

Exploring the Consumer Green Gap:  
Consumer Attitudes and Intentions Related to Sustainable Product Consumption

by  
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Green consumerism is an important issue among marketers due to the prevailing green gap (Tseng, 2016). A consumer's green gap is the distance between the stated importance of protecting the environment and actual behavior (Tseng, 2016). This study strives to understand factors affecting consumer motivations and decisions related to sustainable product consumption. Our primary research question examines how social identification, attribute product strength, and product sustainability labels influence consumer attitudes and intentions.

Understanding what influences the green gap requires looking at how multiple levels of sustainability exist in relationship to each other (Phipps, 2013). We must isolate different attitudes and behaviors associated with environmentally friendly products and look for connections between the factors that might contribute to the purchase decision of a sustainable product. The green gap could also be investigated through understanding when and why consumers behavior deviates from their articulated preferences (Prothero, 2011). By examining the combined influence of social identification, product strength, and product sustainability we have the potential to discover factors that complicate or facilitate a sustainable vs. less sustainable purchasing decision. Ideally, this research aims to identify factors that have the potential to, in application, increase the purchase and adoption of sustainable products.

Key Words: consumer behavior, marketing, sustainability, social identification, product strength

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I understand that my project will become part of the permanent collection of Oregon State University, Honors College. My signature below authorizes release of my project to any reader upon request.

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# **Exploring the Consumer Green Gap: Consumer Attitudes and Intentions Related to Sustainable Product Consumption**

## **Chapter 1: Introduction**

Sustainable products refer to products that have a positive social and/or environmental impact (Luchs et al., 2010). Sustainable products have manifested as a result of growing concern for our ability to exist on this planet and slow down resource consumption (White, Habib & Hardisty, 2019). This concern has brought the challenge of placing responsibility on someone or something to solve the issue of dwindling resources on our planet. Businesses and consumers should work together to alter practices in ways that benefit the environment. Businesses still need to profit and consumers still have needs that must be met. Consequently, we must find a way to utilize sustainability in a way that the environment, businesses, and consumers benefit.

The focus of the current research is on factors that shape consumer attitudes and decisions towards sustainability. Whether attitudes toward sustainability truly influences consumer purchase decisions is a complex question that current research has been unable to fully answer. Thus, it is vital to understand how perceptions of sustainability, a far-reaching concept of ethical business practices, impacts consumers decision making.

Sustainability has become a “central and enduring movement” (Ketron & Naletelich, 2018) penetrating “deep into mainstream society’s mindsets” (Johnstone & Lindh, 2017). Younger generations are likely to adopt this movement, “demand more social initiatives and spend more on sustainable products” (Ketron & Naletelich,

2018). Despite this uprising for sustainable initiatives, sustainable product sales do not represent a large percentage of demand (Luchs et al., 2010). When consumers are faced with purchasing decisions, their moral concerns and attitudes rarely result in aligned purchasing actions (Johnstone & Lindh, 2017). As a result, present purchase demand for sustainable products is not substantial enough to have positive long-term effects on the planet (Kristensson, Wästlund & Söderlund, 2017).

Previous research has demonstrated that sustainable products sell better or worse depending on their perceived effectiveness (Luchs et al., 2010). The current research will address how perceptions of sustainability, product attributes, and group affiliation influence product attitudes and actions, purchase intentions, and willingness to pay. This thesis aims to expand upon existing research on consumer attitudes and actions related to sustainable products.

## **Chapter 2: Literature Review**

This literature review discusses what previous research has found in relation to sustainability/environmental concern, theory of planned behavior, and social group affiliation. It is important to first outline the green gap, what it is, why it exists, and implications for research. Next, an exploration of the theory of planned behavior helps further illustrate the complex disconnect between purchase intentions and purchase behaviors. Lastly, social identification and group affiliation research is reviewed to demonstrate their influence on consumer behavior in past studies and their potential impact for the current research.

### ***Environmental Concern***

The degree of difference between how much a person holds concern for the environment and their consumption behaviors mimicking this concern has not been fully explained by current research. It has, however, been shown as a growing concern through research by Luchs, Naylor, Irwin, and Raghunathan (2010) who suggest that 40% of consumers are willing to buy green products, but only 4% actually do so. Finding explanations for this gap between intentions and behavior is vital to current companies and organizations that are attempting to answer the call for sustainable business practices while simultaneously maintaining profitability.

A few studies relating to this gap in environmental concern and purchase behavior have sparked the potential for new research. In the research by Luchs et al. (2010), the authors examined whether or not sustainability impacted the preference for a product with strength-related attributes versus with gentle-related attributes. A

gentle product has associations with mild, healthy, safe, soft or good for children phrases. A strong product often references powerful, tough, harsh, effective or gets the job done phrases. The findings of their research demonstrated that consumers preferred sustainable products when those products were needed for gentle-related uses such as baby shampoo. However, when a product is needed for strength-related uses, such as car shampoo, consumers preferred a non-sustainable product (Luchs et al., 2010).

This points towards the consumer viewpoint that less sustainable products are more effective than sustainable products. This also makes the sale of sustainable products difficult when the consumer wants something to be highly effective. This forces sustainable product companies to advertise strength and effectiveness heavily on labels for successful sales. A gentle product could be extended to a number of categories such as pet food, face wash and socks because “gentleness” is an important characteristic for these categories. The inference could be made then, that products coming into contact with what we care about and want to avoid being harsh towards are under the category of gentle products. Strong products, on the other hand, could be products such as bleach, engines, and flooring. These products still come into contact with our clothes, automobiles or homes. These are things we also care about, however, the desire for effectiveness of these products exceeds the fear of harsh effects inflicted by strong products.

It is important to note the misconception that sustainability is an indicator of gentleness. Infrastructure can be built with sustainably sourced, transported and utilized wood and still be strong. This view that sustainability makes a product gentle

(or not strong) is important because it creates an obstacle for any industry to offer strong/effective sustainable products and remain profitable.

Another recent study (Wei, Ang, and Jancenelle, 2018) investigated some of the motivations behind consumers' willingness to pay more (WTPM) as a barrier to purchasing green products. This study found that the more consumers are willing to pay more for green products, that their understanding of environmental concern and eco-friendly products is higher. Wei et al. also discovered that a concerned consumer has a higher WTPM not because they feel they will have a significant impact, but because they are genuinely concerned about the environment.

Tseng (2016) conducted research on price promotion or price discounting in relation to green consumerism. Promotion setting is the discount of prices to incentivize a consumer to make certain purchasing decisions. The study found that the price discount threshold in a green consumerism promotion setting was 15% higher than that of a general promotion setting (Tseng, 2016). This means that not only do sustainable products need to be strong, but they also need to be cheaper than less sustainable alternatives for consumers to be swayed to purchase the more sustainable product. Also, a study reviewing price effects on animal tested versus cruelty free moisturizer found that when a moisturizer is low in price, participants more strongly preferred the cruelty free moisturizer to the animal tested moisturizer than when the moisturizer was higher in price. The findings were replicated when this was repeated with a moisturizer that had a high carbon footprint versus low carbon footprint. This shows that price again plays a major role in consumer's purchase behavior for green products (Schuitema and Groot, 2014).

The opportunity for more research stems from understanding possible reasons for the gap between intentions and purchase behaviors (Phipps et al., 2013). That is, we can isolate different behaviors associated with environmentally friendly products and look for causal factors on multiple levels that contribute to the purchase or non-purchase of a sustainable product. There is also a call for more research into extending the understanding of when and why consumers do not behave the way they articulate their preferences (Prothero, Dobscha, Freund, et al., 2011). By examining possible connections amongst sustainable/unsustainable products and gentle/strong products, we can see the motivations which may complicate a purchasing decision for consumers who choose sustainable or not sustainable products. The following sections connect the Ajzen's theory of planned behavior and social identification to motivations for consuming sustainable products.

### ***Theory of Planned Behavior***

Ajzen's theory of planned behavior (TPB) states that "behavior is preconditioned by the internalization of attitudes, subjective norms, and perceived controls at the pre-decision stage that informs intent, thus guiding action" (Johnstone & Lindh, 2017). If this theory were always true, concern for the environment as an individual and as a member of society assuming the individual felt they had perceived control of their decision making, this individual's intent regarding concern for the environment would follow their desire to be environmentally conscious and guide them to make purchase decisions in line with this concern.

Further, while “consumers report favorable attitudes toward environmental behaviors, they often do not subsequently display sustainable actions” (White, Habib & Hardisty, 2019). TPB is challenged by the intention-behavior gap which contends that a consumer’s intent does not necessarily equate to their actions because “decisions here are weighed against each other along the ‘decision balance’ scale until [a] critical ethical point is reached and-in theory- ethical purchase occurs” (Johnstone & Lindh, 2017).

This research has become particularly important as younger generations begin making their purchase decisions. These generations have been shown to make different purchase decisions than those of older generations. Most importantly, “it appears that other behavior, moral, situational, and attitudinal factors are at play, especially for younger generations of consumers who exhibit greater [green] gaps. They exhibit greater green gaps in that their attitudes are actually more pro-sustainability than other generations yet their behavior is remarkably similar with those other generations. These inconsistencies between attitude and behavior also permeate the sustainable consumer behavior literature via the proposition that ethically-minded consumers seldom purchase ethically, suggesting a critical disjunction in the traditional causal and cognitive model” (Johnstone & Lindh, 2017). Although, the baby boomer population is entering a new life stage of retirement and represent the largest section of our population, younger generations will be passing their behaviors onto more and more generations as they age. From a future perspective it is important to include how these generations view purchasing in order to adjust for more sustainable practices and profitability.

### ***Social Identification/ Team Affiliation***

Social Identification Theory, or SIT, describes the inherent human desire to identify as a member of a group or category for social and emotional purposes (Madrigal, 2001). This in-group identification presents itself strongly in connection with sports teams. Research has demonstrated that fans who are less identified with their team “have a passive relationship with a sport or team and are likely attracted for the entertainment value, social interaction opportunities, or stress-relieving qualities”. However, those viewing who are highly identified with a team, however, “can be extremely loyal, holding a particular team as central to their identity” and support this sport or team unwaveringly “by time and financial commitments” (Gwinner and Swanson, 2003).

Studies show fans who are highly identified with a sports team “live vicariously through their team” and are more likely to purchase team affiliated merchandise (Madrigal, 2001). In response to this group identification, companies have spent millions sponsoring sporting events to connect with fans’ SIT and align their brand with the positive emotions associated with that team. Furthermore, highly identified individuals are “more likely to be influenced by the perceived expectations of other group members and to act in ways that reinforce their membership to the group” (Madrigal, 2000). For example, Oregon State University fans would be expected to show positive support for anything Oregon State University related and demonstrate dislike for anything related to their rival and out-group, the University of Oregon.

In connection with a consumer's willingness to pay more (WTPM), affiliation with a favored sports team has been shown to increase fans' willingness "to purchase that company's products" (Madrigal, 2000). As a result, we expect that a fan highly identified with a specific sports team will spend more on a product featuring some emblem of their favorite team than that same product without. Generally, data demonstrates "greater identification results in an individuals' willingness to engage in consumptive behaviors that support the group" (Gwinner and Swanson, 2003), however, little data has been found to show how strongly identification with an in-group increases a consumers WTPM.

Consumers can be strongly swayed to purchase certain products if there lies a connection to a team with which they feel highly identified. A "positive social identity can be maintained" when evaluating in-group versus out-group situations where the "in-group compares favorably on some important performance dimensions" (Gwinner and Swanson, 2003). Team affiliation has been shown to connect a consumer positively with an in-group and therefore purchase products referencing their highly identified team. If a product referencing highly identified teams influences consumers to make purchase decisions, sustainable products branded with highly identified teams could bridge the gap between purchase attitudes and purchase actions of sustainable products.

We know there lies a disconnect between a consumer's environmental concern and their purchasing behavior. We also know that sustainable products tend to sell better when they are considered gentle and worse when considered strong. Lastly studies have shown team affiliation has an influence on consumer's purchasing

decisions. Therefore, the research question for this study explores how team affiliation, sustainable product labeling and product strength influences consumer attitudes towards product attitudes, product actions, purchase intentions and willingness to pay? We expect that social group identification will improve attitudes and intentions when a sustainable product is needed for strength-related uses (e.g., hand sanitizer).

## **Chapter 3: Study Methods**

The primary objective of this thesis was to examine the effect of sustainability, product strength, and social identification on consumer attitudes, intentions, and willingness to pay. To accomplish this objective, we conducted an experiment with student participants from a large U.S. university.

### ***Participants, Procedure, and Design***

One hundred and seventy-one undergraduate students were recruited from an existing subject pool and received partial course credit for their participation. The design of the study was a 2 (Product Sustainability: Sustainable vs. Less Sustainable)  $\times$  2 (Product Strength: Strong vs. Gentle)  $\times$  2 (Group Affiliation: In-group vs. Control) between-subjects design. Each participant was randomly assigned to one of the eight possible conditions through an online survey software program. Each condition was represented with an image of hand sanitizer that manipulated the experimental factors (details described below and images in the Appendix). A series of nineteen questions followed gauging attitudes, perceptions, purchase intentions, willingness to pay, and perceived effectiveness of the featured product, as well as manipulation checks.

### ***Stimuli***

Based on the design of the study, eight product images were created using hand sanitizer as the product under consideration. For product strength, a strong product had “2X the Sanitizing Strength” and “Kills 99.9% of Germs” on the label,

while a gentle product was described with “Gentle” and “with essential oils and skin conditioners” on the label. University group affiliation was shown with an Oregon State University Beaver logo on the sanitizer, while the control group had no university logo included. A sustainable product was portrayed with “Naturals”, “made with plant-based alcohol” and a United States EPA logo, while a less sustainable product did not include these claims or image (see Appendix).

### ***Measures***

The dependent variables in the current research were attitudes toward the product, actions toward the product, purchase intentions, and willingness to pay for the product. Means, standard deviations, and correlations between constructs can be found in Table 1. Manipulation checks were included for product strength, sustainability, and identification with the in-group.

*Attitudes toward the product* were measured with the following four statements: I have positive feelings toward this product, this seems like a high-quality product, this is a desirable product, and this product seems reliable, measured on a 7-point scale with strongly disagree (1) to strongly agree (7), ( $M = 4.54$ ,  $\alpha = .88$ ).

*Actions toward the product* were measured with the following four statements: this product seems worth buying, I would be likely to purchase this product, I would likely recommend this product to a friend, and I would be interested in receiving a coupon for a discount to purchase this product, measured on a 7-point scale with strongly disagree (1) to strongly agree (7), ( $M = 3.94$ ,  $\alpha = .87$ ).

*Purchase intentions* were assessed with the seven 7-point semantic differential statements: likely/unlikely, absolutely certain/no chance, definitely/never, certainly yes/certainly not, very high purchase intent/very low purchase intent, I would definitely buy it/I would definitely not buy it, and definitely intend to buy it/definitely do not intend to buy it ( $M = 4.12$ ,  $\alpha = .95$ ) (Note: 1 = unlikely, absolutely certain, never, certainly not, very low purchase intent, I would definitely not buy it, definitely do not intend to buy it and 7 = likely, no chance, definitely, certainly yes, very high purchase intent, I would definitely buy it, definitely intend to buy it).

*Willingness to pay* was assessed by asking participants “if the need arouse, how much would you be willing to pay for this hand sanitizer?” Then participants were asked to indicate on a sliding scale (\$0.01 increments ranging from \$0.00 to \$10.00) how much they would be willing to pay ( $M = 3.08$ ,  $\alpha = \text{N/A}$ ).

### ***Manipulation Checks***

The manipulation of strength (strong vs. gentle) was assessed with two different manipulation checks: perceived level of product strength and moisturizing effectiveness. The manipulation of sustainability (sustainable vs. less sustainable) was assessed with two different manipulation checks: perceived level of sustainability and perceived level of sustainable business practices.

*Perceived level of product strength* was assessed with the following 7-point four semantic differential statements: strong/gentle, harsh/comfortable, severe/mild, abrasive/smooth ( $M = 4.59$ ,  $\alpha = 0.76$ ). (Note 1 = strong, harsh, severe, abrasive and 7

= gentle, comfortable, mild smooth). Thus, a higher score reflects increased perceived gentleness (i.e., less strength).

*Perceived level of moisturizing effectiveness* was assessed with the question “how effective do you think this product would perform in moisturizing hands, a secondary purpose?” with the following four 7-point semantic differential statements: not at all/very well, very bad/very good, terrible/excellent, ineffective/effective ( $M = 4.06, \alpha = 0.98$ ) (Note: 1 = not at all, very bad, terrible, ineffective and 7 = very well, very good, excellent, effective).

*Perceived level of sustainability* was assessed with the question “how strong do you perceive this product’s commitment to sustainability to be?” followed by six 7-point semantic differential statements: not at all committed/very committed, not at all dedicated/very dedicated, not at all engaged/very engaged, not at all solid/very solid, not at all enthusiastic/very enthusiastic, not at all serious/very serious ( $M = 4.25, \alpha = 0.96$ ) (Note: 1 = not at all committed, not at all dedicated, not at all engaged, not at all solid, not at all enthusiastic, not at all serious and 7 = very committed, very dedicated, very engaged, very solid, very enthusiastic, very serious).

*Perceived level of sustainable business practices* was assessed with the following three 7-point semantic differential statements: does not care about the environment/cares about the environment, not green/green, not socially responsible/socially responsible ( $M = 4.91, \alpha = 0.94$ ) (Note 1 = does not care about the environment, not green, not socially responsible and 7 = cares about the environment, green, socially responsible).

*Identification* with Oregon State University was measured with the following six statements: when someone criticizes OSU it feels like a personal insult, I am very interested in what others think of OSU, when I talk about OSU I usually say ‘we’ rather than ‘they’, OSU’s successes are my successes, When someone praises OSU it feels like a personal compliment, and if a story in the media criticized OSU I would feel embarrassed ( $M = 4.84$ ,  $\alpha = .89$ ). A mean of 4.84 is significantly greater than the midpoint of the scale ( $t(170) = 7.73$ ,  $p < .01$ ), indicating that overall our sample is highly identified.

## **Chapter 4: Results**

### ***Manipulation Checks***

*Perceived level of product strength:* The strong manipulation ( $M = 4.33$ ) was rated as significantly stronger than the gentle manipulation ( $M = 4.86$ ;  $t(169) = 3.16$ ,  $p < .01$ ). Note: a higher score reflects greater perceived gentleness (i.e., less strength).

*Perceived level of moisturizing performance:* The gentle product manipulation ( $M = 4.33$ ) was rated as having significantly better perceived moisturizing performance than the strong product manipulation ( $M = 3.81$ ;  $t(169) = 2.12$ ,  $p < .05$ ).

It appears that our manipulation of product strength was successful in that participants perceived the “strong” product to be stronger and less moisturizing than the “gentle” product.

*Perceived level of sustainability:* The sustainable manipulation ( $M = 4.89$ ) was rated as significantly more sustainable than the less sustainable manipulation ( $M = 3.69$ ;  $t(169) = -5.32$ ,  $p < .01$ ).

*Perceived level of sustainable business practices:* The sustainable manipulation ( $M = 5.86$ ) was rated as significantly more sustainable than the less sustainable manipulation ( $M = 4.07$ ;  $t(169) = -8.21$ ,  $p < .01$ ).

It seems that our sustainability manipulation was also successful. Participants thought that the sustainably labelled product was more sustainable and engaged in more sustainable business practices.

### ***Results***

How does team affiliation, sustainable product labeling and product strength influence consumer attitudes towards products, product actions, purchase intentions, and willingness to pay. Means and standard deviations across experimental conditions for all dependent variables can be found in Table 2. Summary F-statistics for all ANOVAs can be found in Table 3.

A 2 (Team Affiliation: Control vs. Favored Team)  $\times$  2 (Product Strength: Strong vs. Weak)  $\times$  2 (Product Sustainability: Sustainable vs. Less Sustainable) between-subjects ANOVA was conducted on product attitudes. The results indicate a main effect of team affiliation ( $F(1, 163) = 12.49, p < .01$ ) and product strength ( $F(1, 163) = 7.62, p < .01$ ). For team affiliation, attitudes in the control condition ( $M = 4.85$ ) were significantly higher than attitudes in the in-group condition ( $M = 4.14$ ). For product strength, attitudes were more favorable for the strong product ( $M = 4.80$ ) compared to the gentle product ( $M = 4.27$ ). There was also a significant team affiliation  $\times$  product strength interaction ( $F(1, 163) = 4.17, p < .05$ ) and a significant product strength  $\times$  sustainability interaction ( $F(1, 163) = 4.36, p < .05$ ) on product attitudes. No other effects had a significant influence on product attitudes.

Further exploration of the team affiliation  $\times$  product strength interaction indicated that attitudes were lowest for those who evaluated the gentle in-group ( $M = 3.62$ ) product label compared to the gentle control ( $M = 4.77; t(82) = 3.99, p < .01$ ) and the strong in-group ( $M = 4.65; t(73) = 3.28, p < .01$ ) and strong control ( $M = 4.92$ ). Also see Figure 1.

Additional examination of the product strength  $\times$  sustainability interaction indicated that there was no difference in attitudes between sustainable gentle ( $M =$

4.53) and sustainable strong product ( $M = 4.64; p > .67$ ) labelling, whereas with the less sustainable product, the strong product label ( $M = 4.94$ ) resulted in significantly more positive attitudes than for the gentle product label ( $M = 4.03; t(89) = 3.07, p < .01$ ). Also see Figure 2.

A 2 (Team Affiliation: Control vs. Favored Team)  $\times$  2 (Product Strength: Strong vs. Weak)  $\times$  2 (Product Sustainability: Sustainable vs. Less Sustainable) between-subjects ANOVA was conducted on product actions. The results indicate a main effect of team affiliation ( $F(1, 163) = 7.89, p < .01$ ) and product strength ( $F(1, 163) = 4.21, p < .05$ ). For team affiliation, product actions in the control condition ( $M = 4.22$ ) were significantly higher than product actions in the in-group condition ( $M = 3.58$ ). For product strength, product actions were more favorable for the strong product ( $M = 4.17$ ) compared to the gentle product ( $M = 3.71$ ). No other effects had a significant influence on product actions.

A 2 (Team Affiliation: Control vs. Favored Team)  $\times$  2 (Product Strength: Strong vs. Weak)  $\times$  2 (Product Sustainability: Sustainable vs. Less Sustainable) between-subjects ANOVA was conducted on purchase intentions. The results indicate no other effects had a significant influence on purchase intentions.

A 2 (Team Affiliation: Control vs. Favored Team)  $\times$  2 (Product Strength: Strong vs. Weak)  $\times$  2 (Product Sustainability: Sustainable vs. Less Sustainable) between-subjects ANOVA was conducted on willingness to pay. The results indicate no effects had a significant influence on willingness to pay.

## **Chapter 5: Discussion**

Our research question investigated how team affiliation, sustainable product labeling, and product strength influenced consumer attitudes, product actions, purchase intentions, and willingness to pay. Ideally, we were hoping that social group identification would improve attitudes and intentions when a sustainable product is needed for strength-related uses (i.e., hand sanitizer). However, our findings do not support this idea.

Our findings indicated that participants had more favorable attitudes and product actions towards a strong hand sanitizer over a gentle hand sanitizer. This was expected and consistent with previous research (Luch et al., 2010), as the product category of hand sanitizer is associated with the strength phrase used in Luch et al., such as powerful, tough, harsh, effective or gets the job done. Also, attitudes toward the product were more favorable for the control group (vs. ingroup), leading us to believe consumers prefer a hand sanitizer without a team affiliation because a hand sanitizer is not a good product fit for OSU branding, as an apparel item may be. Apparel with team affiliation is worn to reinforce membership with that group, however, a hand sanitizer with this logo seems unnecessary to a consumer because it is not worn in public to reinforce group membership. Figure 1 depicts the interaction between product strength and team affiliation. Participants found the ingroup, gentle hand sanitizer to be least favorable. We feel this displays how consumers' feel team affiliation makes a gentle hand sanitizer even less of an attractive product for purchase. So perhaps it is also that team affiliation weakens strength-related product perceptions even more.

When participants were asked about product actions, they also preferred a hand sanitizer without team affiliation compared to a hand sanitizer affiliated with their ingroup. In this scenario, participants preferred a strong hand sanitizer that had no team affiliation and also stated they would take more favorable action with the strong hand sanitizer without a team affiliation.

These results are inconsistent with social identification research on attitudes and behaviors. Social identification research would suggest that consumers would be more likely to have favorable attitudes and favorable actions toward a product that is affiliated with their team (Madrigal, 2000, 2001). One possible reason for this inconsistency is that there are other factors to consider when looking at team affiliation partnerships, such as fit or congruency between the featured product and team (Close, Krishen, & LaTour, 2009). We did not assess or manipulate product-team fit, so as mentioned previously perhaps this association reduces credibility and confidence in product performance.

The intention-behavior gap challenges the idea that product attitudes result directly in product actions. This idea suggests that decisions fall on a decision balance scale where there is an interaction of potential actions until the individual reaches a critical ethical point and decides (Johnstone & Lindh, 2017). We believe this occurrence could be attributed to the individual's critical ethical point lying more heavily with the effectiveness of a hand sanitizer, which they find more important than the environmental ethicality of a hand sanitizer.

We believe this also can be explained by the absence of an impact of sustainability on attitudes or actions. When sustainability was referenced, however,

there was no significant connection between attitudes and actions. Purchase intentions and willingness-to-pay were not influenced in this study, further supporting the idea that a disconnect lies between attitudes about sustainable products and actions towards purchasing sustainable products.

There was, however, an interaction of sustainability and product strength on product attitudes. Figure 2 describes how participants find less sustainable and gentle hand sanitizers as the least attractive. The less sustainable and strong hand sanitizer was preferred as the most attractive product. This is consistent with Luchs et al. (2010), who found that products with strong attributes were evaluated more favorably when less sustainable but were evaluated less favorably when the product was strong and sustainable.

There are a few implications of our findings for marketers and companies/organizations. First, a focus on eco-labeling does not translate to purchase behavior when selling strong products. The addition of team affiliation also does not positively relate to increased attitudes or purchase intentions. Marketers and companies selling strongly attributed and sustainable products should direct their efforts towards ensuring the consumer knows the product is effective rather than team affiliated or sustainable. Our findings also lead us to suggest that a focus on advertising the effectiveness of a strong product will result in a significant connection between consumer product attitudes and product actions. In other words, if a consumer wants to purchase a strong product and the product clearly references effectiveness, consumers will more likely desire the product and purchase the product. Because sustainability does not have an effect on purchase actions,

marketers and companies have a responsibility to offer sustainable products to save the planet even if it costs them profits.

Some limitations exist in this research design. There was no product featured where gentle attributes would be preferred. The use of only one product resulted in a less detailed answer to the issue of consumer's green gap's than having multiple product categories. The addition of an out-group team affiliated (University of Oregon) product could have shown some more significant changes in behavior amongst the tested variables as well.

There is a push for the fashion industry to take responsibility for their unsustainable resource consumption and waste patterns (e.g., fast fashion). Therefore, future research could test interaction between these variables with apparel products. Future research should also test if consumers notice a difference between sustainable and unsustainable products without being explicitly informed of the products ethicality. For example, does a consumer notice a difference when purchasing, using and disposing of sustainable products? It would also be interesting to look into how the use of only sustainable products affects the profitability and life span of a business. Concern for the environment does not always equate to sustainable product purchase decisions, therefore, knowing the positive aspects of running a sustainable business may influence companies to practice sustainability if it means they will outlast their competitors and/or will remain or become more profitable.

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Table 1: Means, Standard Deviations, Reliabilities, and Correlations Among Constructs

	Mean	Standard Deviation	Attitudes Toward the Product	Actions Toward the Product	Purchase Intentions	Willingness to Pay	Identification
Attitudes Toward the Product	4.54	1.38	.88				
Actions Toward the Product	3.94	1.54	.79**	.87			
Purchase Intentions	4.12	1.52	.50**	.64**	.95		
Willingness to Pay	3.08	1.42	.18*	.15	.22**	N/A	
Identification	4.84	1.41	.14	.14	.11	.034	.89

\* p < .05, \*\*p < .01

Table 2: Means, Standard Deviations across Experimental Conditions

Team Affiliation	Sustainability	Product Attitudes		Product Actions		Purchase Intentions		Willingness to Pay	
Control Group	Gentle	Gentle	Strong	Gentle	Strong	Gentle	Strong	Gentle	Strong
	Sustainable	4.84	4.80	4.18	4.22	4.19	3.99	3.26	2.76
		(0.92)	(1.49)	(1.23)	(1.71)	(1.56)	(1.67)	(1.49)	(1.27)
	Less sustainable	4.71	5.03	4.02	4.46	4.27	4.75	2.86	3.62
In-group	(1.57)	(0.91)	(2.03)	(1.17)	(1.88)	(1.12)	(1.62)	(1.29)	
	Sustainable	4.10	4.41	3.22	3.75	3.94	3.96	3.21	3.12
		(1.02)	(1.51)	(1.47)	(1.47)	(1.28)	(1.76)	(1.13)	(1.41)
	Less Sustainable	3.21	4.83	3.19	4.10	3.97	4.44	3.03	2.79
	(1.49)	(1.27)	(1.41)	(1.35)	(1.37)	(1.43)	(1.89)	(1.09)	

Table 3: Between-subjects ANOVA results for Team Affiliation × Product Strength × Sustainability on Product Attitudes, Product Actions, Purchase Intentions, and Willingness-to-pay

	Product Attitudes F(1, 163)	Product Actions F(1, 163)	Purchase Intentions F(1, 163)	WTP F(1,163)
<b>Main Effects:</b>				
Team Affiliation	12.49**	7.89**	0.92	0.17
Product Strength	7.62**	4.21*	0.64	0.01
Sustainability	0.21	0.18	2.02	0.00
<b>2-way Interactions:</b>				
Team Affiliation × Product Strength	4.17*	1.08	0.05	0.45
Team Affiliation × Sustainability	0.50	0.07	0.12	1.17
Strength × Sustainability	4.36*	0.72	1.41	1.62
<b>3-way Interaction:</b>				
Team Affiliation × Product Strength × Sustainability	1.43	.00	0.06	2.51

\* p < .05, \*\*p < .01

Figure 1: Interaction of Team Affiliation and Product Strength

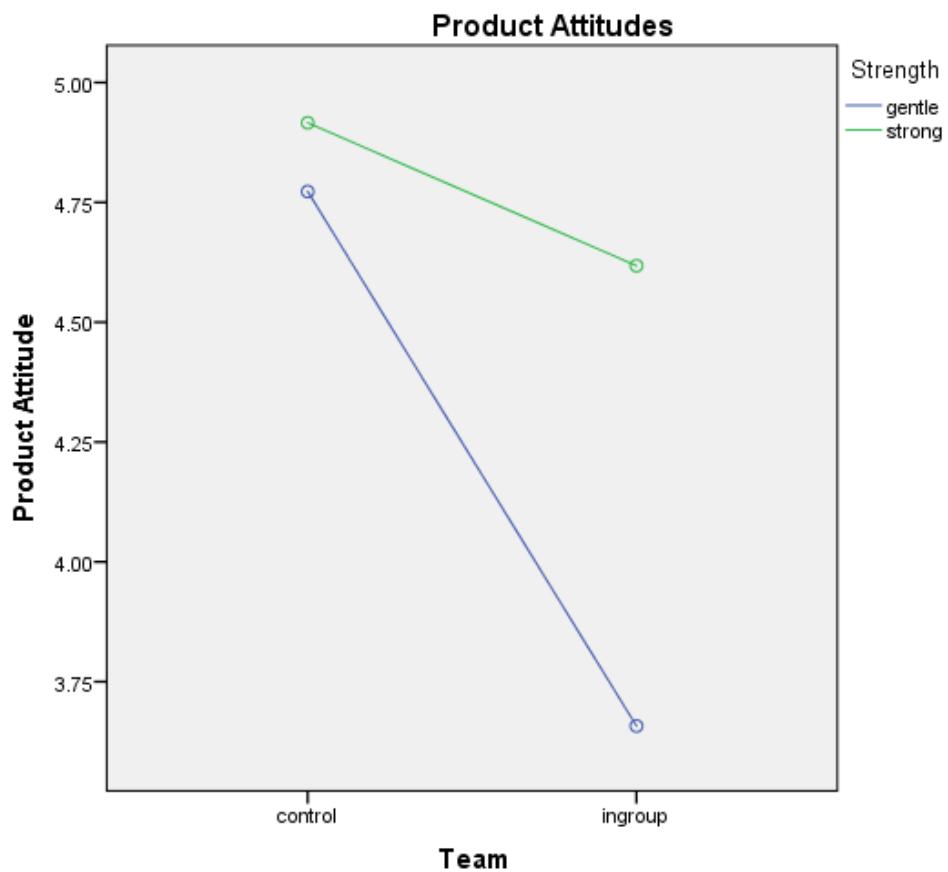
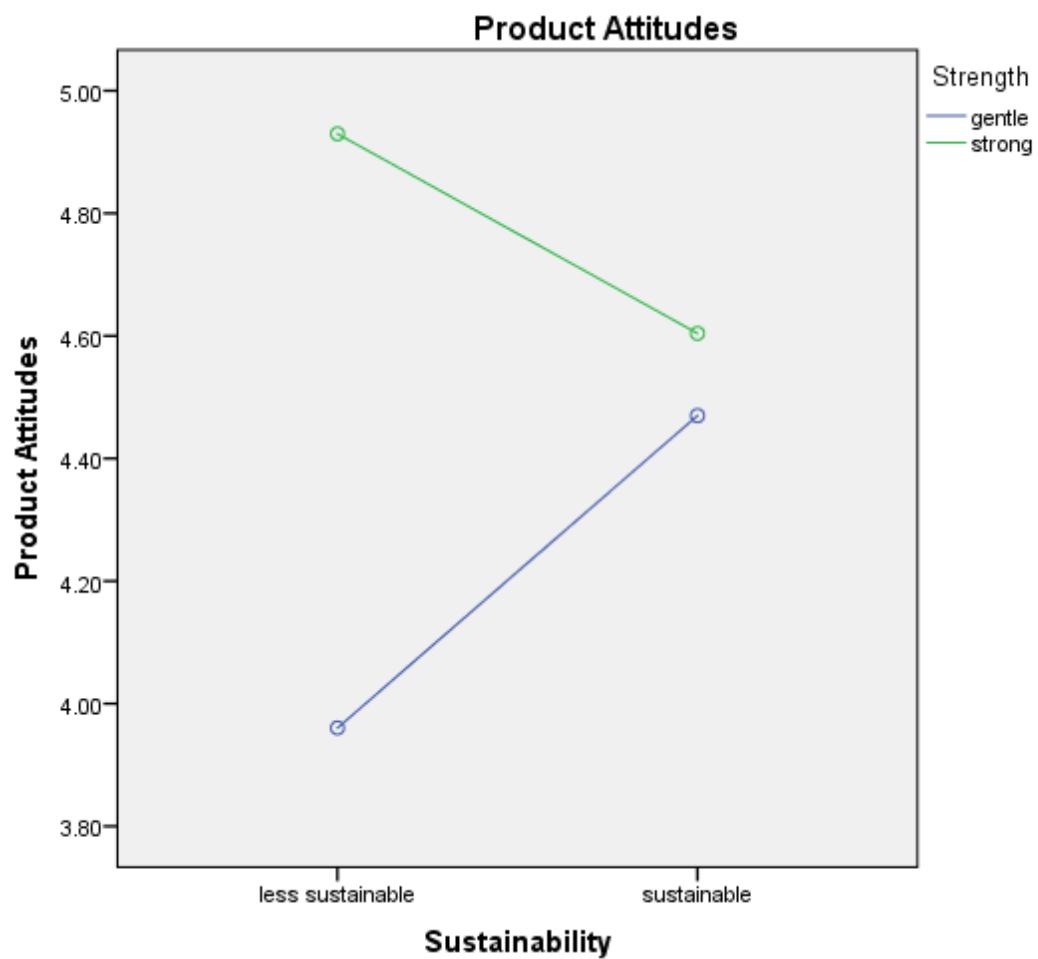


Figure 2: Interaction of Product Strength and Sustainability



## Appendix A

Strong/Control/Less sustainable:



Gentle/Control/Sustainable

Strong/In-group/Less sustainable:



Gentle/In-group/Sustainable



Strong/In-group/Sustainable



Strong/Control/Sustainable



Gentle/In-group/less sustainable



Gentle/Control/less sustainable



