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Abstract

Prior research has established the positive effect of green marketing on purchase intentions. Less well known is *why.* Two empirical studies were conducted to investigate trust as an important mediator explaining the relationship between green marketing and purchase intentions. In study one, we successfully replicate prior research, again finding higher purchase intentions for companies that engage in green marketing. Additionally, trust in the company was found to mediate this relationship. Study two then examines the underlying mechanisms of expertise and prosocial orientation on the

relationship between green marketing and trust, and then serially to purchase intentions. Demographic boundary conditions of age and gender were also investigated. Despite previous research indicating that gender affects perceptions of sustainable marketing, gender was not found to influence trust through perceptions of expertise and prosocial orientation. Interestingly, consumer age was found to influence perceptions of the company's expertise but not prosocial orientation. Younger consumers, specifically those about 38 and younger, believe that companies using green marketing display more expertise compared to those that do not, ultimately increasing perceptions of trust in the company.

INTRODUCTION

Prior research has established the positive effect of green marketing on purchase intentions. Less well known is why. Two empirical studies were conducted to investigate trust as an important mediator explaining the relationship between green marketing and purchase intentions. In study one, we successfully replicate prior research, again finding higher purchase intentions for companies that engage in green marketing. Additionally, trust in the company was found to mediate this relationship. Study two then examines the underlying mechanisms of expertise and prosocial orientation on the relationship between green marketing and trust, and then serially to purchase intentions. Demographic boundary conditions of age and gender were also investigated. Despite previous research indicating that gender affects perceptions of sustainable marketing, gender was not found to influence trust through perceptions of expertise and prosocial orientation. Interestingly, consumer age was found to influence perceptions of the company's expertise but not prosocial orientation. Younger consumers, specifically those about 38 and younger, believe that companies using green marketing display more expertise compared to those that do not, ultimately increasing perceptions of trust in the company.

Environmental issues from climate change to pollution to environmental degradation are an increasing concern for people across the globe. For instance, the majority of individuals surveyed worldwide believed climate change is occurring in some capacity (Ipsos, 2018). This view is a heightened concern for almost half of all Europeans (47%) who view climate change as the top threat in their lives, greater than terrorism (Strupczewski, 2019). Most individuals believe that the government, producers, and consumers should work together to tackle environmental issues (Ipsos, 2018). For example, consumers are deliberately aiming to purchase environmentally sustainable products that are focused on improving the environment, or at least minimizing the impact of their operations (Nielsen, 2018a, 2018b).

Given this, organizations are increasingly adopting sustainability initiatives into their business models as a means of meeting the needs of their various customers (Cone, 2015; Neilsen, 2015). For instance, Ford Motor Company has implemented an environmental conservation program that includes using recycled, renewable, and recyclable materials, as well as eliminating harmful substances in the manufacturing of their vehicles. Beyond this, progressive companies have begun to include sustainability efforts as part of their core business promises to consumers. Companies like Green Mountain Coffee Roasters, Patagonia, New Belgium Brewing Company, and Seventh Generation make

their dedication to the environment explicit in their marketing efforts to consumers (Adams, 2014). These companies have made their environmental sustainability concerns an inseparable aspect of their brand and their marketing communications to address consumers' sustainability concerns. This strategy is commonly referred to as green marketing. However, companies must find ways to signal the legitimacy or benefits of green marketing when consumers have limited knowledge of company practices and must make decisions without complete information (Connelly, Certo, Ireland, & Reutzel, 2011; Kirmani & Rao, 2000).

Though a sustainability liability has been identified in the literature (Luchs, Naylor, Irwin, & Raghunathan, 2010), research on environmental sustainability has consistently found that consumers positively evaluate and exhibit a preference for green products. Specifically, green marketing programs have been found to increase consumer purchase intentions (Brown & Dacin, 1997; Whelan & Fink, 2016) and willingness to pay for products (Bang, Ellinger, Hadjimarcou, & Traichal, 2000; Griskevicius, Tybur, & Van den Bergh, 2010). Yet, what is still unclear is *why*. This research examines how trust, a fundamental relationship mediator (Palmatier, Dant, Grewal, & Evans, 2006), may fill this gap. Trust has been studied in a variety of marketing contexts as an explanation for why consumers may choose one product over another, but it may also play a critical role within green marketing. Within the 2019 Edelman Brand Trust Survey, 81% of consumers felt that they needed to trust a brand to do the right thing with the majority (71%) stating that a brand's environmental impact greatly influenced their likelihood to pursue a relationship (Craft, 2019).

In the current research, we utilize signalling theory (Spence, 1973) to provide a better understanding of the underlying mechanisms that drive trust's influence on purchase intentions. That is, why do consumers trust companies that make environmental sustainability claims, increasing purchase intentions? Are there any boundary conditions to sustainability's influence on trust? We address these questions by examining the role of trust in the relationship between green marketing and purchase intentions. The underlying mechanisms and signals that drive sustainability's influence on trust is further explored. Specifically, we examine consumer perceptions regarding the company's signals of expertise and prosocial orientation.

Moreover, both gender and age, two factors that have previously been theorized to influence consumer responses to green marketing, are explored as moderators in the relationship between green marketing and trust through expertise and prosocial orientation. Together, these findings help to increase our understanding of how green marketing initiatives influence consumers' purchasing behavior. An overview of signalling theory is warranted to help explain this process.

SIGNALLING THEORY

Signalling theory describes how signals are used to convey information between parties when information is missing (Spence, 1973) and explains how parties can communicate without access to perfect information (Connelly et al., 2011). Moreover, signalling is crucial in situations where a product's quality is unobservable (Kirmani & Rao, 2000). For example, Kirmani and Rao (2000) state that clear signals start with information scarcity, end with information clarity, provide outcome transparency, and cause vulnerability if the signal is false. This signal necessity may also be the case in green marketing campaigns where consumers do not have access to complete information.

Specifically, signalling theory allows a green marketer to re-establish balance in communicative information and provide effective cues to potential customers.

Research applying signalling theory has shown to restore balance in information through the creation of informative advertising (Barone, Taylor, & Urbany, 2005), lucrative e-tailing pricing (Mitra & Fay, 2010), company policies (Bonifield, Cole, & Schultz, 2010), and co-branding and brand extensions (Besharat, 2010). Signals can also be employed by companies to generate perceptions of trustworthiness (Wagner, Coley, & Lindemann, 2011). Moreover, signals can be effectively used to convey a company's positioning strategy and service quality (Williams, Lueg, Hancock, & Goffnett, 2019). Consumers may have little information directly available about the green initiative before the purchase. Therefore, green marketers should pursue clear signals in generating positive views from these consumers.

Consumers and green marketing

Marketers have long been concerned with the balance between society and consumption. Dating back to the 1960s, researchers have reminded us that our basic value system is not simply based in materialism, but also must balance our underlying "roots in human nature" (Lazer, 1969). Green marketing is now commonly accepted and practiced within marketing (Chen, 2010) with a focus on environmental sustainability. Environmental sustainability specifically refers to a company's activities relative to natural resources and efforts to protect and preserve the environment (Hart, 1995). Efforts to achieve environmental sustainability include minimizing environmental impacts, reducing resource consumption and waste, and exercising caution in human development activities (Gibson, 2001). The overall focus is on whether "this generation can leave future generations with the same or a larger basket of resources than we have now" (Kotler, 2011:132). Green marketing initiatives tend to communicate this mentality. Moreover, environmentally conscious companies implement overt communication campaigns that provide signals of environmental responsibility (Kirmani & Rao, 2000).

This comes, in part, from increasing public pressure for companies to care about the environment (Gershoff & Frels, 2015; Kotler, 2011; Nielsen, 2018a, 2018b; Rivera-Camino, 2007). Though consumers do not always consistently make socially or environmentally sustainable choices (i.e., attitude-behavior gap; Luchs et al., 2010; Gleim & Lawson, 2014; Carrington, Neville, & Whitwell, 2014), research suggests that environmental sustainability initiatives are evaluated positively by consumers. Consumers favor products that cause less pollution and use fewer natural resources (Gilg, Barr, & Ford, 2005; Luchs et al., 2011). These positive associations with environmentally friendly products may be due to the importance consumers place on non-product attributes, such as environmental benefits. That is, when making evaluations of green products, the environmental benefits may add intrinsic value to the product (Bhattacharya & Sen, 2003; Mohr & Webb, 2005). For example, Montoro Rios, Luque Martinez, Fuentes Moreno, and Cañadas Soriano (2006) performed an experiment using the context of laundry detergent to examine the importance of ecological product attributes versus functional attributes. Their findings indicate that the presence of environmental responsibility signals and associations, such as ecological benefits, can have a positive effect on consumer brand evaluations.

As consumers are beginning to expect environmental and social responsibility, companies are often penalized when they ignore sustainability (Carrigan & Attalla, 2001; Creyer & Ross, 1996). Moreover, a

company's motives for acting in a responsible manner are sometimes more important to the consumer than the act itself (Gilbert & Malone, 1995). The prevalence of greenwashing, or the act of deceiving consumers about the sustainability practices of a company (e.g., Siano, Vollero, Conte, & Amabile, 2017), has increased consumer skepticism of companies that engage in sustainability initiatives (Aji & Sutikno, 2015; Parguel, Benoît-Moreau, & Larceneux, 2011; Peattie, Peattie, & Ponting, 2009). Specifically, consumers feel that many corporations do not really act sustainably; rather, companies make sustainability claims in order to capitalize on the good reputation and financial gains they can get from being associated with sustainability (Aras & Crowther, 2009; Siano et al., 2017). Therefore, providing effective signals can legitimize green marketing. These signals are paramount since consumers may act to seek out brands that violate environmental promises. Consumers' evaluations of companies can be greatly impacted by lapses in a company's environmental responsibility (Choi & Ng, 2011; Cotte & Trudel, 2009). For example, Mohr and Webb (2005) performed an experiment that involved giving companies hypothetical best or worst corporate social responsibility (CSR) ratings from a credible outside party. Poor CSR ratings were found to significantly reduce evaluations and purchase intent over high CSR ratings. Therefore, it becomes increasingly important for companies to effectively and authentically signal the benefits of sustainable offerings.

This is further evidenced by research that shows consumers have a preference for green products and services versus non-green rival products (Griskevicius et al., 2010; Kotler, 2011; Laroche, Bergeron, & Barbaro-Forleo, 2001). For example, Cotte and Trudel (2009) found that consumers were willing to pay significantly more for an environmentally sustainable t-shirt over a t-shirt that was not made from environmentally friendly materials. Similar results were found from an experiment comparing consumer preference for environmentally certified wood products versus the same wood products without an environmental certification (Vlosky, Ozanne, & Fontenot, 1999). Consumers were willing to pay a higher price for environmentally friendly wood products. Additionally, perceived social value (Oliver & Lee, 2010) and personal relevance (Cho, 2015) enhance the likelihood to purchase environmentally friendly products. When a company's philanthropic actions exceed consumer expectations, greater values-based quality emerges to distinguish offerings from competitors (Enquist, Edvardsson, & Petros Sebhatu, 2007). These results suggest that across product categories, consumers often show a marked preference for products marketed as environmentally sustainable. Therefore, the presence of a green marketing campaign can signal that the product is worth purchasing. Considering this prior research, we predict that consumers will indicate higher purchase intentions for products that are marketed as environmentally sustainable.

> H1 *Green marketing is more likely to promote higher consumer purchase intentions*.

Green marketing and trust

Trust has been referred to as one of the most powerful marketing tools (Berry, 1996) and is used to help create "a reservoir of goodwill" (Kumar, 1996). It is defined as "a willingness to rely on an exchange partner in whom one has confidence" (Moorman, Zaltman, & Deshpande, 1992: 315). The nature of trust is commonly theorized to be based on both the credibility and benevolence of a partner (Doney & Cannon, 1997). Credibility is based on whether an individual believes the exchange partner can reliably fulfill their promise (Ganesan, 1994). On the other hand, benevolence focuses on the motivations of the exchange partner (Ganesan, 1994). Benevolence is based on whether an individual

believes the company is interested in the exchange partner's welfare and is acting in their best interests (Doney & Cannon, 1997).

The development of trust is a carefully considered process based on shared goals and values between the customer and the company (Chaudhuri & Holbrook, 2001; Doney & Cannon, 1997), such as environmental sustainbility. Companies can signal a level of assurance in their offering through marketing communications that promote both trust and confidence (Williams et al., 2019). For example, extant research suggests that companies who implement green marketing practices, or signal themselves as eco-friendly, may enhance consumer trust (Chen & Chang, 2012; Punyatoya, 2014).

Consumers who trust in a company believe that the company will act in the consumer's best interests and will not perform actions that result in negative outcomes based on these shared beliefs (Anderson & Narus, 1990; Chaudhuri & Holbrook, 2001). This is because trust is said to be based on "the expectation of ethically justifiable behavior" (Hosmer, 1995: 399). For the majority of consumers who seek out environmentally sustainable companies (Nielsen, 2018a, 2018b), green marketing is likely viewed as such, and should enhance perceptions of consumer trust in the company. Therefore, green marketing campaigns are able to signal trustworthiness to the consumer.

> H2 *Green marketing is more likely to promote higher consumer trust in the company*.

Trust is a key relationship mediator that has been found to have the greatest influence on cooperation between exchange partners (Palmatier et al., 2006). Whether it be through building online retail assurances (Arnold, Landry, & Reynolds, 2007), generating greater customer involvement (Delgado-Ballester & Luis Munuera-Alemán, 2001), or building proper communication channels (Kollat & Farache, 2017), trust becomes increasingly important for long-term loyalty (Kim, Jin, & Swinney, 2009) and long-term commitment (Hunt & Morgan, 1994). Researchers have argued that this may be driven by the shared beliefs and values between the customer and company that promotes reciprocity to maintain trust within the relationship (Gwinner, Gremler, & Bitner, 1998; Sirdeshmukh, Singh, & Sabol, 2002). The outcome of this reciprocity can be viewed in terms of a consumer's ongoing loyalty (Chaudhuri & Holbrook, 2001), but also immediate purchase decisions.

There is some evidence in marketing literature that trust may be an important factor in explaining why consumers make sustainable purchases. For instance, studies have shown that trust in sustainable practices influences perceived positive health outcomes (Bonn, Cronin Jr, & Cho, 2016), builds credibility in product labellling (Horne, 2009), re-establishes customer support after incidents (Humphreys & Thompson, 2014), and allows consumers to advocate for companies (Fullerton, 2011). Prior research has established that trust and purchase intentions are linked (Selnes, 1998; Sichtmann, 2007). Therefore, green marketing signals that generate trust are more likely to be purchased.

> H3 *The relationship between green marketing and purchase intentions is mediated by trust*.

Green marketing, expertise, and trust

Green marketing practices have been found to improve a company's reputation (Miles & Covin, 2000) and brand image (Chen, 2010). Another way that an organization may benefit is through enhanced perceptions of expertise. Expertise is defined as the knowledge and technical competence of a

company (Moorman, Deshpande, & Zaltman, 1993). In the context of salespeople, perceptions of expertise have been shown to be enhanced through value creation and additional relational benefits (Malshe, 2010). That is, when a customer understands the value that a product provides to them, perceptions of expertise increase. Researchers have similarly suggested that successful corporate societal marketing campaigns have the ability to foster expertise because consumers link feelings from the CSM programs to the company itself (Hoeffler & Keller, 2002). Providing something extra to the consumer by doing the right thing can be a source of competency. Thus, clearly communicating environmental sustainability initiatives to consumers through green marketing may increase perceptions of a company's expertise. Moreover, this allows companies to combat consumer skepticism caused by greenwashing by other companies by providing effective green marketing signals of expertise.

Increased perceptions of expertise could also be driven in part by consumers' consistent perceptions that sustainable products are more expensive compared to traditional products (Berger, 2019; Guyader, Ottosson, & Witell, 2017; Ivanova, 2019). Signalling theory suggests that consumers make their judgments and form perceptions about the firm's expertise using extrinsic cues or signals, such as a price range (Pontes, Palmeira, & Jevons, 2017; Wernerfelt, 1988), where the highest-end price is often the signal of the brand's level of expertise (Heath, DelVecchio, & McCarthy, 2011; Randall, Ulrich, & Reibstein, 1998). Thus, we expect perceptions of expertise to be higher for companies that use green marketing signals.

Perceptions of expertise should then influence perceived trustworthiness of the company. Prior research has found that expertise is an antecedent to trust (Macintosh, 2009; Palmatier et al., 2006) because it enhances the source credibility of the seller (Busch & Wilson, 1976). Consumers are more likely to trust a company with higher levels of expertise because it enhances the likelihood that the company has the competency and capability to fulfill its promise. Therefore, companies that signal a level of expertise can provide legitimacy to the green marketing.

> H4 *The relationship between green marketing and trust is mediated by perceptions about the company's expertise, thereby increasing purchase intentions*.

Green marketing, prosocial orientation, and trust

Prior research indicates that there may be positive correlations between environmental sustainability and prosocial orientation (e.g., Prothero et al., 2011; Stern, Dietz, Abel, Guagnano, & Kalof, 1999). A prosocial orientation refers to efforts that prioritize the needs and welfare of other people both now and in the future (Côté et al., 2011). Marketers have argued that a triple-bottom line approach (people, planet, and profits) should be used within green marketing strategies that not only take into account environmental sustainability, but also social justice concerns (Cronin, Smith, Gleim, Ramirez, & Martinez, 2011; Elkington, 1997). Thus, the positive correlations between prosocial orientation and environmental sustainability may suggest a positive link between social and environmental sustainability. Mazar and Zhong (2010) found that consumers behave more altruistically after mere exposure to green products than to conventional products as green products are considered manifestations of high ethical standards and humanitarian considerations.

Further, recent research examining the environmental sustainability of food consumption seems to reinforce this connection. Specifically, Farmer, Breazeale, Stevens, and Waites (2017) found that environmental sustainability semantically primes prosocial orientation, where prosocial beliefs were suggested to be linked in consumers' long-term memories. That is, exposure to an environmental sustainability appeal by a company may also signal to a consumer that the company focuses on the welfare of others through a prosocial orientation. This perception of prosocial intent can act to offset any perceptions of greenwashing and enhance the trust that the company is attempting to be a consumer benefactor. Prior literature also suggests that consumers trust companies they perceive as doing "good" (i.e., companies that have a reputation for acting prosocially; Castaldo, Perrini, Misani, & Tencati, 2009). Companies should be able to enhance this view by effectively signalling prosocial orientation. Therefore, we expect a prosocial orientation primed by a green marketing appeal to enhance consumer trust.

> H5 *The relationship between green marketing and trust is mediated by perceptions about the company's prosocial orientation, thereby increasing purchase intentions*.

Demographics and green marketing

Considering motives for green behavior further, environmental sustainability research has often focused on creating a profile for the typical green consumer (Laroche et al., 2001; Schlegelmilch, Bohlen, & Diamantopoulos, 1996; Shrum, McCarty, & Lowrey, 1995). A consumer's level of environmental consciousness, or the degree to which a person has concern for the environment (Dunlap & Jones, 2002), varies depending on their socio-demographic characteristics (Diamantopoulos, Schlegelmilch, Sinkovics, & Bohlen, 2003). For example, gender can have an impact on choosing to engage in environmentally sustainable behavior such that, compared to men, women often display greater concern for the environment and willingness to engage in green behaviors (Cottrell, 2003; Dietz, Kalof, & Stern, 2002; Levin, 1990). This gender skew has been attributed to the male desire to preserve their masculine image (Brough, Wilkie, Ma, Isaac, & Gal, 2016). Men are found to be less likely than women to engage in environmentally friendly attitudes, choices, and behaviors (Dietz et al., 2002; Lee & Holden, 1999), litter more (Kallgren, Reno, & Cialdini, 2000) and recycle less (Zelezny, Chua, & Aldrich, 2000) than their female counterparts. Therefore, men and women may respond differently to green marketing signals aimed at generating trust.

Additionally, age is often considered an important factor driving green behavior. Millennials are more likely to be green than consumers belonging to Baby Boomers and Generation X (Barber, Taylor, & Strick, 2010). This generational difference in environmental concern is attributed to the fact that older people may not live to benefit from the long-term gains associated with preserving resources (Carlsson & Johansson-Stenman, 2000). Therefore, based on prior research, we would expect to find differences in an individual's perceptions of green marketing signals based on age and gender (Figure 1).

> H6 *Gender moderates the mediated relationship between green marketing and trust through perceptions about the company's (a) expertise and (b) prosocial orientation*.

> H7 *Age moderates the mediated relationship between green marketing and trust through perceptions about the company's (a) expertise and (b) prosocial orientation*.
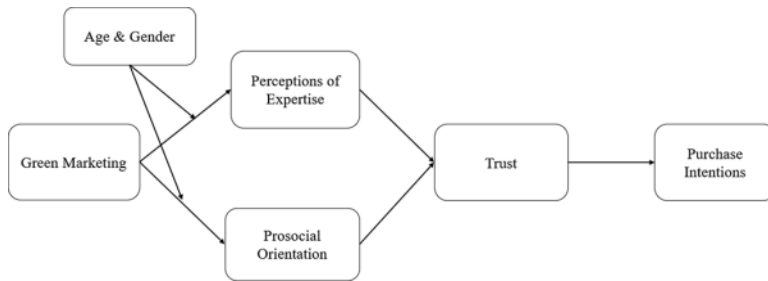
1 Conceptual modelim

STUDY 1

Procedure

A sample of 203 respondents was recruited from Amazon M-Turk and paid for their participation (participants were limited to the United States with a 90% approval rating). The average age of participants was 38, and the sample was approximately 51% women.

Participants of the study were told that a company was creating a new line of headphones and were asked to carefully evaluate an advertisement from the company and provide their opinions. Participants were then randomly assigned to view an advertisement that focused on either environmental (n = 102) aspects of the company or a control (n = 101) advertisement that did not mention anything about environmental sustainability. The environmental sustainability advertisement describes the headphones as made from sustainably sourced materials in facilities that run on renewable energy. The control advertisement describes the headphone company as committed to superior sound performance. After viewing the advertisement, participants were asked to answer the questions measuring perceptions of the company's environmental sustainability (α =.98), purchase intentions (α =.98), and trust in the company (α =.90). All items are presented in the appendix.

Pre-test

Confounding variables. To mitigate concerns about potential confounding variables, 79 undergraduate business students were recruited to participate in a pre-test assessing perceptions about the company's aesthetics and the quality of their products based on the advertisements shown. Participants were randomly assigned to view either the environmental (n = 40) or control (n = 39) advertisement. A 5-item scale from Kaufman, Jayachandran, and Rose (2006) was used to assess the quality of the company's products (α =.78). Product quality was assessed on a 7-point scale, with 1 = strongly disagree and 7 = strongly agree. Participants' perceptions of the focal product's aesthetics were measured using a 3-item scale from Lam and Mukherjee (2005; α =.95). The aesthetics scale was a 7-point semantic differential of participants' assessment of the promise as poor looking/nice looking, unattractive/attractive, and ugly/beautiful. No significant differences between the two advertisements were found for either product quality (t[77] = 1.40, p =.16) or aesthetics (t[77] =.23, p =.82).

Results

Manipulation check

To begin, we examined our manipulation of green marketing signals. Participants in the environmentally sustainable condition (M = 6.06, SD =.84) rated their appeal as more environmentally sustainable (i.e., natural physical environment) than those in the control condition (M = 3.70, SD = 1.32, t[201] = 15.30, p < .01). This finding suggests our manipulation was effective.

Trust and purchase intentions

Next, purchase intentions and trust were examined. Consistent with prior literature, participants in the environmentally sustainable condition (M = 4.51, SD = 1.64) indicated higher purchase intentions than those in the control condition (M = 3.94, SD = 1.63, t[201] = 2.48, p =.01), supporting H1. Trust in the company was higher for those in the environmentally sustainable condition (M = 5.40, SD = 1.01) compared to the control condition (M = 4.61, SD = 1.10, t[201] = 5.31, p < .01), supporting H2.

Mediation analysis

PROCESS (Hayes, 2017) model 4 was then used to examine the mediating effect of trust in the relationship between green marketing signals and purchase intentions. Confidence intervals are reported at 95%. All regression coefficients are unstandardized, and 5,000 bias-corrected bootstrapped samples were used to estimate the indirect effects. The control advertisement was coded as "0," and the sustainable condition was coded as "1." Results of this analysis revealed that trust was greater for those in the environmentally sustainable condition than in the control condition (a =.78, SE =.15, t = 5.31, p < .01). Trust also significantly predicted purchase intentions (b =.67, SE =.10, t = 6.77, p < .01). Bootstrapped analysis revealed a significant indirect effect through trust ($a*b$ =.53, CI: [.30,.80]). Importantly, the direct effect of environmental advertising onto purchase intentions is no longer significant when trust is included in our model (c =.04, SE =.22, t =.20, p =.84). These results support indirect-only mediation through trust (Zhao, Lynch Jr, & Chen, 2010), providing support for H3.

Discussion

Study 1 provides initial evidence for our conceptual model. We found that purchase intentions are higher for companies that effectively signal initiatives through green advertising compared to those companies that do not focus on sustainable aspects in their advertisements. Additionally, trust in the company was found to mediate this relationship. In the next study, we begin to explore trust's role in sustainable marketing more fully by investigating perceptions of expertise and prosocial orientation as the underlying mechanism to trust, thereby influencing purchase intentions. Further, we explore demographic variables as possible boundary conditions in this relationship.

STUDY 2

Procedure

A sample of 280 respondents was recruited from Amazon M-Turk and paid for their participation. Participants were limited to the United States and required to have at least a 90% HIT approval rate (i.e., the percentage of Human Intelligence Tasks successfully completed by a respondent, such as surveys). The average age of participants was 36, and the sample was approximately 53% men.

Participants were asked to carefully review appeals with information about a company creating a new line of chocolates. Participants were then randomly assigned to view an advertisement that focused on either environmental (*n* = 141) aspects of the company or a control (*n* = 139) advertisement that did not mention anything about environmental sustainability. As in study 1, the environmental sustainability advertisement described the chocolates as made from sustainably sourced materials in facilities that run on renewable energy. The control advertisement described the chocolate company as focused on the taste of the product to create a balanced flavor. After viewing the advertisement, participants were asked to answer the same questions from study 1 measuring perceptions of the company's environmental sustainability (α =.95), purchase intentions (α =.96), and trust in the company (α =.88). Additionally, perceptions about the company's expertise (α =.91) and prosocial orientation (α =.95) were collected followed by demographic information. All items are located in the appendix.

Pre-test

Confounding variables

As in study 1, a pre-test was conducted to mitigate concerns about potential confounding variables. Using the same scales from the pre-test in study 1, 79 undergraduate students were recruited to again assess perceptions about the company's aesthetics and the quality of their products based on the advertisements shown. Participants were randomly assigned to view either the environmental (n = 39) or control (n = 40) advertisement. Again, no significant differences between the two advertisements were found for either product quality (*t*[77] =.86, *p* =.39) or aesthetics (*t*[77] = 1.65, *p* =.10).

Results

Manipulation check

To begin, we examined our manipulation of green marketing. Participants in the environmentally sustainable condition (*M* = 6.21, SD =.89) rated their appeal as more environmentally sustainable than those in the control condition (*M* = 4.16, SD = 1.10, *t*[278] = 17.17, *p* < .01). This finding indicates that our manipulation of sustainability signals was again effective in the new context of the chocolate company.

Trust and purchase intentions

Next, purchase intentions and trust were again examined. As in study 1, participants in the environmentally sustainable condition (*M* = 5.47, SD = 1.31) indicated higher purchase intentions than those in the control condition (*M* = 4.94, SD = 1.31, *t*[278] = 3.48, *p* < .01). Trust in the company was higher for those in the environmentally sustainable condition (*M* = 5.64, SD = 1.09) compared to the control condition (*M* = 5.09, SD =.98, *t*[278] = 4.42, *p* < .01). These results provide additional support for H1 and H2.

Mediation analysis

To examine the mediating roles of expertise (*M* = 5.71, SD = 1.00) and prosocial orientation (*M* = 4.22, SD = 1.23) onto trust, PROCESS (Hayes, 2017) model 4 with 5,000 bias corrected bootstrap samples was again used. Results of this analysis revealed that perceptions of both expertise (a =.31, SE =.12, *t* = 2.69, *p* < .01) and prosocial orientation (a =.55, SE =.14, *t* = 3.82, *p* < .01) were greater for those in the environmentally sustainable condition than in the control condition. Expertise also significantly

predicted trust in the company (b =.57, SE =.05, *t* = 11.91, *p* < .01) as did perceptions of prosocial orientation (b =.24, SE =.04, *t* = 6.11, *p* < .01). Bootstrapped analysis revealed a significant indirect effect through both expertise (*a*b* =.18, *CI*: [.05,.32]) and prosocial orientation (*a*b* =.13, *CI*: [.06,.21]). The direct effect of the environmentally sustainable advertisement onto purchase intentions is significant when expertise and prosocial orientation are included in the model (*c* =.23, SE =.09, *t* = 2.43, *p* =.02). These results support complementary mediation through expertise and prosocial orientation (Zhao et al., 2010), giving us insight into the underlying mechanisms driving sustainability's positive impact on trust. Both expertise and prosocial orientation mediated the relationship between sustainability and trust, providing support for H4 and H5.

Conditional process analysis
To test the prediction that age and gender moderate the mediated relationship between sustainability and trust, PROCESS model 7 (Hayes, 2017) was used to perform the conditional process analysis. Gender was examined first. The results of the analysis revealed no significant interactions between sustainability and gender onto either expertise (a =.15, SE =.24, *t* =.62, *p* =.53) or prosocial orientation (a =.16, SE =.29, *t* =.55, *p* =.58). These results do not support H6a or H6b.

Age was examined next. Results of the conditional process analysis indicated a significant interaction between sustainability and age onto expertise (a = −.02, SE =.01, *t* = −2.00, *p* =.04). However, the interaction was not significant onto prosocial orientation perceptions (a =.01, SE =.01, *t* = 1.02, *p* =.31). There were also significant simple effects onto expertise for both sustainability (a =.99, SE =.38, *t* = 2.59, *p* =.01) and age (a =.03, SE =.01, *t* = 3.26, *p* < .01). There were no significant simple effects onto prosocial orientation (*p*s > .47).

Further analysis of the conditional process results revealed a significant effect of expertise (b =.57, SE =.05, *t* = 11.91, *p* < .01) and prosocial orientation (b =.24, SE =.04, *t* = 6.11, *p* < .01) onto trust, where enhanced perceptions of expertise and social responsibilities led to more trust in the company. The direct effect of the interaction between age and sustainability onto trust was significant through expertise and prosocial orientation (c =.23, SE =.10, *t* = 2.43, *p* =.02). Additionally, the indirect effect through expertise was significant, as indicated by the index of moderated mediation (a*b = −.01, CI: −.02 to −.01). However, the indirect effect was not significant through prosocial orientation (a*b =.01, CI: −.01 to.01). These results of this analysis indicate the presence of moderated mediation through expertise but not prosocial orientation. Together, the conditional process model supports H7a but not H7b as younger individuals felt that companies emphasizing sustainability in their ads display more expertise, ultimately enhancing trust in the company.

A floodlight analysis of the significant interaction between sustainability and age onto expertise revealed a Johnson-Neyman point of 38.25 (Johnson & Neyman, 1936; Spiller, Fitzsimons, Lynch Jr, & McClelland, 2013). This indicates that participants who are younger than 38.25, specifically those who scored at or below this point, felt that a company demonstrated higher levels of expertise when an advertisement was framed as sustainable. However, those scoring above this point indicated no difference in their perceptions of a company's expertise between the two conditions.

Discussion

The results of study 2 revealed the underlying mechanisms driving green marketing's positive impact on trust in the company. Specifically, consumer perceptions of the company's expertise and prosocial orientation were found to increase trust in the company, thereby increasing purchase intentions. Demographic boundary conditions were also explored. Despite previous research indicating that gender affects perceptions of sustainable marketing, gender did not influence trust through perceptions of expertise and prosocial orientation (Brough et al., 2016; Cottrell, 2003; Dietz et al., 2002). However, consumer age was found to influence perceptions of the company's expertise but not prosocial orientation. Younger consumers, specifically those about 38 and younger, believed that a company using green marketing displays more expertise compared to a company that does not tout sustainable practices, ultimately increasing consumer trust in the company. This could be tied to consumers' experience in the product category. Research indicates that about 55% of younger consumers are altering their buying habits to consider their environmental impact and 75% of millennials indicate that finding environmentally friendly products in the stores is easy for them (Mullen, 2018; Neilsen, 2018a, 2018b). Alternatively, Baby Boomers, indicate more brand loyalty in their choices and have stated that they often struggle to find environmentally friendly products while shopping (Mullen, 2018). According to Sarah Schmansky, vice president in growth and strategy at Nielsen, "The generational divide in sustainability is fuelled by technology. We've found that sustainable shoppers in the U.S. are 67 percent more likely to be digitally engaged, which means they are used to having the products and knowledge they want right at their fingertips" (Nielsen, 2018a, 2018b). Considering this, it may be that older consumers are more skeptical or cynical toward green marketing and less susceptible to green marketing signals. Whereas younger consumers are more driven by green marketing and effective campaigns convey expertise that drives the creation of trust.

GENERAL DISCUSSION

The current research examines how green marketing initiatives, which focus on environmental sustainability, affect consumers' trust in a company and ultimately influence purchase intentions. Two studies were conducted using the contexts of both a headphone and a chocolate company. Findings revealed that, consistent with prior research, purchase intentions are higher for companies that signal effective green marketing compared to those companies that do not focus on their environmental impact. Trust in the company was found to mediate this relationship. However, merely having a green marketing campaign might not immediately generate trust. Consumers are exposed to countless messages on a daily basis and may have trouble deciphering legitimate green campaigns from those that are empty promises. Therefore, additional insights were needed to understand the appropriate signals that increase the development of trust. We further explored why trust might increase when green marketing is implemented by companies. Expertise and perceived prosocial orientation were found to be two underlying mechanisms that drive sustainability's increase in trust and, ultimately, purchase intentions. This makes sense as consumers may determine that a company should at least have the capabilities to facilitate the green marketing initiative. By signalling this ability, the company can successfully communicate its benefits and value. Moreover, providing signals of a prosocial orientation seems to legitimize the efforts of the company and build the development of trust. Our findings have several theoretical and practical implications.

Theoretical and practical implications

The present research demonstrates why effective green marketing signals are likely to enhance consumer purchase intentions. Moreover, this research extends signalling theory to the development of trust in green marketing initiatives. When a company aims to implement green initiatives, they must effectively generate trust that they will follow through with their promise. Therefore, traditional (Barone et al., 2005) and online (Williams et al., 2019) communication can be key platforms for generating initial trust in a company's green initiatives. This initial trust is difficult to build since a green marketing campaign does not always provide a strong enough signal. However, a green marketer should signal their expertise to drive trustworthiness. Moreover, they should also signal a prosocial orientation to help to enhance the success of the green marketing campaign. This research shows that marketers can effectively convey signals of unobservable value to increase a consumer's trust and cater to market needs. Additionally, the research shows that not all consumers respond in the same manner to green marketing signals. Younger consumers perceive these companies to have greater expertise. Whereas, older consumers may require alternative signals to generate initial trust in the company.

Due to the increasing concern for the state of the environment (Carrington, 2019) and, consequently, consumers' acceptance to share responsibility alongside government entities and producers (Ipsos, 2018), more consumers are seeking out companies that care about environmental sustainability (Nielsen, 2018a, 2018b). Thus, despite the often-cited sustainability liability (Luchs et al., 2010), green marketing is here to stay (Ottman, 2017). Yet, many individuals feel that companies need to do more. Fifty-four percent of Europeans report that products offered by companies currently do not support their needs to lower their carbon footprint (EIB, 2018). However, companies may be aware of this sentiment and may attempt to pander to consumers rather than initiate any meaningful green initiatives. Our results indicate that companies investing in green marketing can yield immediate benefits by clearly communicating signals that legitimize the environmental initiatives. This investment becomes increasingly important to help consumers ascertain the legitimacy of the signals and to distance the company from others that are simply "talking the talk."

Our results uncover the underlying mechanisms that drive green marketing purchasing behaviors and may help to clarify previous findings. We find that, consistent with prior contexts (Palmatier et al., 2006), consumer trust is a key relationship mediator influencing this relationship. Further, we show the importance of expertise and prosocial orientation within green marketing initiatives that drive the development of trust. With little prior knowledge of the brand, green marketing can still enhance perceptions of expertise over non-sustainable competitors. However, an important boundary condition for this effect is age. Specifically, younger consumers perceive higher levels of expertise from companies who use green marketing. Gender was not found to influence trust through perceptions of expertise and prosocial orientation.

Finally, while researchers have discussed the triple-bottom line strategy (i.e., people, planet, and profits) as a unified approach, social and environmental responsibility are generally investigated separately. This research represents an exploratory investigation illustrating that consumers may assume environmentally responsible companies are also prosocial in general. Therefore, companies that initiate a green marketing campaign should explicitly signal their mission to consumers and

highlight their abilities to follow through with the promises of the campaign. In doing so, trust is developed, and purchase intentions are increased.

Limitations and future research

The research presented here is not without limitations. For example, we collected self-report intentions to examine our conceptual model and did not collect actual behavior. Future research should attempt to investigate these phenomena by capturing actual behavior in a lab or field study. We also note that in our investigation of the underlying mechanisms explaining the relationship between green marketing and trust, we found that perceptions of expertise and prosocial orientation mediate the relationship in a complementary manner versus indirect only. This could mean that there are additional mediators that may also help explain this relationship that are yet unexplored in this research (Zhao et al., 2010). Future research should continue to investigate this relationship, exploring additional variables. Moreover, additional boundary conditions to our findings should also be explored. Though we examined differences in age and gender, there could be important individual differences like personality or values that impact our results. Additionally, the role of greenwashing should be further explored in causing an erosion of consumer trust and increased cynicism that provide noise to green marketing signals. While more research is necessary, our findings contribute to the understanding of consumer preferences for green products in the marketplace.

CONFLICT OF INTEREST

The authors declare no potential conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Appendix MEASURES

Environmental responsibility (Klein & Dawar, [73])

(1 = Strongly Disagree; 7 = Strongly Agree)

1. This company operates in a manner that is less harmful to environment than other companies.
2. This company operates in a manner that is better for the environment than other companies.
3. This company is more environmentally friendly than other companies.

Quality (Kaufman et al., [70])
(1 = Strongly Disagree; 7 = Strongly Agree)

1. I would judge the products of this company to possess high quality features.
2. I would judge the products of this company to have quality packaging.
3. I would judge the products of this company to be inexpensive. (r)
4. I would judge the products of this company to have a low performance risk.
5. I would judge the products of this company to have a strong overall value.

Aesthetic evaluation (Lam & Mukherjee, [77])
(7-point semantic differential)
Please evaluate the aesthetics of this company:

1. Poor looking/nice looking.
2. Unattractive/attractive.
3. Ugly /beautiful.

Purchase intentions (Bansal, Irving, & Taylor, [7])
(7-point semantic differential)
Please indicate the likelihood that you would buy a pair of headphones/box of chocolates from this company.

1. Unlikely/likely.
2. Definitely no/definitely yes.
3. Not inclined to/inclined to.
4. Improbable/probable.
5. No chance at all/good chance.

Trust (Chaudhuri & Holbrook, [25]; Fiske, Cuddy, Glick, & Xu, [47])
(1 = Strongly Disagree; 7 = Strongly Agree)
I feel that this company is:

1. Trustworthy.
2. Sincere.
3. Honest.

Expertise (Bower & Landreth, [16])
(7-point semantic differential)
Based on the information I have seen about the company, I feel that this company is:

1. Not knowledgeable/knowledgeable.
2. Unqualified/qualified.
3. Unskilled/skilled.

Prosocial orientation
(1 = Strongly Disagree; 7 = Strongly Agree)
Based on the information I have seen about the company, I feel that this company:

1. Cares for human rights.
2. Aims to build up vulnerable communities
3. Is concerned about the welfare of poverty-stricken people.

4. Is concerned for the development of people and communities.
5. Wants to help people in need.

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