the certification on any eco-label. This can partly be attributed to the size of eco-labels, which is limiting. Another reason the participants felt there was not enough

information is that the words included in the eco-labels were often ambiguous, unclear and unspecific, and this takes valuable space away from more meaningful messages. Some participants also reported being confused by the sheer amount of eco-labels in the market, some of which have more stringent certifications than others. The researcher found that participants could not differentiate between stricter and more lenient standards without more information. Most participants suggested adding extra information about an eco-label on the package, which is an easy and efficient way to more effectively signal environmental responsibility to consumers. Although eco-labels are retail tools for brands, many participants also felt outside efforts in advertising were necessary for eco-label schemes to get their mission across to consumers before they go to the store.

However, it is inherently difficult to convey every detail of an eco-label certification into the label because of the size allotted to each label on a package. Some of the participants mentioned this problem in their interviews. Participant 1 said, "It is a really tiny label, so you cannot really put a bunch of fine print in it and be like a microscope," and Participant 4 said, "They just need some sort of better communication. I do not know if it is necessarily with the label, because that is a lot to pack into a little label." Certification programs that have a simpler mission, like the Dolphin Safe label, might have an easier time designing an eco-label that communicates its mission than a multi-faceted program. Even though most participants felt there was missing information in the eco-labels, they were able to provide insights on how to easily provide that information to consumers.

Probably the most obvious way to help consumers get more information about eco-label programs is to print descriptions of each label on the package. Atkinson and

Rosenthal (2014) and Delmas (2013) found that clear and specific messages are more effective signals for consumers. The participants' responses support this finding since they often suggested the eco-labels add more specific language to better convey their mission. When looking at the P&G Future Friendly label, Participant 1 suggested they add some text next to it because he was "drawing assumptions from what this label is just by looking at it and it might not be what they are intending it to mean." This suggests that there could be a myriad of interpretations for the graphic, which does not make it effective in communicating what the certification is. Because he was confused about the meaning of the label, a brief explanation of it would have helped him determine whether the certification is of interest to him and something he would want on the products he buys. Participant 5 echoed his feelings by saying, "They could just put a little blurb under it that says what it means, or on the back of the package." This participant's comment shows that adding more information to a label does not have to be prescriptive. A product can add extra information about its eco-labels anywhere it wants. Although having the description next to the label would make it easier for consumers to find, putting the information somewhere on the package at all would be a move toward closing the information gap. And even though not all consumers would choose to read the extra information on the package, the consumers who see the message and read it would be better informed about the product they were purchasing. As previously mentioned, some participants in this study reported regularly reading labels and researching products and eco-labels prior to purchase. This suggests there exists an audience who is interested in having more information on the package, thus, providing a brief line about the certification would be helpful and useful.

Some participants also mentioned that for some types of certifications, there are organizations that have similar programs, which creates clutter and confusion in the realm of eco-labels. Speaking about the Fair Trade label, Participant 3 said, "I know there are several different Fair Trade things that mean different things. I don't quite know the difference between any of them, so it'd be good to have clarification." Participant 9 had a similar response to the USDA Organic label, saying, "I know that there can be different definitions to the word organic. It could give a little more credibility or back up the organic label with some of those facts." These comments show that in order to make sure that consumers understand what they are buying when they choose a Fair Trade or Organic product, organizations need to clarify what their certification program is. Because there are hundreds of eco-labels that consumers may encounter, adding more specific and clear information close to the label is a viable way to differentiate between similar labels.

While talking about the USDA Organic label, Participant 10 offered a good example that illustrates why more information is important to consumers:

> "I think that when labels like this are used, it should offer a super condensed version of what that really means. You see this now on milk-based products and the rBST hormone. It says, 'Our milk products are not treated with this hormone.' There are little asterisks next to that down at the bottom that say like, 'There is actually no difference between dairy products that have this and dairy products that do not.' I think things like that are really important for consumer awareness, because a lot of people are not educated enough to know, and so people see organic and they are like, 'Oh, I should just buy all-organic everything,' which might not be the most reasonable financial decision for someone, but it is sort of how we're conditioned societally."

Her suggestion that society conditions consumers to believe that organic is better is reminiscent of Kalafatis et al.'s (1999) finding that subjective norms influence consumers' intentions. Just because an eco-label is on a package that presents it as more

environmentally-friendly does not mean that that product is a better choice. Similar to the rBST hormone label, some certifications may make a product appear more eco-friendly, when in truth, there is no discernible difference. This suggests that the extra sentence to explain an eco-label not only would help consumers understand the certification better, but it would also help clear up misconceptions about a program. Even though the participants were only shown the eco-labels by themselves, it is important to clarify that in reality, some products do add short descriptions next to eco-labels to help consumers understand what they are buying. This shows that some brands and products understand the concept of information asymmetry and are moving toward arming the consumer with more information so the eco-label can be a more effective signal of environmental responsibility.

Rather than add more information to the package, some participants suggested giving consumers a quick and easy way to research the eco-label on their own and in the store. Participant 2 suggested adding a link to an eco-label's website next to the label to help consumers do their research swiftly. Participant 4 underlined this notion by saying that if he did not understand an eco-label, he would "just Google it right there in the store, because I want to know what it means." In the age of smartphones, consumers have the world's information at their fingertips, so they can find out anything they want whenever they want. Adding a link or a quick way for the consumer to quickly look up an eco-label would streamline their research efforts. Again, some eco-labels do add their website under or next to the label, which shows that some organizations realize that the lack of knowledge about eco-labels is a problem area and want to provide consumers with a more clear understanding of their certification.

Although most participants suggested eco-labels should add a brief explanation of the certification, some suggested that extra information could be available in the form of graphics. On the Fair Trade label, Participant 5 said, "I did not know they helped communities, and I did not know about the safe working conditions either. They could add three little pictures within this." Her idea to edit the main graphic in the eco-label to include more symbols suggests that graphics can also offer a more accurate representation of the certification. Although most participants suggested having more words near the label would be a good way for eco-labels to convey more information, when it comes to multi-faceted certifications, the description may get too long to be practical. This notion was echoed by Participant 11, who said the USDA Organic label needed more clarification and "they could add icons that say 'no pesticides' or 'no this, no that.' Maybe the three major things that make something organic and the more difficult aspects." By saying that the USDA can communicate more difficult aspects of its label through icons, this participant suggests that symbols could more quickly and succinctly communicate the full meaning of the label and the certification program. For the Fair Trade label, many participants agreed that the eco-label focuses too much on the individual and loses the community aspect of the certification. Participant 6 put it best saying, "I think if they had, potentially, more human outlines in the background to emphasize the community portion of that, that might be useful. Right now, it is supporting the individual rather than the community." Most of the participants who were not already familiar with the certification did not know that the Fair Trade certification aims to empower and improve communities. Showing more than one person in the label communicates that aspect better than just having one person in it. This participant's

comment indicates that the community aspect of the certification is important, and she and other participants were more enthusiastic about the label after hearing the full description of the program. By having an incomplete graphic, this organization may be losing out on an important opportunity to attract more consumers toward products with the Fair Trade eco-label.

Having more information on or near the eco-label on a package would make that information more visible and easily accessible to consumers. However, other participants also suggested further marketing efforts that organizations can use to help consumers be more educated about their certifications. Participant 1 said, "You got to let people see it, you know, actually introduce them to it. If they're just going to see it on a box, they are not going to understand it." He illustrates a problem for eco-labels. They are usually small, and are often placed in the back or the side of a package, where they have less visibility. If eco-labels are not visible to the average consumer, they might not notice it is even there. When asked about the USDA Organic label, Participant 3 said, "I am sure they could do more like education stuff with it. The process for doing certified organic, I know, is pretty difficult, so people probably do not know that." This participant identified the lack of knowledge on the part of consumers as a barrier to effective communication and a problem for the eco-label. Other participants also echoed her idea that outside education is needed to help consumers get a clearer idea of what the certifications mean. Participant 7 said, "These kinds of things are better served at a local level, […] because then you are using local community leaders, people who are trusted by the community, who do not have an association with the organization." This not only suggests that further education is necessary, but it also provides a practical way to disseminate information to

the broader public. By taking advantage of communities and local leaders, organizations can also take advantage of the heightened credibility of these people and the trust that communities have in them. This way, consumers could see education efforts as more informative than if an organization used more traditional advertising methods. For the corporate labels, especially the Whole Trade Guarantee label, Participant 5 suggested that brand representatives could offer education in-store to consumers while they shop. For corporate labels, it is easier to put more funds behind education because the consumer is more readily accessible to them. They are already going to the store and looking at their products, and they are already seeing their advertisements on TV, magazines, online, etc. The consumer may thus be more aware of brands like Whole Foods and P&G than they are of organizations like the Rainforest Alliance because of brands' heightened visibility. Because brands are closer to the consumer, it is easier for them to directly reach out to them and educate them on their sustainability efforts. Participant 2 offered an easy and quick way for corporate eco-label sources to educate the consumer by saying, "I think through social media and public awareness campaigns, I think that is really the best. I follow a lot of P&G's Twitter accounts, and I have never seen anything about the Future Friendly label." Through her comment, Participant 2 identified a missed opportunity for P&G and other brands with social media. Brands with social media accounts already have a base of people they can easily educate about their sustainability efforts. This is also a way for non-corporate sources to reach out to the public. By posting information about their certifications online and in social media, these sources can make their information easier to find and more available to the consumers who are looking for it.

Symbolism In Eco-Labels

The eco-labels in this study represented a range in type of certification, source, and aesthetics. However, this research found that regardless of the certification, many participants had similar interpretations to several of the eco-labels and the graphics within them. Similar to previous studies, the color green and other earth tones were somewhat effective signals of environmentalism to the participants. Colors helped participants understand the general meaning of some eco-labels, but color alone was not enough for participants to understand individual certifications. The researcher found that the synergy created by multiple environmental cues was much more effective in communicating a clearer message to the participants. Some eco-labels featured a more complex design than others, but participants were sometimes confused by the myriad of symbols in a small graphic. Thus, this study found that simpler graphics tended to communicate a clearer message for the participants. Lastly, this study found that every graphic aspect of an eco-label is an opportunity to communicate a message to the consumer. The shape of the eco-labels themselves was often interpreted to mean something, and some participants also awarded meaning to the design aesthetics of other eco-labels, particularly the Dolphin Safe label.

Because the color green is so prevalent in the realm of eco-labels, it is a fitting place to start. The color green affords many different interpretations, but much like previous studies indicate (Devine & Plant, 2012; Elliot et al., 2007; Schuldt, 2013; Schuldt & Schwarz, 2010), most participants associated the color green with nature and health. This is indicative of the color-in-context theory since most participants attributed similar meanings to the color green. In the context of eco-labels, it makes sense that a

certification would try to communicate sustainability. When studying the colors of the USDA Organic label, Participant 8 said, "They definitely went with earth tones. They have that green and brown in there. I think they chose those because it signifies brown dirt, green plants, and trying to make it as close to the earth as possible." By claiming that this eco-label is reminiscent to the earth, this participant indicates that the USDA Organic label is an effective signal since it communicates its mission of cutting out less natural parts of the process of growing foods, like using pesticides and fertilizers, and having a more environmental product as a result.

When it came to the Whole Trade Guarantee label, Participant 1 mentioned several meanings that green signals to him, saying the color in the label communicated "sustainability, green stuff, it is good, we are sustainable, we are energy efficient, or this is just produced efficiently or naturally." Although many participants mentioned that the Whole Trade Guarantee label did not communicate much, or that it just communicated that it is a Whole Foods initiative, this participant used the symbolism of the color to try to understand the label as a whole. While this can certainly be helpful, in the realm of eco-labels, a certification must communicate more specifically than just conveying that it is an environmentally friendly product. This participant's comment suggests that even though he can understand the certification has a sustainable aspect to it, the amount of meanings the color has can actually make it harder to understand the real message. This label certifies fair trade practices and fair labor standards, so the fact that this participant thought it could mean energy efficient indicates that this label does not communicate as effectively as it could.

Also, just as Pancer et al. (2015) found that isolated environmental signals on a package do not function as well as multiple environmental cues, some participants in this research noted how different aspects of an eco-label communicate a stronger message when they work together. While looking at the P&G Future Friendly label, Participant 9 said, "Green can symbolize a lot of things. A green light means go. It is hopeful, future, nature. I see there is a little family at the bottom. It is, I guess, thinking about future generations." Much like Pancer et al. suggest that a product package should have multiple nature cues to signal sustainability more effectively, this participant used the colors and graphics of the label to interpret one cohesive meaning. She also mentions different meanings of color, which depend on the context. In this case, the context is "future," so this participant is more inclined to think about it as hopeful and future than healthy or natural. Also, the graphics in this label work in tandem with the color to further imply future or hope for the future. This participant also mentioned how colors and graphics work together in the USDA Organic label, which she said looked like "a farm in the background with green plants growing. With the colors green and brown, it is trying to be earthy and refer to being natural and the farming process." In this case, the earthy tones and the symbols work together to convey nature. While Participant 1 had trouble understanding which meaning of green was correct for the Whole Trade Guarantee label, Participant 9 was able to gather other cues from the USDA Organic label to complete the meaning. For the Rainforest Alliance Certified label, Participant 8 said, "It is a really simplified color palette, so there is nothing to distract from the actual image." Green is a common color when it comes to eco-labels and green claims in general because of the direct association that people already have with green and the environment. Participant 2

said that using greens in the color palette is "instant with health foods and nature." Because green is mainstream in environmental claims, it is expected, and by going with the current and using green, this label is less distracting to the consumer so she can focus on other parts of the eco-label. The comment from Participant 8 suggests that consumers already know that environmental claims are usually green, so they do not need to think about the color.

Another color combination that participants often commented on was black and white. Because the Fair Trade label was the only label of the group that did not include any color, the participants were quick to mention their interpretations of the black and white. Some participants suggested the colors signaled equality and balance. Participant 13 said, "You have a yin yang type of thing here. […] What I think it means is that we are not abusing people. The label just shows that we treat everybody equally. It is a little bit more abstract." The connection this participant made with the yin and yang made him think of equality, but this comparison can also suggest the people illustrated in the label are interconnected and complementary to one another. One produces, and the other buys. Because the Fair Trade certification is complex, its use of an abstract image can be beneficial because it takes advantage of multiple symbols, such as the yin and yang. Participant 7 said the use of black and white made her think of "equality and that farmers and producers are compensated better for their produce and their labor." Because the graphic of the person is split in the middle, it gives this notion of equality more weight. Instead of using a more complicated image that has two people of equal size, having the graphic be half black and half white communicates this message more quickly.

Other participants saw the monochromatic palette as a signal of globalization. Participant 9 said, "With the person being reflected, they are half black and white, or light and dark. That combined with the globe just seems to say that this is a global standard." In this case, the participant interpreted the colors as skin tones, which suggested to her that this is an international label. The Fair Trade certification is often used in products that are imported from other countries, especially lower-income countries, so interpreting the colors in this way was effective for this participant in understanding the global aspect of the certification. Participant 6 also said the certification appeared "global because of the compass and the earth shape in the background. […] I like the stark black and white because I feel that it is more encompassing of everyone." Both of these participants also used the background image to help them make the connection to globalization. This also indicates that using multiple symbols that work together can be an effective way to communicate the goals of a more complex program.

However, some participants found it distracting that the graphic of the person was black and white. Participant 7 said the label is more complicated than "this dark individual is going to give to the white individual and they're going to share," and she also said, "That is something that has nothing to do with Fair Trade that is just an underlying brewing cultural understanding of sorts." This participant was familiar with the label and knew about the certification, so her interpretation of the label as having unnecessary racial undertones may indicate that she has had time to look at the label before and judge it. She may have been able to go deeper in what the graphics and colors signaled to her because of her familiarity. Similarly, Participant 10 said,

> "From a very white American perspective, a lot of times when I hear people talking about Fair Trade, I hear them talking about women in Sub-Saharan Africa

> making things and then it showing up at a craft fair or something that these white suburban women are buying. I'm not sure that this label does a good job of mitigating the racial connotations that go along with this sort of certification."

This participant also noticed racial undertones in the label, which made the message the label tries to convey more nebulous. Since she saw the label in this way, she had negative feelings toward it. She mentioned little else about the label, which indicates that the concept of race was distracting to her and prevented her from focusing on other aspects of the label.

Because two of the eco-labels in the study, the Fair Trade label and the P&G Future Friendly label, use graphics of people in their design, several participants spoke of their symbolism. While the black and white illustration of a person in the Fair Trade label symbolized balance and globalization to several participants, some participants also deduced the certification included labor standards due to the graphic. Participant 5 said, "It looks like it is two people with two products trading," and Participant 11 said the person "indicates it is something to do with labor." For these participants, including a human shape on the label was a clear sign that the certification includes people. While other eco-labels that include fair trade practices in their certification, like the Rainforest Alliance Certified label or the Whole Trade Guarantee label, they do not necessarily include people into their label design. This prevented many participants who were not already familiar with those labels to understand the labor aspect of it. Because the Fair Trade label shows, according to Participant 5, two people trading, it was much easier for the participants to make the connection.

For the P&G Future Friendly label, most participants had a positive reaction to the addition of people in the design. Participant 2 said the drawings of the people "look hand-

drawn, which kind of implies a children's picture. I think they imply that you are making an investment for your children, for your family, for the future." Due to the style of the illustration, this participant made the connection that the certification aims to point out products that are more earth-friendly so that younger generations inherit a better environment. Because the label features three stick figures, many participants interpreted them as a family, which also helped them make a connection to children. Participant 7 said the label implies that the company is "thinking forward because children will inherit a world. They have not gotten it yet. They are trying to subtly make themselves a part of the sustainability and green movement." Although the label is simple in its design, this participant was able to interpret a much broader idea because of her interpretation of the figures as a family. The mission of the certification goes beyond aiming to secure a better future for children, and it is specific about what products in the P&G family must do to earn the certification. However, as this participant points out, the idea of sustainability is encompassed by the idea of the future and people. Participant 6 said, "Nature is not pictured on the label, people are. Because they are trying to communicate that taking care of the world is taking care of humanity in a way." Even though this participant did not see the picture as representing a family, this suggests that the mere idea of people helped her make the connection between humanity and the environment. For this label, communicating the idea of the future and adding illustrations of people was enough for most participants to understand that the P&G Future Friendly label certifies environmental welfare standards.

Another interesting trend this research revealed is that the shape of the actual eco-label can also communicate meaning to consumers. The symmetry of the Fair Trade

label, both in the shape of the label and in the graphics inside the label, was another signal of equality or balance to Participant 8. Because she saw everything as being equal in weight and importance, she interpreted the certification to mean that it strives for balance in trading practices. Also, the shape of a circle implied the certification was holistic and comprehensive to some participants. Participant 2 said since the USDA Organic label is circular, she interpreted it to mean it was a comprehensive certification, and Participant 10 said that since the Rainforest Alliance Certified label was a circle, it looked like more holistic branding. Although these labels certify completely different things, the participants saw them as being complete programs. This suggests that because these programs appear to have more comprehensive standards, they may appear more credible. Even though this study included five labels that have a circular shape, there are dozens of other eco-labels that are rectangular or have more organic forms, like trees or leaves. Other participants also noticed the outside shape of the eco-labels, and they reported they interpreted some of these shapes as being more reminiscent of a certificate. On the Rainforest Alliance Certified label, Participant 6 said, "I like the edges of the circle because, I suppose it looks like a seal," and Participant 2 said, "To me, it looks like a badge, which gives the certification thing emphasis." In these instances, both participants interpreted the label as highlighting the certification aspect. Because the eco-label is usually small, the first thing that a consumer will see is the general shape of it. If consumers are not aware of an eco-label, they might not make the connection that it is a true verification or guarantee that the product complies with a certain set of standards. However, having the shape of a seal of approval highlighted the certification aspect of the eco-label to these participants. Participant 4 also noticed the shape of the Whole Trade

Guarantee label, and said the wavy line around it "make me think of a certificate, like a shiny gold ribbon or something like that." For him, making the connection to gold ribbons helped him interpret the eco-label as being an indication that the product was verified and accepted as complying with a certain set of standards, which suggests he interpreted the certification as being more credible and valid. Because several participants noted how some eco-labels look like seals of approval, this suggests that using shapes like these may signal consumers to think of the certification process behind the eco-label and give the eco-label more authority and weight.

Several participants in this study also made a note of the minimalistic design in some of the eco-labels. For the USDA Organic label, some participants interpreted the simplicity of the design as a signal of simplicity in the product. Participant 5 said, "The simple design and a no frill display does communicate that there is not too much added to it if you take the time to think about it. It is stark. Because it is stark, it is very clear." Because of the plainness of this eco-label, the participant interpreted it to mean that the food was also simple and plain. To her, it was a clear message that the food is as straightforward as the label. Participant 10 had a similar reaction since she said, "I think it is trying to convey that it is just farming and that is it. It seems like it is very natural, sort of minimalist. We are not using anything other than what we need, basically." Due to the graphic included in the label, which this participant interpreted as a farm, she interpreted the label as a signal of a product that comes from a simple farming operation. While this may not always be the case, since processed food can also be labeled organic if its ingredients are organic, this participant did understand the USDA's mission of keeping less natural things out of the farming process. Participant 6 reported that the

USDA Organic label was the most effective at communicating its mission due to its simplistic design, saying, "The color scheme, the green and brown, the simplicity of it, and the crop rows just communicate that it is about food. I think it is just the simplest and the clearest because of those things." To this participant, the design of this label was easy to follow, and thus, easy to understand. Her comment indicates that every part of the design, the graphics, color, and words, work together to produce a simple and clear idea, and because it communicates that idea clearly, this label was effective for her.

Another eco-label that participants often said was simple and effective was the Dolphin Safe label. Participant 10 said that this eco-label was "more directly informative. Nothing about this is metaphorical. It is very literal." For this participant, the Dolphin Safe label directly conveyed the meaning of its certification. This suggests that there is no room for interpretation when it comes to the label, which makes it effective in communicating its message. Because the label is so simple, there are no confounding elements that confuse the consumer. Participant 7 said, "It is like a little cartoon, but it conveys the message that no dolphins were hurt." Although she said it looked like a cartoon, the image of the dolphin was a clear symbol of what the certification does. Participant 9 also brought up an interesting point about the label. She said, "I think that one may be the clearest about what it is saying, but I think it also maybe has one of the simplest messages." This comment suggests that a minimalist design works for this initiative because the program is fairly simple and to the point. It is easy to translate this program into a graphic visual, whereas other eco-label programs that are more complex may have a harder time conveying every aspect of their certification into a small label. This also suggests that since Dolphin Safe is a simpler program, there is not as much

education needed to have consumers understand what the eco-label means. Dolphin Safe and the dolphin visual say it all.

Although the Dolphin Safe label was often reported as one of the more effective labels because of its simplicity, its design aesthetic was confusing for some participants. Participant 10 said, "This looks very old and made in paint or old-style Word Art, so I do not love it. I probably would not gravitate to that." For this participant, the outdated design was distracting and made her second-guess the eco-label. This suggests that she became more skeptical of the certification after seeing the design. Her assertion that she would not gravitate to the label is also suggestive that other consumers may have similar feelings about it. Because it looks dated, consumers may not think the issue matters. This notion was apparent in Participant 2's comment about the Dolphin Safe label, and she offered a fuller explanation as to why the outdated design was distracting:

> "To me, it just kind of looks like Clip Art I guess. Yeah, if I were to see this, I would think that it is… I do not know if 'outdated' is the right word, but that it is not a current trend. That Dolphin Safe is not a current trend, because it looks to me like something that came off of PowerPoint Clip Art, it just does. If I saw it, I would think this probably is an old label."

This suggests that by having an outdated design, this eco-label implies that it is not a current issue. The perception that the label is outdated could be hurtful toward the organization since consumers may not think it is important and may not necessarily care if their tuna has the eco-label or not. Participant 6 also said, "At first glance, I do not like this label. […] It does not really sway me too much. It would not keep me from purchasing a product that might not be dolphin safe." This participant's comments suggest that if she were in a store, she might overlook this label altogether. Because she does not like the design, it is not convincing for her that this is an important initiative and

it does not influence her to buy a can of tuna with the label over a can of tuna without it. If these participants do not feel motivated to purchase a product with this label on it, this could suggest that they also do not feel motivated to research more about the program to learn of its certification and its efforts. If they do not pay attention to the label and they do not look it up, they will not be aware of this certification nor of its importance.

Language In Eco-Labels

In addition to interpreting and speaking about the graphics of the eco-labels, the participants also talked about the words in each label and how they interpreted them. Because they are limited in size, eco-labels often have very few words included in them, but all of the participants noted different meanings they interpreted from the words, which messages were confusing, what words were missing, and which words the labels could do without. The interviews largely supported previous studies that found specific information communicates environmental claims more effectively (Atkinson & Rosenthal, 2014; Iyer & Banerjee, 1993) and studies that found clear messages are better signals (Delmas et al., 2013; Heimbach, 1981). This study found that participants reacted more positively to eco-labels with literal titles because they were more likely to instantly understand the certification. However, when the title of an eco-label was vague, participants tended to look to the graphics in the label to get a fuller understanding of the certification. While the researcher found no discernable difference in how consumers with varying levels of environmental concern interpreted the graphics in eco-labels, participants with higher environmental concern tended to understand the text in eco-labels more clearly. This can be attributed to their heightened knowledge of environmental causes and their reported research of eco-labels and brands.

Several participants pointed out specific words in the eco-labels and talked about their meanings and connotations. Participant 12 pointed out the words "alliance" and "certified" in the Rainforest Alliance Certified label, and she said those words helped her understand that "there is a greater partnership happening, […] and it has passed some kind of existing tests or protocol in place." By separating the words in the name of the eco-label, this participant studied each word and talked about its meaning on its own in order to create a fuller meaning for the label. While the title of the eco-label did not communicate the entirety of the certification, she was still able to understand the general idea that the eco-label is a partnership and there are certain standards that a product must meet before earning the label. Participant 11 took a similar approach to the Whole Trade Guarantee label. While reading the words on the edge of the label ("Certification Partnership Program Presented By Whole Foods Market"), she said,

> "Certification indicates that there are certain standards that you have to reach. Partnership is indicating that companies have to seek out to work with this. Then, guarantee is, we promise that. I'm guessing, it labels foods that meet a certain standard, in terms of fair labor and, maybe, farming and production practices that are more environmentally friendly."

Even though she had never seen the eco-label before, this participant was also able to understand the general idea of this eco-label by looking at it word by word. The Whole Trade Guarantee label partners with nonprofit organizations to certify fair labor standards and environmental sustainability in food production, so this participant interpreted the correct meaning. Because this eco-label does not have many graphics included in it, the participants relied more on the words of this label to interpret it than they did with the other eco-labels included in this study. Participant 12 also used the words around the edge of the eco-label to help her understand the certification, and she

said, “The word “guarantee” helps you feel reassured. I like that they talk about the “Certification Partnership Program” because those things sort of solidify that it has been tested, that it is sustainable.” The fact that both participants were able to interpret a similar meaning through the same words suggests that even though the label does not specifically call out every aspect of its certification, using clear and unambiguous words was effective in signaling the eco-label’s message to them. This was also evident in the interview with Participant 3 since she said, “I do like that it says what it is on the edge. I still do not entirely know what that means, but I have more of an idea than I would have otherwise.” Her comment indicates that while the words included are not a full description of the certification, she still somewhat understood what the certification generally does. These eco-labels do not use specific language in the same way that Atkinson and Rosenthal (2014) or Iyer and Banerjee (1993) referenced because they are not detailed explanations of the certification, but rather, they use purposive words with clear meanings to convey a message. However, not all participants reacted the same way to the description included in the Whole Trade Guarantee label. Participant 7 said,

> “I think that they are trying to associate themselves with the idea of fair trade and equal distribution of resources based on the sale of merchandise and products because they have got their certification partnership program so that means they are obviously working with other industries to make this happen. It has got all this text and all this stuff going on but it does not say that much.”

Her comment indicates that she was able to interpret some meaning from the words used in the eco-label, but she was not convinced by the eco-label because it still felt like vague messaging to her. The words used in an eco-label must be descriptive and meaningful enough to be able to convey a message to consumers, and while several

participants felt they generally understood the certification, this participant felt it was not enough.

Some participants also pointed out how the names of some eco-labels, particularly the Dolphin Safe label, were quite literal in their communication of a message. Participant 4 said, "I think in general it conveys what I think it is supposed to convey, which is that it is dolphin safe. It is clear what that means, and it is a happy dolphin. It is a good one." Because the wording in this label is simple and clear, it is effective in signaling the mission of the program to this consumer. Due to the simple design and the simple wording next to it, he was able to quickly make sense of the eco-label and what the certification as a whole might mean. This ties back to the finding that simplicity in design of eco-labels was effective for the participants because they were better able to quickly assess a certification than designs that were more complex and required more interpretation. Participant 1 also interpreted a similar meaning from the name of the Dolphin Safe label. After hearing that the eco-label goes on cans of tuna, he said, "It is quite literal. It says to me, 'No dolphins were harmed in the making of this food.'" The distinction he makes in his interpretation of the label is important because he points out that the label protects dolphins during the process of catching tuna. Providing the context in which he would see the label helped this participant know exactly what the label certifies. This suggests that the packaging these eco-labels are placed on can provide important context to consumers and help in their interpretation of the label.

However, while some participants thought the certification was literal and understood the correct meaning of the eco-label, other participants were confused about what Dolphin Safe meant. Participant 13 said, "Maybe it means that there is no dolphin

meat in the tuna," and Participant 8 said the red in the label "makes you think of blood in the water." In these cases, the title of the certification was misleading, and it suggested to these participants that the cans of tuna with this label on it have no dolphin meat, while other cans of tuna without the label might contain dolphin. Because these participants did not understand that the label certifies that netting techniques used to catch tuna do not also deliberately catch dolphins, this suggests that the wording on this eco-label is not as literal as the other participants believed. Participant 11 said, "I feel like it communicates that they fish in a method that does not harm dolphins, but unless you knew the history of the tuna industry, I would not know it is specifically that they are not using netting." This comment is telling because it suggests that having more knowledge about this issue is vital to understanding what the label is. Consumers with higher environmental concern may be able to more easily understand this label because they have more knowledge about environmental issues, while consumers with lower environmental concern may not be able to easily make the association between dolphins and tuna fishing techniques. Since the wording was a little vague for some participants, they provided suggestions on how to make the eco-label clearer. Participant 6 suggested the eco-label be renamed to "Dolphin Safe Practices" and Participant 12 suggested a better name could be "Keeping Dolphins Net Safe." What both of these comments suggest is that using more specific and purposive words in the name of an eco-label can make it more effective at communicating its certification. For these participants, Dolphin Safe was too broad and had too many interpretations, which could lead to confusion among consumers about what the certification actually is. If the certification is about netting practices, it makes

sense to allude to it in the eco-label in order to limit the number of interpretations and to be a clearer signal for consumers.

For some participants, reading the eco-label was not enough to understand them, especially the labels that have a less literal meaning. These participants turned to the graphics of the eco-label, and they used the words and graphics together to understand the label instead of solely relying on the words or on the graphics. This is reminiscent of Pancer et al.'s (2015) finding that multiple environmental cues on a package are more effective at communicating a green claim than a singular element, and the participants' comments suggest that Pancer et al.'s findings can be applied to eco-labels. In order to make the Rainforest Alliance Certified label more meaningful, Participant 11 said she interpreted the label through "their wording, using 'certified' and 'alliance,' and also the fact that they use one image that means a lot. It is an animal, but it is also a rare animal." The combination of a singular and simple image with purposive words created a fuller explanation of the certification for this participant. For this participant, the whole had a different meaning than any of its parts isolated, and seeing and interpreting multiple signals at the same time helped her make meaning out of the label. Participant 11 took the same approach to interpret the P&G Future Friendly label, and she said, "Having the family at the bottom kind of shows, when you put the name 'Future Friendly' in there, it is showing that you are thinking long-term and you are thinking about people." While the name of the certification was descriptive enough to signal that this company is looking to the future of the world, the combination of the name and the graphic of the family was more effective at communicating that this eco-label aims to set standards for sustainability in order to give future generations a better environment. Participant 13,

although he thought the words “Future Friendly” were vague, also was able to get more meaning from the label by looking at it as a whole and interpreting its language and graphics together. He said,

> “I think that the ‘Future Friendly’ pretty much sums up what all that means. I think that they do a good job using green as their color and using the children on the front, and we really make you think about the future. I still do not think that it is abundantly clear, not that any label could ever encompass every word and what the definition is.”

While he believes the wording on the eco-label is vague, he also makes an important point that eco-labels cannot include every standard they certify into their design. The most important aspect of the P&G Future Friendly label is that the company is looking to the future of the world and the future people who will inhabit the world, and this did seem to come across to the two participants. This suggests that for eco-labels whose certifications are more complex, including multiple elements that signal different aspects of its standards is an effective way to communicate a fuller meaning of the eco-label to consumers.

Chapter 5: Discussion

This research was based on environmentally-conscious consumers because sustainability is most important to this audience. Participants did not report using eco-labels often, and they were more likely to use eco-labels when deciding between two similar products or as an added emotional product benefit. This study found that eco-labels are largely ineffective signals for these consumers. Simpler graphics were more likely to be understood by the participants in this study, which puts simpler certifications at an advantage because it is easier for them to fully communicate their mission. However, multi-faceted certifications can benefit from highlighting the most important aspect of the certification. For example, although the Rainforest Alliance Certified eco-labels certifies environmental and social welfare, the label focuses on the wildlife aspect of its certification, which made it easier to understand. Most participants reacted positively to this eco-label and did not seem to mind that the graphic does not encompass the entire certification. Rather, some participants even reported liking the eco-label more after the researcher read the description of the label because it was a more comprehensive certification than they had originally thought. Overall, this research found that for eco-labels to be more effective signals, consumers need more information about them. Most participants suggested having more information on the package would be helpful for them in understanding the label. Some packages already do this, which indicates that it is a fairly simple and easy solution.

The participants in this study reported they are environmentally-conscious consumers, so all of them reported taking some sort of action to lead a more sustainable

lifestyle. The degree of environmental concern among the participants varied highly, and so did the ways in which they tried to be more environmentally friendly. Some of them regularly do research on the brands and products they purchase, but others were not as experienced with the notion of sustainable food. However, all participants reported recycling and trying to reduce their waste, which indicates that this was the most salient environmental issue among them. This could be because reducing waste is, in general, one of the easier actions a person can take to reduce their ecological footprint. Recycling centers are commonplace, and many participants reported looking for packaging they could recycle while shopping. Because waste reduction seemed to be one of the most important issues to this group, eco-label schemes could benefit from highlighting any waste reduction standards in their certifications.

From the 13 participants who were interviewed, experience with and knowledge of eco-labels varied greatly. All participants were familiar with the USDA Organic label, which could be due to its high visibility across multiple industries. Most of the participants associated USDA Organic with healthier and more eco-friendly food; however, there were a few participants who had a negative outlook on this eco-label because of their previous knowledge about the USDA and previous research on the eco-label. When it came to eco-labels in general, some participants reported looking for specific labels while shopping, although they also pointed out that the lack of a label does not mean that they would not purchase an item. Other participants preferred to lead a sustainable lifestyle through other behaviors, like recycling, rather than shopping for eco-friendly food.

The variance in how environmentally-conscious consumers use eco-labels can be explained by the amount of knowledge that these consumers have about the food industry and sustainable food as an environmental cause. As Atkinson (2014) states, eco-labels are credence claims that consumers have to trust at face value. It is difficult for consumers to fully understand what a certification entails and to quickly verify an eco-label. This is a drawback to eco-labels because it inspires skepticism in consumers. In fact, all participants reported being skeptical of at least one eco-label in the study, and some reported they were hesitant to trust any of the labels because they did not know how the certification process works. While some eco-label schemes have comprehensive standards they certify, they struggle to succinctly convey to the consumer a clear explanation of the program. Although the participants struggled to provide explanations of the eco-labels based on their language and their design, all participants reported that they would rather purchase a food product with an eco-label than without. Most participants also reported that price is often a barrier to purchasing eco-labeled food, which suggests that environmentally-conscious consumers are not purchasing sustainable food as often as they would like or as often as they report.

Since the level of environmental concern varied among the participants, they tended to perceive and interpret eco-labels differently. While some were familiar with many of the eco-labels chosen for this study, others were less aware of the concept of eco-labels and their significance. Those with a higher degree of environmental concern tended to be more familiar with different eco-label schemes and the environmental issues associated with them. The participants who were more aware of eco-labels were more likely to use their experience buying food and their background knowledge of the

environment to initially interpret the eco-labels. Those who were less aware more often relied on the eco-label itself to understand the certification and interpret the label. However, when prompted to study the design and text of the eco-label, all participants were able to interpret a fuller meaning of the certification. Most of the participants seemed to notice the graphic elements of a label first and the text second. When asked to interpret an eco-label and the standards behind a certification, most participants focused on the graphics and colors first. When the participants looked at the label as a whole, and saw the text and graphics working together, they seemed to get a better understanding of the organizations and their certifications than when they focused on just one aspect.

When it came to eco-label sources, this research did not produce a definitive answer in which source type is most credible or effective because the sample size was small and it was not representative. The participants were also evenly split among those who trusted government labels more and those who trusted non-governmental labels more. The general consensus seemed to be that participants were worried about the strictness of these certifications and the ability of different organizations to actually certify their eco-label's standards. The participants questioned the motives of every source and viewed each source with a healthy dose of skepticism. However, they seemed to agree on the notion that they trusted sources that seemed more capable of regulating their eco-label and their certification. This study found that participants trusted sources they viewed as more accountable to the public, whether that was governmental or non-governmental. When it came to the corporate eco-labels used in this study, the participants had a more positive reaction to the P&G Future Friendly label than the Whole Trade Guarantee label. According to all participants, corporate sources were the

least trustworthy source for these environmental initiatives. Many of the participants believed that these companies use eco-labels in order to turn a higher profit.

It is interesting to note that when it came to the P&G Future Friendly label, few participants had negative comments about it. While many participants thought the eco-label communicated a rather vague message, they still had a positive association with the label and P&G, and they generally felt the certification was a good step for the brand toward sustainability. Many of the participants reported that the simplicity of the design and the combination of the words "future," the color green and the graphic of children made the eco-label effective in suggesting the brand is focused on the future and the environment as a whole. However, most of the participants reacted negatively to the Whole Trade Guarantee label. This label is also a simple and straightforward design, but the participants did not think that all elements of that label worked together as well. The Whole Trade Guarantee label also includes green, but most participants focused on how the brand seemed to be at the forefront of the label instead of trying to explain what the program is. This made the majority of the participants react negatively to the label, which meant they let their associations with the brand shape their perceptions of the certification. Most of the participants believed that Whole Foods has expensive food, so they associated the label with higher prices instead of with sustainability efforts. This suggests that when it comes to corporate eco-labels, companies would benefit from letting their brand take a backseat to the environmental benefits of the product that the eco-label certifies.

Signaling Theory

This study also aimed to apply signaling theory further into the realm of eco-labels. Because signaling theory posits that effective communication happens when a person receives relevant and credible information, eco-labels can act as signals of environmental benefits of the product they certify. However, this research found that many eco-labels fail to be effective signals for consumers. There was high variance in the problems in eco-labels that made participants skeptical of the certifications. First, there are hundreds of eco-labels in the market, so it is difficult for consumers to differentiate among labels. The language used in some eco-labels is also vague, so participants had trouble understanding some certifications. Also, designs and graphics used in eco-labels do not always accurately represent the certification, so participants sometimes misinterpreted certain eco-labels. And overall, participants were generally skeptical of eco-labels and tended to view some of them as greenwashing tactics.

Some participants were hesitant to trust an eco-label because of the organization behind the certification, whether it was corporate, governmental or non-governmental. The participants more often reported finding the corporate eco-labels less credible, but there were some participants who were also skeptical of governmental and/or non-governmental sources. For the governmental sources, some participants reported disliking certain government agencies and departments (like Participant 5's dislike of the USDA), and some participants were confused by the government agency's role in a certification (like Participant 3's confusion regarding the Department of Commerce in the Dolphin Safe label). For the non-governmental sources, some participants found eco-labels less credible because of previous negative experiences with an organization (like Participant

7's negative association with the Rainforest Alliance), and other participants were confused by the amount of organizations with the same type of label (Participant 3 and Participant 7 noted there were many other Fair Trade certifications, and they did not know how to differentiate among them). All of these reasons contributed to making the eco-labels less effective signals for the participants. Because they were distracted by the credibility of an eco-label's source, they did not know whether the eco-label itself could be credible.

Although eco-label sources were ineffective signals for environmental product qualities in this study, this research found that eco-label sources can nonetheless signal meaning to consumers. Like Tsao et al. (2006) found, brand names and organizations can function as signals because they communicate information about product characteristics. However, the brands and organizations in this study did not act as signals of environmental qualities in a product; rather, they more often signaled unreliable certifications or negative product qualities, like higher prices.

The design and text choices also sometimes made eco-labels less effective in communicating a message to the participants. They reported that some eco-labels had vague messaging, which could be interpreted in different ways. Because of the range in interpretations, sometimes the participants could not accurately understand what the certification meant, which rendered those eco-labels as ineffective signals. Most participants reported that simpler designs were more effective at communicating a message, but they also pointed out that it is more difficult for complex eco-label schemes to simply and clearly communicate a message. This suggests that eco-label schemes that certify only a few environmental characteristics can benefit from simplifying their eco-

label to only show the bare minimum. Simpler and clearer designs and messages are easier to digest, and thus, easier to interpret. For the eco-labels with more complex certifications, all participants reported that they needed to have more information readily available in order to be able to accurately interpret an eco-label. After reading eco-label descriptions to the participants, most of them were able to understand how the graphics and text used in the design played a part in the meaning of the certification. However, without the descriptions that the researcher read to the participants, most participants did not fully grasp any of the eco-labels. This suggests that the information gap between eco-label schemes and consumers is large, and consumers need more information and education in order to understand how food is produced and distributed. Eco-labels can be effective signals for consumers to understand the food industry; however, the general consensus seemed to be that packages with eco-labels should include a condensed explanation next to them, or a website link where consumers can quickly learn about it, in order for eco-labels to be better signals of environmental qualities in a product.

Implications for Eco-labels

Many of the participants in this study were confused about eco-labels, which suggests that eco-labels are struggling to signal the environmental qualities that environmentally-conscious consumers want in their products. If these consumers who exhibit higher levels of environmental concern than the average shopper do not fully understand eco-labels, this indicates that consumers who do not care about environmental causes as much might not understand eco-labels either. However, it seems like eco-label schemes are realizing this since they are providing extra information about eco-labels. Several products now include a short description on the package next to the eco-labels.

Although not every consumer will read the description, this is an important step toward closing the information gap for consumers about how each certification works.

This study also found that eco-labels are lacking in understanding how consumers interpret graphics. Through the course of the study, there were a few symbols that participants interpreted to mean similar things. For example, participants generally saw the color green as a signal of healthfulness and sustainability, and the addition of people in the Fair Trade label signaled labor standards for most participants. However, the participants' responses suggest that some symbols have different meanings to different people and may even confound the true meaning of the certification. For example, the black and white split in the Fair Trade label signaled globalization to some consumers and negative racial undertones to others. This suggests that when it comes to the design of eco-labels, using universal symbols and symbols that clearly represent the standards in a certification may be more helpful in communicating similar meanings to a wider audience.

Because many participants were able to get a deeper understanding of an eco-label when they looked at the graphics and the text together rather than separately, this suggests that eco-label organizations should design their labels to include simple graphics and titles that are clear and descriptive of the certification. In this way, the eco-label is able to communicate several things at once and be a more effective signal of environmental product qualities. The P&G Future Friendly label is a good example since most participants reacted fairly positively to it. The color of the label communicated to them that this was a sustainable and environmental initiative. The stick figures at the bottom coupled with the words "Future Friendly" told them that P&G is dedicated to

helping future generations inherit a better world and a healthier environment. Further, the informal language of "Future Friendly" and the hand drawn aspects of the label made it more approachable to the participants and helped them have a positive reaction to the program and the brand. Seeing how P&G used every aspect of their label to their advantage can be a good guide to other eco-label schemes on how they should aim to design their certification.

This study also found that the size of eco-labels is limiting since it is nearly impossible for an organization to communicate all their goals in a small amount of space. When an organization tries to focus on all aspects of its certification, it might inadvertently bog down the message and make it harder for consumers to understand it. Thus, conveying the most important information is key. The organizations behind eco-labels should determine what environmental aspect is most important for its target consumer and design the eco-label to reflect that. When the design of an eco-label is complex, it needs to be studied for a longer period of time in order for the consumer to understand what the different parts of it mean. This is ineffective because consumers may not have the time to spend studying every eco-label on every product before they make a decision. Although a design may be catchy, if there are too many elements trying to work together, it may end up confusing rather than clarifying. This was evident in the Fair Trade label. Every symbol in this eco-label has a purpose and communicates a different aspect of its standards. However, the participants spent the most time studying the Fair Trade label out of all the labels they saw. This suggests that, although the organization was trying to help the consumer better understand the certification, in the end it is a

complicated and busy design. Simplifying this label by only emphasizing the most important standards would make it easier for consumers to digest and understand.

When deciding what part of an eco-label is most important to highlight, organizations that provide eco-labels have several things to consider. In this study, complex eco-label certifications had a harder time communicating all their standards in one small graphic. However, because most participants reacted positively to the P&G label, which does not overtly state its mission or show the specifics of its certification, this suggests that merely communicating the type of certification, in this case environmental welfare, may be enough to get consumers to understand the basics of the eco-label and react favorably to it. Since many participants in this study reported that they regularly do research on the products they buy and the certifications they have, this suggests that by having a graphic that piques their interest and providing a one-line explanation of the program or a link to their website, the organizations can more effectively signal their environmental responsibility efforts to consumers.

Limitations and Further Research

This research study had some limitations based on its design. To avoid interviews being too long and losing the attention of the participants, this research only used six eco-labels for the photo-elicitation component. However, since there are more than 450 eco-labels that exist (Atkinson, 2014), the choices limited what the participants reported. Since the chosen eco-labels represented a range of the choices available (sources and type of certification), the range helps mitigate this limitation. Some of the eco-labels chosen for the photo-elicitation component of the research are more common than others, so the informants were often more familiar with some, like the USDA Organic, than others.

This could be seen as a limitation since informants sometimes reported increased trust or preference for the eco-labels they recognized. However, having less familiar eco-labels allowed informants to look at the visuals more objectively or without preconceived notions of what the label tried to communicate.

Further, the perceptions and actuality of affordability of products with eco-labels had an effect in how some participants perceived certain labels, particularly the Whole Trade Guarantee label. Because most of the participants were on a budget, their association of Whole Foods with higher prices translated to a negative association with the Whole Trade Guarantee label. Future studies could attempt to shed light on how price plays a role in perception of the eco-labels and products by using a wider range of people. This research focused on Millennials, who may be just starting to be financially independent from their parents. Conducting a similar research on an older population might yield different results. Also, further research could be conducted to determine what factors lead consumers to react more positively to some corporate eco-labels than others. In this research, participants preferred the P&G Future Friendly label to the Whole Trade Guarantee label. Whole Foods has higher priced products than P&G in general, so further studies could focus on whether price or another factor determines how favorably or negatively consumers perceive a corporate eco-label. This research seemed to indicate that participants preferred the P&G Future Friendly label to the Whole Trade Guarantee label due to differences in design and message specificity. However, testing a larger range of corporate eco-labels may yield different results.

Another limitation is that, due to the nature of the study, participants may have been primed to think about the environment before the interviews even started. Since they

had to take and pass a screener questionnaire about their sustainable habits and they answered several questions about their environmental concern at the beginning of the interviews, the participants were already in an environmental mindset when looking at the eco-labels. This did not mimic the experiences they might have while shopping at the grocery store, so the way they interpreted the eco-labels during the interviews could be different than the way they could normally see eco-labels in a store. This limitation could be mitigated in further studies by not revealing as much to the participants at the beginning of the study or by mixing in unrelated questions so they are not primed to think of the environment and nature. This way, future researchers may be able to get more candid answers. Lastly, qualitative research does not allow for generalizable findings, which poses a further limitation. However, this research was designed to gain a deeper understanding on findings of past research studies (as outlined in the literature review) and to provide other findings that may be tested in further studies, qualitative and quantitative.

Through the course of the study, participants had different ideas of how to improve the labels to make them more effective at communicating the program's intent. Most participants wanted certain labels simplified, but other participants suggested more graphic or textual elements that could be added to the labels to help them communicate the program more fully and accurately. It is difficult to come to a conclusion about what might be the best practice when organizations are designing their labels since the participants' answers varied across the board. Although this study attempted to offer suggestions on how to make eco-labels better and clearer signals, a quantitative study that

tests different versions of the same label could help determine what the best practice is in this case.

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Appendix A

The following questions will serve as general guides for discussion during the interviews. These questions are meant to not only unearth qualities of eco-labels that have not been studied in depth before, but also reinforce other findings and find deeper meanings. Because these interviews will be semi-structured, other questions not included in the appendix may also be asked.

1. What environmental issues/causes are most important to you?
2. Is sustainable consumption important to you? Why/why not?
3. How do you consume sustainably?
4. How do you look for products that comply with your environmental beliefs and needs?
5. Do you pay attention to eco-labels on food packages? Why/why not?
6. Do you look for any specific eco-labels when you shop? Why/why not? Can you describe this eco-label?
7. Show the informant one of the eco-labels: Overall, how do you interpret this eco-label? What do you think it is trying to communicate?
    a. What do the visual/textual elements of this eco-label communicate to you?
    b. Read description of labels, as follows:
        i. USDA Organic: Organic food is produced without using most conventional pesticides; fertilizers made with synthetic ingredients or sewage sludge; bioengineering; or ionizing radiation
        ii. Fair Trade Certified: this certifies that farmers and workers were paid better wages, work in safe conditions, protect the

environment, and earn community development premiums to empower and improve their communities

iii. P&G Future Friendly: this is a designation for Proctor and Gamble products that save energy, save water, reduce waste, and or are produced from sustainably-harvested materials

iv. Dolphin Safe: this label was made in response to the use of netting techniques in which fishermen surrounded dolphin pods along with the tuna they were catching and the dolphins were given no chance to escape before the nets were lifted. Standards for the label state that tuna catching does not involve the deliberate netting or circling of any dolphins

v. Rainforest Alliance Certified: this ensures that a product comes from a farm or forest operation that meets comprehensive standards that protect the environment and promote the rights and well-being of workers, their families and communities

vi. Whole Trade Guarantee: products in this program must meet quality standards, provide more money to producers, ensure better wages and working conditions for workers, and care for the environment

c. How would you change the eco-label to make it communicate more effectively?

d. How can the organization that manages the eco-label help consumers understand the label better?