

Solving the puzzle of sustainable fashion consumption: the role of consumers' implicit attitudes and perceived warmth

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Abstract

The fashion industry has been recognized as one of the major industries that contribute to environmental damage. Although fashion companies have started to take some actions aimed at protecting the environment, how consumers make purchasing decisions about sustainable fashion products is a lingering question. This research thus investigates the effect of sustainable product attributes (i.e., recycled materials) on consumers' purchase intention toward luxury and fast fashion products.

Drawing from the social judgment theory, we propose that sustainability leads to higher consumers' purchase intentions and that this effect is explained by the activation of perceived warmth. Three studies provide support for this assertion. Specifically, sustainable product attributes (i.e., recycled materials) affect positively the purchase intentions and this effect is magnified in the case of fast fashion products (Study 1). Consumers show more positive implicit attitudes when sustainability is paired with luxury than with fast fashion (Study 2). Finally, sustainability activates higher levels of perceived warmth which, in turn, affects consumers' purchase intentions towards fast fashion products (Study 3). This research provides insightful theoretical implications by enclosing the psychological mechanism (i.e., perceived warmth) behind the relationship between sustainability and consumers' purchase intentions. The paper

also offers actionable levers on how to communicate sustainable initiatives to strengthen the consumer-brand relationship.

Keywords: luxury, fast fashion, sustainability, perceived warmth, Implicit Association Test (IAT).

1. Introduction

Fashion brands are working diligently to improve their sustainability (Forbes, 2018). For instance, in 2010, Stella McCartney introduced shoes made with biological components thought to replace leather. Gucci has established a program (i.e., Gucci Equilibrium) that reports the company's CSR policies, environmental impact, employee satisfaction and structural innovations. Similarly, Primark launched a clothing take-back scheme in 2019 whilst H&M has pledged to become 100% 'climate positive' by 2040 by using renewable energy and increasing energy efficiency in all its operations.

The fashion industry is worth \$3 trillion, accounting for 2% of the world's Gross Domestic Product (GDP) (Fashion United, 2018). Despite the economic value, the fashion industry has negative social and environmental impacts such as the depletion of natural resources, causing serious damages to the environment (Crane and Glozer, 2016; Moretto et al., 2018). Thus, the fashion industry is becoming more eco-friendly. Companies are constantly improving their sustainability strategies moving toward sustainable practices (Wang et al., 2019) and promoting their social or environmental credentials – even engaging in misleading communications (Pizzetti et al., 2019). Similarly, consumers are becoming more and more aware of the ethical implications of the products they buy; as a consequence, they are adapting their purchasing behaviors (De Angelis et al., 2017; Gershoff and Frels, 2015).

The literature on sustainable consumption has been recently growing, observing this phenomenon from various angles (Huang, 2011; Davies and Gutsche, 2016). Although the research on sustainable consumption is rising, previous works have mainly focused on

commoditized products, such as food (e.g., Johnston et al., 2011; Yamoah and Acquaye, 2019) or vehicles (Bom et al., 2019; Policarpo and Aguiar, 2020), while other sectors such as the fashion industry remain understudied (Lim, 2017; Legere and Kang, 2020). Sustainable fashion refers to a range of corporate efforts to correct a variety of perceived wrongs in the fashion industry (Lundblad and Davies, 2016). However, extant literature is still scarce - despite some notable developments - and it presents inconsistent or contradictory conclusions (Mukendi et al., 2020). Some studies have advanced the idea that fashion and sustainability are incompatible and thus conflicting concepts (e.g., Griskevicius et al., 2010, Widloecher, 2010), and sustainability can even affect consumer preferences negatively (Achabou and Dekhili, 2013). Therefore, consumers are not concerned about sustainability and are not explicitly interested in sustainable product attributes when purchasing fashion items (Gardetti and Torres, 2017; Kapferer and Michaut, 2015). On the contrary, another stream of research shows that sustainability and fashion are well related and have found several drivers of sustainable fashion consumption (Ozdamar Ertekin and Atik, 2015). The mismatch of previous findings is due to a lack of a precise conceptualization of sustainability within the fashion context, that can be shaped into two main segments - luxury and fast fashion (Mrad et al., 2020) – which accounts respectively 281 billion and 36 billion euros in terms of worldwide market value in 2019 (Statista, 2020a; Statista, 2020b). Because of the diversity of challenges associated with developing sustainability within different fashion segments, research is devoid of cohesion and consistency (Orminski et al., 2020).

A lack of clarity in literature is noticeably evident for what concerns the luxury sector as opposed to the fast fashion sector (Janssen et al., 2014; Jang et al., 2012). Luxury brands typically manufacture limited quantities of products with a quality that lasts over time, while fast fashion brands refer to low-cost clothing collections. The peculiar characteristics of these two fashion sectors imply a different approach to the sustainability of the product and in turn

different effects on consumers' perceptions. The major environmental damage caused by luxury fashion brands is the use of fur and leather from rare animals, that requires toxic chemicals to dye the fur in the manufacturing process. On the other hand, fast fashion brands have been accused of creating poor labor welfare, severe environmental pollution as well as a massive amount of clothing waste (Chan et al., 2020). Very few empirical studies focus on how luxury and fast fashion companies' sustainability initiatives affect consumers' preferences and purchasing behaviors, and whether products that are both fashion and sustainable can succeed in the market (De Angelis et al., 2017).

Based on these premises, this research investigates the effect of sustainability on the fashion industry, comparing luxury and fast fashion products. The aim is to reconcile previous contradictory findings, thus contributing to the literature on sustainable fashion (Lundblad and Davies, 2016). Specifically, we propose that sustainable product attributes (i.e., recycled materials) positively affect consumers' purchase intentions, and this effect is magnified in the case of fast fashion products. We explain such effect proposing and testing that consumers associate more positively sustainability to luxury products than to fast fashion products. Because of the low cost, low durability and mass quantity nature of fast fashion, including a sustainable attribute helps to fill the perceived gap between fast fashion and sustainability, adding value to the product itself. On the contrary, the strong association between luxury and sustainability makes the presence of a sustainable attribute have a milder impact on consumers' perception and behavior (i.e. purchase intention). Thus, we suggest that luxury and sustainability - contrary to fast fashion - are not necessarily perceived as being in conflict, by showing consumers' implicit associations toward sustainable luxury and fast fashion. Furthermore, we test and find evidence for the role of perceived warmth as the underlying mechanism that explains the relationship between sustainability and consumers' purchase intentions toward fast fashion products.

Methodologically, this research presents three different studies. Study 1, based on an experimental design, tests the effect of sustainable attributes (i.e., recycled materials vs. absence) on consumers' purchase intentions, looking at the moderating role of the product category (i.e., luxury vs. fast fashion). Study 2 adopts an Implicit Association Test (IAT; Greenwald et al., 2009) to understand what consumers' implicit attitudes toward sustainable luxury and fast fashion brands are. Study 3, based on an online experiment, further explores the mechanism driving the positive effect of sustainability on consumers' purchase intentions. Overall, results indicate that sustainability has a positive effect on consumers' purchase intentions toward fast fashion products, and this because of the activation of perceived warmth.

This research provides several theoretical contributions. First, we advance knowledge on sustainable fashion literature, by demonstrating that sustainability positively affects consumers' purchase intentions (Boenigk and Schuchardt, 2013; Steinhart et al., 2013). Second, the study shows that perceived warmth is the mechanism behind this relationship, thus offering a new theoretical explanation to this phenomenon (Bolton and Mattila, 2015). Third, in line with recent research (e.g., De Angelis et al., 2017) we provide evidence that consumers show positive implicit attitudes toward sustainable luxury compared to sustainable fast fashion. From a managerial standpoint, the study suggests to luxury brand managers which product characteristics should be highlighted for strengthening positive associations with sustainability in the consumers' mind. It also offers a guideline for fast fashion managers to effectively reduce the perceptual distance between fast fashion brands and sustainability, by stressing the sustainable initiatives implemented.

2. Literature Review

2.1. Sustainable luxury and fast fashion

In recent years, a few relevant studies focused on the role of sustainability in the fashion industry, by investigating consumers' attitudes and behaviors towards sustainable fashion

products (Lundblad and Davies, 2016). The concept of sustainable fashion covers a variety of terms such as organic (Khare and Varshneya, 2017), green (Jacobs et al., 2018), fair trade (Viciunaite and Alfnes, 2020), slow (Legere and Kang, 2020), eco (Blasi, Brigato and Sedita, 2020) and so forth (Cervellon and Carey, 2011), each attempting to “*highlight or correct a variety of perceived wrongs in the fashion industry including animal cruelty, environmental damage and worker exploitation*” (Lundblad and Davies, 2016, p. 149). However, an agreed upon definition of sustainable fashion is still elusive (Mukendi et al., 2020). Understanding environmentally friendly clothing purchasing behavior requires special efforts compared to other industries, since fashion is one of the most change-intense categories of consumer products and is largely affected by social components (Gam, 2011). Research on sustainable fashion mainly focuses on luxury and fast fashion brands, addressing these fields separately. Indeed, the challenges associated with developing sustainability within these markets partly differ and there is no “one size fits all” solution for the entire sustainable fashion industry (Edgeman et al., 2015).

The literature on sustainable luxury is quite recent and it presents contradictory findings (Janssen et al., 2017; De Angelis et al., 2017; Athwal et al., 2019), which call for a deeper investigation of this topic. Specifically, extant research is mainly based on two opposing perspectives. On the one hand, empirical evidence suggests that consumers perceive sustainable luxury products positively. The recent work by De Angelis et al. (2017) empirically supported the idea that luxury brands can be both “gold and green” (p. 1516). Authors demonstrate that consumers might sometime favorably view luxury brands' new green products that are similar in design to models produced by non-luxury companies specialized in green production. Steinhart et al. (2013) demonstrate that luxury products bearing an eco-label are perceived more favorably compared to those without a claim, concluding that the utilitarian perception of a green claim may constitute a justification to consume a self-indulging product. In the same vein,

Cheah et al. (2016) state that sustainable practices of a brand positively influence consumers' judgments of luxury products.

On the other hand, instead, it has been suggested that luxury and sustainability are incompatible and thus conflicting concepts (Streit and Davies, 2013). In this regard, Davies et al. (2012) show that consumers' propensity to consider sustainability-related aspects is lower in luxury products compared to commoditized purchases. Achabou and Dekhili (2013) demonstrate that incorporating recycled materials in luxury goods could affect consumer preferences negatively, revealing an incompatibility between recycling and the category of luxury products. Gardetti and Torres (2017) suggest that even though luxury consumers have strong expectations regarding the sustainability of luxury products, they are not explicitly interested in their sustainability attributes. Similarly, Janssen et al. (2014) have shown that luxury is perceived as compatible with sustainability, but only for rare and nonephemeral products such as jewels.

Kapferer and Michaut (2015) suggest that the contradiction between luxury and sustainability depends on the definition of luxury. Specifically, while luxury is often associated with excess, personal pleasure, superficiality, and ostentation, sustainability evokes altruism, sobriety, moderation, and ethics (Widloecher, 2010; Athwal et al., 2019). However, luxury is also associated with high quality, know-how, the preservation of handmade traditions, durability, which seems to converge with sustainability. Luxury brands typically manufacture limited quantities of products with a quality that lasts over time. The scarcity and quality of luxury products could, therefore, contribute to a more reasonable and responsible consumption, while durability suggests endurance through the generations, including the prudent use of resources. It follows that luxury brands waste significantly fewer resources compared to mass-market brands, thus suggesting that luxury goods are inherently sustainable (Amatulli et al., 2018).

Contrary to luxury, fast fashion refers to low-cost clothing collections. Fast fashion helps to satisfy deeply held desires among young consumers in the industrialized world for fashion, even if it embodies unsustainability (Yang et al., 2017). Particularly, it represents a fast-response system that encourages disposability (Joy et al., 2012). Some consumers, however, are disenchanted with mindless consumption and its impact on society (Kozinets and Handleman, 2004). Consumers are also aware that fast fashion consumption fosters companies' production, creating an ongoing cycle of appetite, simultaneously voracious and insatiable. Extant research suggests that consumers treat the fast fashion model as the antithesis of sustainability (Bly et al., 2015), showing a high level of skepticism regarding the sustainability efforts of the major fashion retailers.

To solve this problem, some famous fast fashion brands have recently launched sustainability initiatives, intending to foster their eco-friendly image (McNeill and Moore, 2015). Indeed, because fast fashion has been criticized as non-sustainable, many producers now utilize sustainable raw materials and encourage second-hand clothing channels, reducing waste and democratizing consumption by bringing fashion within the reach of those with lower levels of disposable income (Kumar et al., 2016).

For instance, in 2018 Pull & Bear launched its first collection with the tag 'Join Life', following the rest of brands of the Inditex Group that use sustainable materials for the production of its clothes. Similarly, Intimissimi, in cooperation with I:CO, has given new life to already used clothes by recycling materials to create new products. However, the fast fashion industry has not yet made proper efforts to achieve sustainability, thus remaining one of the major industries that contribute to the environmental damage (Jang et al., 2012).

3. Conceptual Framework and Hypotheses Development

3.1. The impact of sustainable product attributes on consumers' purchase intentions

The way consumers make purchasing decisions about fashion products positioned as eco-friendly or sustainable is of paramount importance, in that consumers seem to be concerned about sustainability issues (Lundblad and Davies, 2016). In this respect, fashion companies are introducing products with components made by materials that reduce their environmental impact (Gershoff and Frels, 2015).

Communicating sustainable product attributes (e.g., recycled materials) allows companies to enhance consumers' satisfaction and purchase intentions (Hernandez et al., 2015). Thus, companies choose to share progress on their sustainability initiatives through publicly available sustainability reporting, advertising or social media (Edgeman et al., 2015).

Extant research has shown that sustainable product attributes can positively influence consumers' purchase intentions in various industries (Joshi and Rahman, 2015; Kumar et al., 2017), including fashion (Cervellon and Wernerfelt, 2012, Steinhart et al., 2013; Niinimäki, 2010). However, literature still presents contradictory findings both in case of luxury products as well as for fast fashion products (Bly et al., 2015; Janssen et al., 2017; De Angelis et al., 2017), which suggests that even in the current ethical era sustainable product attributes cannot guarantee the success of fashion products (Chen and Chang, 2012).

To reconcile different findings in the literature we suggest that sustainability positively affects consumers' purchase intentions. Formally,

H1: Sustainable product attributes positively impact consumers' purchase intentions. Specifically, a fashion product presenting recycled materials leads to higher consumers' purchase intentions than a fashion product not presenting recycled materials.

3.2. The interplay between sustainability and luxury vs. fast fashion products

The positive effect of sustainability is still a moot point both in the luxury and fast fashion industry (Lundblad and Davies, 2016). Concerning luxury products, some scholars suggest that

luxury and sustainability are antagonistic concepts, showing that consumers' propensity to consider sustainable aspects in luxury products is very low (Streit and Davies, 2013; Achabou and Dekhili, 2013; Torelli et al., 2012). Conversely, recent evidence suggests that consumers perceive sustainable luxury products positively (e.g., De Angelis et al., 2017), because of the convergence between specific luxury attributes (e.g., durability, high quality) and sustainability. Regarding fast fashion products, instead, literature shows that consumers treat the fast fashion model as the antithesis of sustainability (Bly et al., 2015), and this also because of the high level of skepticism about the sustainability initiatives of the major fashion retailers. Thus, the presence of a sustainable attribute on a fast fashion product has a greater impact on consumers compared to a luxury fashion product.

Based on this, we propose that the positive effect of sustainable product attributes on consumers' purchase intentions differs between luxury and fast fashion products. Specifically, since luxury and sustainability concepts are well connected, we hypothesize the positive effect of sustainability on consumers' intentions to buy fast fashion products being higher compared to luxury products. Formally,

H2: The positive effect of sustainable product attributes on consumers' purchase intentions is magnified in the case of fast fashion products rather than luxury products.

In line with the previous point, we confirm that consumers associate more positively the concept of sustainability to luxury products than to fast fashion products. Contrary to some previous findings (Streit and Davies, 2013; Achabou and Dekhili, 2013; Torelli et al., 2012), we propose that compared to fast fashion, luxury and sustainability are not perceived to be in conflict. To address the limitations of the self-reported survey methodological approaches (Davies et al., 2012), we show this positive relationship (i.e., luxury and sustainability) by observing consumers' implicit attitudes through an Implicit Association Test (IAT).

3.3. Perceived warmth as the underlying mechanism between sustainability and fashion consumption

Social judgments theory underlines how warmth plays an important role in consumers' perceptions of companies and brands (Sherif, Sherif and Nebergall 1965; Portal et al., 2018). Warmth refers to the cooperative and good intentions companies have toward the others (Aaker et al., 2012; Fournier and Alvarez, 2012; Kervyn et al., 2012). Specifically, warm judgments include perception of sincerity, kindness, morality, and friendliness and make consumers feel well-intended towards the company (Ang et al., 2018). Companies perceived as having positive and cooperative intentions are therefore stereotyped as warm, whereas companies with negative and competitive intentions are perceived as cold (Cuddy et al., 2007).

Recent research indicates that warmth provides a fruitful basis to study the mechanism behind consumer-brand relationships, in that it is a critical predictor of positive consumers' attitudinal and behavioral responses (Portal et al., 2018). Specifically, the behavioral outcomes of warmth include purchase intent and brand loyalty (Kervyn et al., 2012), consumer engagement and connection (Aaker et al., 2012), positive brand attitudes, and intentions (Ivens et al., 2015). Literature also suggests that perceived warmth contributes to the effectiveness of companies' CSR communication (Du et al., 2010). Specifically, literature shows that CSR initiatives positively influence perceptions of warmth, which in turn leads to greater consumers' satisfaction and behavioral intentions (Gao and Mattila, 2014). Therefore, given that sustainability-related activities tend to direct the company's resources to the improvement of social welfare by addressing social or environmental issues, they are well-suited to promote inferences of company warmth (Chen et al., 2020). Because of the consumers' positive response to sustainable practices in terms of warmth perceptions, some companies even deceive

consumers with false claims about their impact on the environment to get their positive judgement (Nyilasy et al., 2014).

Thus, compared to other potential mechanisms, the warmth helps predict specific behavioral outcomes from these social perceptions adding a more nuanced mechanism between sustainability and behavior toward the company (Shea and Hawn, 2019). Given this, we propose perceived warmth as the mechanism underlying the interaction between sustainability and consumers' purchase intentions toward sustainable fashion products. Particularly, we argue that a warm perception is even more important in the case of a fast fashion product, in that fast fashion model is considered as the antithesis of sustainability (Bly et al., 2015). Formally,

H3: Perceived warmth mediates the relationship between sustainable product attributes and consumers' purchase intentions. Specifically, a fast fashion product presenting sustainable attributes (i.e., recycled materials) activates perceived warmth, which in turn leads to higher consumers' purchase intentions.

4. Overview of the studies

Figure 1 presents an overview of our studies. We argue that sustainable product attributes (i.e., recycled materials vs. absence) positively affect consumers' purchase intentions. We also suggest that this effect is magnified in the case of fast fashion products. In line with these findings, we indeed show that sustainability and luxury are positively matched together, being implicitly perceived not in contrast. Based on results of Study 1 and 2, we further enclose the psychological mechanism (i.e., perceived warmth) behind the relationship between sustainability and consumers' purchase intentions focusing on fast fashion products, for which sustainable attributes seem to have a higher effect in terms of consumers' purchase intentions.

Figure 1: Overview of the studies

	Study 1	Study 2	Study 3
Purpose	<ul style="list-style-type: none"> • Tests whether a fashion product presenting sustainable attributes (i.e., recycled materials) leads to higher consumers' purchase intentions compared to a fashion product not presenting sustainable attributes (i.e., absence). • Assesses that this effect is amplified in the case of fast fashion products 	<ul style="list-style-type: none"> • Shows which consumers' unconscious associations toward sustainable luxury and fast fashion are. 	<ul style="list-style-type: none"> • Tests and provides evidence of the underlying mechanism (i.e. perceived warmth) driving the positive effect of sustainability on consumers' purchase intentions towards fast fashion products. • Focuses only on fast fashion products
Design	A 2 (sustainable product attributes: recycled materials vs. absence) x 2 (product category: luxury vs. fast fashion) between-subjects experimental design	Implicit Association Test (IAT)	A one-way (sustainable product attributes: recycled materials vs. absence) experimental design with one mediator (i.e., perceived warmth)
Results	<ul style="list-style-type: none"> • Sustainable product attributes have a positive effect on consumers' purchase intentions. • Contrary to the luxury condition, consumers in the fast fashion condition show greater purchase intentions when the product is sustainable compared to when the product does not present any sustainable attribute. 	<ul style="list-style-type: none"> • Consumers show greater positive implicit attitudes to the pairing of luxury brands and words associated with sustainability than for the pairing of fast fashion brands and sustainability. 	<ul style="list-style-type: none"> • Fast fashion products presenting sustainable attributes activates higher levels of perceived warmth which, in turn, increase consumers' purchase intentions.

5. Study 1

5.1. Methodology

Study 1, based on an online experiment and coherently with the theoretical underpinning above, tests whether a fashion product presenting sustainable attributes (i.e., recycled materials) leads to higher consumers' purchase intentions compared to a fashion product not presenting sustainable attributes (i.e., absence; H1). Besides, the study assesses the boundary conditions

of the relationship between sustainability and consumers' purchase intentions, suggesting that it is amplified in the case of fast fashion products (H2).

Online experiments result in a better response rate, while also allowing to randomize survey items and protect the confidentiality of the respondents (Machado et al., 2015). A sample of one hundred and eighty-four Italian participants (M_{age} 26; 40% male) was recruited on Prolific Academic (ProA) and took part in this study. The optimal sample size was determined with the G*Power 3.1 software (see, Faul et al., 2009; Greenland et al., 2016), and it consisted of people who had previous purchases experiences toward luxury and fast fashion products. This final sample included both students and workers. A 2 (sustainable product attributes: recycled materials vs. absence) x 2 (product category: luxury vs. fast fashion) between-subjects experimental design has been adopted. Participants were randomly assigned to one of the four conditions (sustainable/luxury product; non-sustainable/luxury product; sustainable/fast fashion product; non-sustainable/fast fashion product) and they were presented with the image of a backpack and a scenario reporting its description (see Appendix A). The stimuli were previously checked through a pre-test, while the questionnaire was written in English, translated to Italian, and then back-translated into English. The back-translation method was conducted to ensure that the Italian version of the questionnaire had the same content as the English version (Sekaran, 1983).

Afterwards, participants provided ratings of purchase intentions ($\alpha = .95$) by using a five-item scale adapted from Dodds et al. (1991): "The likelihood of purchasing this product is", "If I were going to buy this product, I would consider buying this one", "I would consider buying the product", "I would consider buying the product", "The probability that I would consider buying the product is", "My willingness to buy the product is". Participants indicated the degree of their agreement with these items by using a 7-point Likert scale. Finally, we collected demographic data.

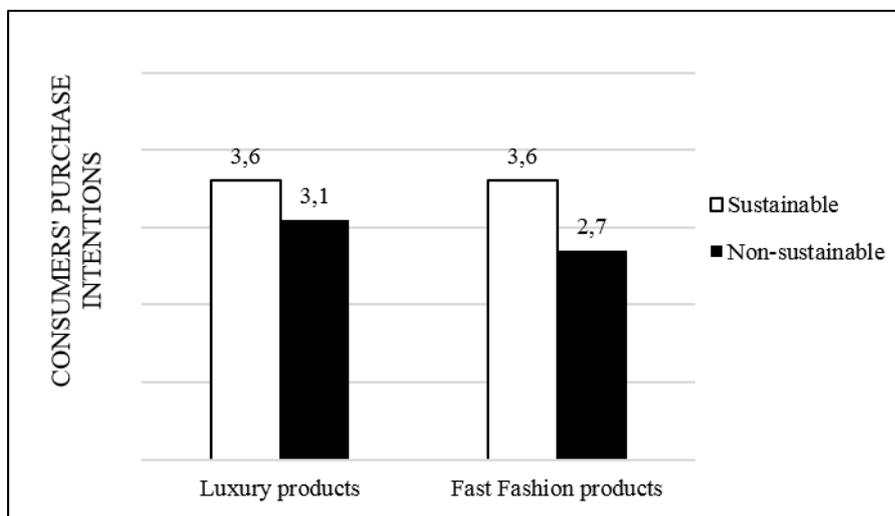
5.2. Results

Before running the actual experiments, we performed a pre-test to assess if our manipulations work as intended. Thirty-nine participants took part in the study ($M_{\text{age}} = 32.8$; 41% male). They were randomly assigned to one of the four conditions (sustainable/luxury product; non-sustainable/luxury product; sustainable/fast fashion product; non-sustainable/fast fashion product). Then, they were asked to rate to what extent the backpack showed belonged to the luxury category and to what extent it was sustainable (i.e., the presence of recycled materials). Results reveal the intended effect of our manipulations. Specifically, compared to the fast fashion condition, participants in the luxury condition stated that the backpack was a luxury product ($M_{\text{luxury}} = 5.50$, $M_{\text{fast-fashion}} = 3.67$, $p < 0.01$). In addition, compared to the non-sustainable condition, participants in the sustainable condition rated higher levels of sustainability for the product ($M_{\text{sustainable}} = 6.05$, $M_{\text{non-sustainable}} = 2.85$, $p < 0.01$).

To test H1 and H2, a two-way ANOVA was performed. Results show that sustainable product attributes have a positive effect on consumers' purchase intentions, thus supporting H1 ($F(1, 180) = 8.76$, $p = <0.01$, Cohen's $d = 0.44$, and $r = .22$). Specifically, participants in the sustainable condition (i.e., recycled materials) expressed significantly greater purchase intentions than those in the non-sustainable condition (i.e., absence of recycled materials) ($M_{\text{sustainable}} = 3.62$, $SD_{\text{sustainable}} = 1.62$ versus $M_{\text{non-sustainable}} = 2.91$, $SD_{\text{non-sustainable}} = 1.68$). Overall, results do not show a significant interaction effect between sustainability and product category on the purchase intentions ($F(1, 180) = .294$, $p = 0.58$, Cohen's $d = 0.14$, and $r = .07$). However, the Johnson-Neyman technique shows that the relationship between sustainable product attributes and product category is significant in the case of a fast fashion product ($b = -.85$, Confidence Interval (CI) 95% $[-1.54, -.16]$, $p = .01$). In this regard, follow-up pairwise comparisons support our H2 in that, contrary to the luxury condition, participants in the fast fashion condition show greater purchase intentions when the product is sustainable compared

to when the product does not present any sustainable attribute ($M_{\text{sustainable}} = 3.6$, $M_{\text{non-sustainable}} = 2.7$, $p < 0.05$; see Fig. 2).

Figure 2: The interplay between sustainability and luxury vs. fast fashion products



6. Study 2

6.1. Methodology

Study 2 aims at showing which consumers' unconscious associations toward sustainable luxury and fast fashion are. As discussed above, sustainability and luxury are often proposed as conflicting concepts (Streit and Davies, 2013; Achabou and Dekhili, 2013; Torelli et al., 2012). Differently to this view, we propose that consumers associate more positively sustainability to luxury products than to fast fashion products. In doing so, an Implicit Association Test (IAT;

Greenwald et al., 2003) has been adopted, to overcome the limitations of the self-reported measures (Davies et al., 2012).

Forty-four participants ($M_{age}=36.64$, 60% male) took part in Study 2. The sample consisted of people who had previous purchases experiences toward luxury and fast fashion products, and it included both students and workers. Participants completed the IAT using an online software (i.e., iatgen.com), which measures their reaction speed (an implicit measure of attitudes). The test investigates implicit attitudes by assessing the strength of a participant's automatic associations between mental representations by measuring response latencies in sorting words into categories. Faster responses indicate easier pairings and thus stronger implicit associations than slower or inaccurate responses. Respondents read the instructions before starting the IAT, which included five blocks. The initial discrimination task (i.e., block1) involves distinguishing images representing two target categories (luxury vs. fast fashion brands). The second (i.e., block 2) involves distinguishing contrasted attribute categories (sustainable vs. unsustainable words). Specifically, in these two blocks respondents learn the concept and the attribute dimensions. The third discrimination task (i.e., block 3) is a combined task, while the final two discrimination tasks reverse the appropriate response for the target categories (i.e., block 4 and 5). Specifically, the fourth one is used by respondents to learn how to switch the spatial location of the concepts. Finally, the fifth discrimination task, called "the reversed combined task", is directly compared to the initial combined task (i.e., block 3). If the respondent completes the task more quickly when "luxury brands" and "sustainable" share the same keyboard key than when "fast fashion brands" and "sustainable" do, this reflects a difference between the implicit attitudes concerning the luxury and fast fashion brands. To reduce order effects, the implicit task order, as well as the order of the 3rd and 5th discrimination task, has been randomly assigned to participants. For what concerns stimuli used (see Appendix B), the brands for the category "luxury" (e.g., Gucci, Prada) were the top 10 luxury brands

drawn from the Deloitte Global Power of Luxury Goods Report (2018); ten well-known fast fashion brands were chosen for the “fast fashion brands” category (e.g., Zara, Primark), as no equivalent report was found. We also conducted a pre-test to collate text stimuli for the attribute categories “sustainable” and “unsustainable”. Twenty participants were asked to write down as many words associated with “sustainable” that they could in 90 seconds (e.g. green, eco-friendly and alike).

6.2. Results

In order to decipher implicit attitudes towards sustainable luxury, an IAT D-score has been calculated. Before computing this score, any response time greater than 10,000 ms has been deleted, in addition to removing cases where more than 10% of the scores are less than 300ms. An IAT D-score is quite similar to Cohen’s measure of effect-size. Therefore, an implicit preference is said to be strong, medium or slight if the IAT D-score meets the conventional criteria for small (below .2), medium (between .2 and .5) and large (above .8) effect sizes.

Results indicate a medium preference for sustainable luxury than sustainable fast fashion ($D\text{-score}=.42$, $SD=.51$) and this value is significantly different from zero ($t(43)=2.795$, $p<0.01$). Thus, it means that the IAT test measured a difference in valence between the critical blocks. Specifically, participants show greater positive implicit attitudes to the pairing of luxury brands and words associated with sustainability than for the pairing of fast fashion brands and sustainability.

7. Study 3

7.1. Methodology

Drawing from social judgment theory (Sherif, Sherif and Nebergall 1965; Cuddy et al., 2007), Study 3 has been designed to further enclose the mechanism driving the positive effect of

sustainability on consumers' purchase intentions. Specifically, Study 3 assesses the mediating role of perceived warmth behind the relationship between sustainability and consumers' purchase intentions of fast fashion products (H3), in that these products are those that benefit from the presence of a sustainable attribute compared to luxury products. Indeed, Study 1 tests and finds evidence for the positive effect of a sustainable product attribute and particularly in the case of a fast fashion product. Study 2 reinforces this result by showing that people associate more positively sustainability with luxury, compared to fast fashion. It follows that the presence of a sustainable attribute in luxury products has a milder impact on consumers' behaviour (i.e. purchase intention).

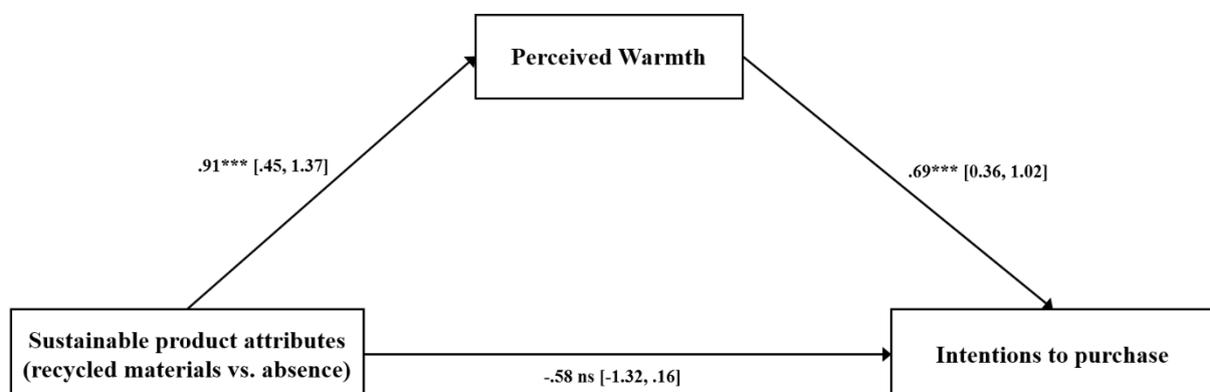
Eighty Italian participants ($M_{\text{age}} 32.3$; 53% male) were recruited on Prolific Academic (ProA). The optimal sample size was determined with the G*Power 3.1 software (see, Faul et al., 2009; Greenland et al., 2016), and it consisted of people who had previous purchases experiences toward fast fashion products. This final sample included both students and workers. Respondents were randomly assigned to one of the conditions (sustainable product attributes: recycled materials vs. absence) and asked to imagine purchasing a backpack of a fast fashion brand. The same stimuli and questionnaire procedure as for Study 1 have been adopted. The key variables of interest (i.e., purchase intentions and perceived warmth) have been measured using previously validated scales. Participants provided ratings of perceived warmth ($\alpha=.78$) by using a 3-item measure combining the scale by Bolton and Mattila (2015) ("The brand is concerned for others", "The brand cares about its customers") and the scale by Kervyn et al. (2014) ("The brand has positive intentions toward the public in general"). As for Study 1, participants' purchase intentions ($\alpha= .95$) were measured by using a five-item scale adapted from Dodds et al. (1991). Participants indicated the degree of their agreement with these items by using a 7-point Likert scale. Finally, we collected demographic data.

7.2. Results

According to H3, we predicted that consumers would ascribe greater perceived warmth when a fast fashion product is presented with a sustainable attribute (i.e., recycled materials) compared to a fast fashion product that does not present any sustainable attributes, which in turn affect consumers' purchase intentions.

To test whether differences in sustainability is related to a diverse level of perceived warmth, we tested a mediation model using PROCESS macro (model 4 bootstrap 5,000; Hayes, 2017), with sustainability as the independent variable and perceived warmth as the mediator. As can be seen graphically in Figure 3, the presence of sustainable attributes for fast-fashion products has a significant and positive effect on perceived warmth ($b = .91$, Confidence Interval (CI) 95% [0.45, 1.37]), which in turn has a significant and positive effect on consumers' purchase intentions ($b = 0.69$, CI 95% [0.36, 1.02]). The presence of sustainable attributes for fast fashion products is no longer a significant predictor of consumers' purchase intentions after controlling for the mediator ($b = -0.58$, CI 95% [-1.32, 0.16]), which indicates a fully mediated model. Overall, results reveal that the higher the perceived warmth of a fast fashion product, the more likely consumers are to purchase the product, thus supporting H3.

Figure3: The mediating role of perceived warmth for fast fashion products



*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

8. General discussion

Across three studies, this research investigates consumers' purchase intentions toward sustainable fashion products, thus aligning previous research findings on sustainable fashion. Specifically, the research explores whether and under what conditions sustainable product attributes (i.e., recycled materials) positively influence consumers' purchase intentions toward luxury and fast fashion products. Moreover, this research sheds light on the psychological mechanism that drives consumers to embrace products that are fashion and green simultaneously. Overall, our results indicate that sustainability has a positive effect on consumers' purchase intentions toward fashion products, and this because of the activation of perceived warmth.

Specifically, Study 1 shows that, contrary to previous findings (Achabou and Dekhili, 2013), incorporating sustainable product attributes (i.e., recycled materials) on fashion products leads to greater consumers' purchase intentions. In addition, the study finds evidence that this effect is magnified in the case of fast fashion products. Specifically, results indicate that contrary to the luxury condition, consumers in the fast fashion condition show greater purchase intentions when the product is sustainable compared to when the product does not present any sustainable attribute.

Study 2 shows which consumers' unconscious associations toward sustainable luxury and fast fashion are. Adopting an IAT, the study reveals that participants show greater positive implicit attitudes to the pairing of luxury brands and words associated with sustainability than for the pairing of fast fashion brands and sustainability. These results are in line with recent evidence that supports the idea that luxury brands can be both gold and green (e.g., De Angelis et al., 2017).

Study 3 further encloses the mechanism driving the differential effect of sustainable vs. non-sustainable product attributes on consumers' purchase intentions. Drawing from social judgment theory (Sherif, Sherif and Nebergall 1965; Cuddy et al., 2007), we provide evidence that in the case of fast fashion products, sustainability activates higher levels of perceived warmth which, in turn, increases consumers' purchase intentions.

9. Conclusions

The motivation of the present research is to expand the debate on sustainable issues in the fashion industry (i.e., luxury and fast fashion; Lundblad and Davies, 2016). Although the literature on sustainability and fashion is relatively recent, current results are contradictory. On the one hand, some scholars argue that sustainability does not positively affect consumers' preferences, revealing an incompatibility between sustainable attributes and fashion products (Achabou and Dekhili, 2013; Kapferer and Michaut-Denizeau, 2015; Torelli et al., 2012). On the other, recent evidence, instead, suggests that sustainability can play an important role in the fashion industry (De Angelis et al., 2017; Steinhart et al., 2013; Cheah et al., 2016). In line with this, we propose that sustainable product attributes (i.e., recycled materials) positively affect consumers' purchase intentions and this effect is explained by warmth activation.

Our paper contributes to the literature in at least three ways. First, the research enriches prior knowledge on sustainable fashion literature, by shedding light on the positive effect of sustainability on consumers' purchase intentions. Our studies, indeed, reconcile previous contradictory findings on the role of sustainability in the fashion industry by showing that sustainable product attributes (i.e., recycled materials) positively affect consumers' purchase intentions. Moreover, in line with recent research (e.g., De Angelis et al., 2017) we provide evidence that consumers show positive implicit attitudes toward sustainable luxury compared to sustainable fast fashion.

Second, this paper shows the central role of perceived warmth in increasing consumers' purchase intentions toward sustainable fast fashion products. Adopting the lens of social judgment theory (Sherif, Sherif and Nebergall 1965), we propose a new factor (i.e., perceived warmth) affecting consumers' purchase intentions of sustainable fast fashion products. In this regard, warmth has received scant attention in sustainability research. Although definitions of warmth relate to perceptions of generosity, kindness and good-naturedness, a clear connection between sustainability and warmth is still missed. Thus, we contribute by showing perceived warmth to be the mechanism behind the relationship between sustainability and consumers' purchase intentions. To our knowledge, this is the first study that empirically tests the mediating role of perceived warmth on consumers' purchase intentions of fashion products, thus offering a novel theoretical explanation on this issue.

Third, this research answers the call posed by Davies et al. (2012) on research errors in measuring sustainable consumption. The present study, indeed, adopts an IAT that overcomes the limitations of using self-reported measures, by showing consumers' unconscious associations toward sustainable luxury and sustainable fast fashion.

This research also presents clear managerial implications. Modern consumers expect companies to be socially responsible (Janssen et al., 2017). Accordingly, fashion companies, both in the luxury sector as well as in fast fashion, have significantly strengthened their commitment toward more sustainable production. As sustainability becomes an ever more important part of fashion companies' strategies (Forbes, 2018), effective communication of sustainable initiatives to consumers is of paramount importance to create positive consumer-brand relationships (Keller, 2003). The research reveals that overall sustainability positively affects consumers' intentions, thus creating positive relationships toward the brand. Specifically, this research shows, on the one hand, that incorporating sustainable attributes (i.e., recycled materials) in a luxury product does not affect consumer preferences (i.e., purchase

intentions). However, on the other hand, using sustainable attributes (i.e., recycled materials) in fast fashion product increases consumers' purchase intentions. Moreover, consumers' implicit associations show that sustainability is not directly associated with the fast fashion industry, while there is a positive match between luxury and sustainability. Based on these findings, fast fashion brands should stress the sustainable initiatives implemented to draw consumers' attention and reduce the perceptual distance between fast fashion and sustainability. On the other hand, luxury brands managers should highlight the characteristics of luxury products, such as durability, quality and well-crafted, that create positive associations with sustainability in the consumers' minds.

This study is not without limitations, which may provide avenues for future research. First, our studies used a scenario-based design, measuring consumers' purchase intentions. It follows that a main limitation of this work is the lack of a field experiment that would provide a deeper analysis of the phenomenon and address the "sustainable purchasing gap". Second, the studies have been conducted online with less than 50 participants per cell (Pechmann, 2019, p. 56) and only in one country (i.e., Italy). Therefore, replication studies in other countries with a greater sample size are necessary to ensure the generalizability of the findings. Third, our studies focus on a specific sustainable attribute (i.e., recycled materials). However, there are many sustainable practices that companies can implement and communicate (e.g., CO₂ reduction, water or energy conservation), that might affect consumers' perception and behavior in distinct ways. In this vein, a promising area for further research would be to investigate how different associations for different sustainable attributes could affect consumers' behaviors.

Finally, in the studies, we did not control for message credibility. Consumers are becoming very discerning and skeptical of companies as many of them profess to protect the environment but fail to demonstrate that in their actions and performance (Nyilasy et al., 2013). Therefore, communication about sustainability has not always translated into favorable

consumer attitudes and intentions. Depending on the perceived credibility of fashion companies' communication, the response of consumers can vary noticeably. We leave this for future research.

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