

Consumer reactions to unsustainable luxury: a cross-country analysis

Consumer
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luxury

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Abstract

Purpose – This paper investigates why and when messages regarding unsustainable luxury products lead to negative word-of-mouth (NWOM) through a focus on the role of guilt, need to warn others and consumers' cultural orientation.

Design/methodology/approach – Three experiments test whether messages describing unsustainable versus sustainable luxury manufacturing processes elicit guilt and a need to warn others and whether and how the need to warn others affects consumers' NWOM depending on their cultural orientation.

Findings – Consumers experience guilt in response to messages emphasizing the unsustainable (vs sustainable) nature of luxury products. In turn, guilt triggers a need to warn other consumers, which leads to NWOM about the luxury company. Furthermore, the results suggest that two dimensions of Hofstede's model of national culture – namely individualism/collectivism and masculinity/femininity – moderate the effect of the need to warn others on NWOM.

Practical implications – Luxury managers should design appropriate strategies to cope with consumers' different reactions to information regarding luxury brands' unsustainability. Managers should be aware that the risk of NWOM diffusion may be higher in countries characterized by a collectivistic and feminine orientation rather than an individualistic and masculine orientation.

Originality/value – Consumer reaction to unsustainable luxury, especially across different cultural groups, is a neglected area of investigation. This work contributes to this novel area of research by investigating NWOM stemming from unsustainable luxury manufacturing practices in different cultural contexts.

Keywords Luxury goods, Sustainability, Guilt, Need to warn others, Negative word-of-mouth, Collectivistic vs individualistic culture, Masculine vs feminine culture

Paper type Research paper

Introduction

Environmental protection represents one of the most critical issues for most of today's companies, governments and institutions, resulting in a vast array of initiatives to ensure *environmental sustainability* (Amatulli *et al.*, 2018; Gershoff and Frels, 2015; Mura *et al.*, 2018; Wagner, 2015): a set of actions aimed at considering the environmental needs of future generations (Huang and Rust, 2011). Such actions are needed because “at our current levels of consumption the planet cannot sustain us or its carrying capacity for humanity ad infinitum” (McDonagh and Prothero, 2014, p. 1186). Accordingly, governments, activists and non-governmental organizations (NGOs) are striving to increase the public's awareness about



environmental issues in many ways, especially through the use of social media campaigns (Prothero *et al.*, 2011).

One sector that is undergoing a monumental shift toward sustainable development is luxury (Forbes, 2018a). While not traditionally committed to pro-environmental actions, most luxury brands are now fully aware that they can no longer ignore sustainability concerns (Amatulli *et al.*, 2017; Athwal *et al.*, 2019; D'Anolfo *et al.*, 2017; Winston, 2016). Consequently, global luxury companies are increasingly undertaking initiatives aimed at reducing the environmental impact of their manufacturing activities. For instance, in 2013, Gucci launched an innovative model of sunglasses made with liquid wood – a bio-degradable, eco-friendly alternative to plastic. Similarly, in 2016, Armani removed all real fur from its collections. Currently, the Kering group is increasing the share of its renewable raw materials and recently launched “My EP&L”, an application that informs consumers about the environmental cost of their purchases (Forbes, 2018b). Likewise, Burberry has reduced greenhouse gas emissions through efforts such as adopting renewable energy. Such efforts led to the company's designation as the leading luxury brand in the 2018 Dow Jones Sustainability Index.

These shifts accompany a growing concern for sustainability among luxury consumers. As the consulting company Deloitte reported (2019) in its publication *Global Power of Luxury Goods* (p. 8), “the new affluent generations are more socially and environmentally conscious, and so have higher expectations of luxury brands to be more sustainable and ethical in their production processes. This implies an important lesson for luxury brands that want to retain these customers: they need to evolve towards new models of ethical and sustainable luxury.” Fueled by these trends toward sustainability, recent research has dedicated considerable attention to how consumers react to sustainable luxury products (e.g. Achabou and Dekhili, 2013; De Angelis *et al.*, 2017; Janssen *et al.*, 2014; Kapferer and Michaut-Denizeau, 2015) or to luxury brands' sustainability-oriented initiatives (e.g. Amatulli *et al.*, 2018; Davies *et al.*, 2012; Moraes *et al.*, 2017).

Unlike these studies, our research focuses on consumers' reaction to *unsustainable* luxury. In particular, we investigate consumers' tendency to engage in negative word-of-mouth (hereafter, NWOM) about a luxury company after learning that the company has manufactured a product consumers have bought from it in an environmentally unsustainable manner. Importantly, moreover, by focusing on the effect of unsustainability on NWOM, our study differs from previous research investigating either the effect of sustainable practices adopted by companies on positive word-of-mouth (e.g. Gao *et al.*, 2016; Markovic *et al.*, 2018; Yu *et al.*, 2017), or on the effect of corporate irresponsibility on NWOM intention (Xie *et al.*, 2014). Our focus on luxury consumers' NWOM responses appears particularly relevant in light of evidence that social media scandals have deleterious effects on the reputation of companies operating in any industry (D'Arco *et al.*, 2019; Hansen *et al.*, 2018), but especially luxury (Moraes *et al.*, 2017). For example, in 2014, a documentary by the Italian TV newsmagazine *Report* showed geese having their feathers painfully torn off to supply the down jacket manufacturer Moncler. This news had a rapid, tremendously negative impact on the reputation of this luxury brand, mainly due to the diffusion of NWOM both offline and online [1]. Such negative reactions are very often generated by scandals brought to public attention by NGOs.

Luxury brands are a particular target of attacks and protests because of their high visibility as well as the high economic and social value embedded in their products (e.g. Dubois and Duquesne, 1993; Moraes *et al.*, 2017; Phau and Prendergast, 2000). To illustrate, in 2014, Greenpeace used the hashtag #TheKingIsNaked on its social media pages to blame major luxury brands (e.g. Louis Vuitton, Dior, Dolce and Gabbana and Versace) for using toxic substances in the manufacturing of clothing for children. Similarly, PETA's 2016 “Behind the leather” social media video campaign raised awareness about the suffering of animals (e.g. crocodiles and snakes) in the manufacturing of luxury leather accessories.

Episodes of this kind suggest that clear and effective communication messages are not enough to protect luxury companies from consumers' backlash upon learning about some negative aspects of the products they own. Such situations are likely to hurt consumers and possibly induce them to engage in behaviors that allow them to cope with their negative feelings (e.g. NWOM; see, for instance, [De Angelis et al., 2012](#)), depending on consumers' personal and cultural characteristics. This issue is relevant for luxury managers, as it can be difficult to identify *a priori* the consumer group(s) that exhibit the most negative reactions to sustainability-related problems, and, consequently, be most likely to voice their feelings through NWOM. Millennials may be one of these groups, as they are particularly sensitive to sustainability issues ([Deloitte, 2019](#); [Kapferer and Michaut-Denizeau, 2019](#)), may be easily influenced by interpersonal information sources in their purchase decisions ([Muralidharan et al., 2016](#)) and are typically more likely than the general population to propagate information and opinions through social networking sites ([Einstein, 2012](#)). Surprisingly, however, consumers' reactions to unsustainable luxury, as well as whether and how such reactions may vary across countries due to cultural factors ([Ali et al., 2019](#); [Muralidharan et al., 2016](#)), have so far remained an under-researched issue.

In this research we examine cases in which consumers learn about the unsustainable (vs sustainable) nature of a luxury product they bought in the past from third-party information sources (e.g. reports published by NGOs). We argue that NWOM (which we investigate both as NWOM intention and behavior) stems from consumers' need to warn others (e.g. [Hennig-Thurau et al., 2004](#); [Wetzer et al., 2007](#)). We argue that this need arises from a sense of guilt that consumers experience upon learning that their product has been produced in an environmentally unsustainable (vs sustainable) way. Notably, the need to warn others differs from NWOM intention because the former has been conceptualized in previous research as a possible antecedent of the latter (e.g. [Berger, 2014](#); [Hennig-Thurau et al., 2004](#); [Sundaram et al., 1998](#); [Wetzer et al., 2007](#)). Indeed, while the need to warn others refers to people's *desire* to help others by warning them about the potential negative consequences of an event ([Sundaram et al., 1998](#)), NWOM represents the *actions* that fulfill said desire.

Importantly, because the need to warn others may vary significantly across different individuals, we also examine the possible moderating effect that consumers' cultural orientation may exert on the effect of need to warn others on NWOM. In particular, we focus on two specific dimensions of [Hofstede et al.'s \(2010\)](#) well-known multidimensional model of national culture: namely, individualism/collectivism (i.e. the extent to which a society's members are driven by personal rather than collective goals; e.g. [Chu and Choi, 2011](#)) and masculinity/femininity (i.e. the extent to which a society's members mainly look for success and achievement rather than quality of life and taking care of others; e.g. [De Mooij and Hofstede, 2011](#)). We believe such two dimensions are particularly relevant to our study linking NWOM, (un)sustainability and luxury for two main reasons: (1) they both refer to whether individuals are particularly concerned about personal success and achievement versus the welfare of other people (e.g. [De Mooij and Hofstede, 2011](#); [Gelfand et al., 2004](#)), and (2) past research has demonstrated that people from collectivistic (vs individualistic) and from feminine (vs masculine) cultural contexts are particularly likely to engage in NWOM to warn other people about their negative experiences ([Barakat et al., 2015](#); [Huang et al., 1996](#); [Yuksel et al., 2006](#)). Consequently, we expect the effect of need to warn others on NWOM intention or behavior to be stronger for consumers from collectivistic (vs individualistic) and feminine (vs masculine) countries. The conceptual framework tested in this research is illustrated in [Figure 1](#).

This research contributes to the literature in a number of ways. First and foremost, it contributes to the literature on sustainability in luxury by: (1) investigating consumers' reactions to *unsustainable* (vs sustainable) luxury companies' manufacturing practices; (2) shedding light on the psychological mechanisms activated by luxury goods' (un)

sustainability and on how these mechanisms drive consumers' behavioral reactions (i.e. NWOM about a luxury company); (3) investigating word-of-mouth behavior as a possible consequence of luxury companies' (un)sustainable actions and (4) studying the role of consumers' cultural orientation in the relationship between luxury companies' (un)sustainable practices and consumers' responses. Second, the present study contributes to the literature on luxury and guilt (e.g. Berens, 2013; Hagtvedt and Patrick, 2016; Ki *et al.*, 2017; Lala and Chakraborty, 2015; Zampetakis, 2014). While previous studies have shown that the consumption of luxury goods – and specifically the act of conspicuous spending – may sometimes elicit a sense of guilt in consumers (Boujbel and d'Astous, 2015; Hagtvedt and Patrick, 2016; Jain and Khan, 2017; Lala and Chakraborty, 2015), we propose that the unsustainability of luxury goods may also lead to guilty feelings. With the growing concern for environmental issues, especially among Millennials (Deloitte, 2019; Kapferer and Michaut-Denizeau, 2019), consumers will increasingly gravitate toward thoughtful consumption (in line with the idea of “generation less,” “mindful consumerism,” and “minimalism,” Hwang and Griffiths, 2017) that may reduce the sense of guilt while maintaining the feeling of self-indulgent pleasure (Amatulli *et al.*, 2017). In response, luxury managers need to adopt new strategies that can mitigate consumers' desire to disseminate NWOM. Third, this study contributes to the literature about the psychological drivers of word-of-mouth behavior, which has identified the need to warn others as a possible antecedent of NWOM (e.g. Berger, 2014; Henning-Thurau *et al.*, 2004; Sundaram *et al.*, 1998; Wetzer *et al.*, 2007), by demonstrating that consumers' cultural orientation moderates the effect of this factor on NWOM intention and sharing behavior.

Empirically, we conducted three online experiments to test the impact of luxury companies' unsustainable versus sustainable manufacturing practices on NWOM via two mediators, namely guilt and need to warn others. Importantly, we supposed that the effect of need to warn others on NWOM may vary depending on consumers' culture. We assessed this effect through sequential mediation (Study 1) and sequential moderated mediation (Study 2 and Study 3) models. Specifically, in Study 1, we tested the link among luxury product unsustainability (vs sustainability), guilt, need to warn others and NWOM intention. Study 2 also tested this link, while also investigating the moderating role of consumers' individualistic versus collectivistic orientation. We achieved this by recruiting respondents from countries considered either “individualistic” or “collectivistic” and by measuring individualism/collectivism as an inherent personality trait. As in the previous studies, Study 3 tested the link among luxury product unsustainability (vs sustainability), guilt and need to warn others, but also investigated the moderating role of masculine versus feminine cultural orientation in the relationship between need to warn others and NWOM behavior. We introduced this latter measure as an alternative to NWOM intention and a proxy of real word-of-mouth behavior.

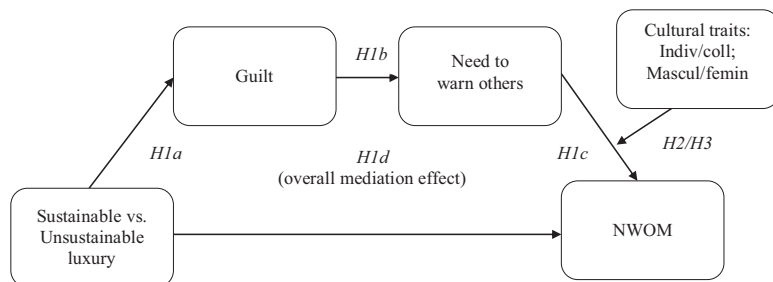


Figure 1. Conceptual framework of the research with the hypotheses tested

Theoretical background

Environmental sustainability and luxury goods

Modern businesses and consumers worldwide understand the importance of increasing their commitment toward sustainability, which captures the ability to meet the needs of today without sacrificing the needs of tomorrow (Brundtland, 1987; United Nations, 2019). In particular, environmental sustainability has become a main priority for companies that want to remain competitive in the market (Lubin and Esty, 2010) and as such, managers are expected to regard environmental sustainability as a core pillar of their business strategy (Geradts and Bocken, 2019).

While the commitment to environmental sustainability characterizes all industries today, its influence has significantly grown in the luxury industry (see Athwal *et al.*, 2019): a sector that attracts many investors through its high margins, continuous growth and typical “immunity” to economic crises (Bain and Company, 2011; Deloitte, 2017; Neate, 2013). This shift in posture has led to the idea of *sustainable luxury* (e.g. Amatulli *et al.*, 2017), which can be defined as luxury companies’ ability to manufacture goods that fulfill consumers’ desires for quality and pleasure, yet have limited negative impact on the environment and society (e.g. Belk, 1999; Nueno and Quelch, 1998; Vigneron and Johnson, 1999, 2004). Interestingly, as global luxury consumers have steadily shifted from the “privileged few” to the “happy many” (Dubois and Laurent, 1998), their interest in and awareness of environmental issues has increased in tandem (Agence France Presse - AFP, 2008; Lochard and Murat, 2011). Consequently, sustainability (and particularly the environmental type) has become a key issue for luxury brands (Kapferer and Michaut-Denizeau, 2015). Indeed, a large share (upwards of 60%) of today’s luxury consumers are significantly influenced by sustainability-related issues in their purchase behaviors (The Boston Consulting Group, 2019).

Major luxury companies are striving to improve their production processes and render their final products more sustainable in response to consumers’ increasing awareness about the potential environmental effects of luxury manufacturing (see, for instance, Kale and Öztürk, 2016). Activists and NGOs, using digital and social media platforms to inform consumers about luxury brands’ practices, also play a crucial role in increasing luxury companies’ attention to environmental sustainability (see, for instance, Kähr *et al.*, 2016). More recently, for instance, Moraes *et al.* (2017) highlighted that the global jewelry industry faces growing criticisms from NGOs, activists and international governmental institutions about corporate social irresponsibility, “including poor transparency, human rights abuses, child labor, money laundering, bribery and corruption, environmental degradation from mining, and funding terrorism from conflict minerals, as well as the industry’s failure to demonstrate a substantial commitment to addressing these concerns and promoting ethical business practices” (p. 525).

However, despite pressures on luxury brands to increase their commitment toward sustainable development and the growing number of initiatives in this direction, these brands still face a major hurdle: namely, that many consumers perceive luxury and sustainability as contrasting concepts (Sauers, 2010) – a perception reflected in most of the academic debate (e.g. Achabou and Dekhli, 2013; Athwal *et al.*, 2019; Beckham and Voyer, 2014; Kapferer and Michaut-Denizeau, 2014; Nash *et al.*, 2016; Strong, 1997; Torelli *et al.*, 2012). This belief follows the logic that luxury is often associated with excess, extravagance, overconsumption, personal pleasure, superficiality and ostentation, while sustainability typically evokes altruism, respect, sobriety, moderation and ethics (Athwal *et al.*, 2019; Jain, 2018; Moraes *et al.*, 2017; Nash *et al.*, 2016; Widloecher, 2010). According to previous research, luxury consumers tend to see environmental protection as a factor of secondary importance in their decision-making processes (Davies *et al.*, 2012; Griskevicius *et al.*, 2010) and are, in general, less concerned about sustainability-related aspects when they purchase a luxury product (Kapferer and Michaut-Denizeau, 2015). This is perhaps because they imagine luxury goods

as having less negative impact on the environment compared to non-luxury goods (Nia and Zaichkowsky, 2000; Vigneron and Johnson, 2004).

In line with the literature that underlines the complex relationship between luxury and sustainability, Aybaly *et al.* (2017) emphasized that the purchase of luxury products is often seen as “the main cause of the widening gap between the rich and the poor, as something irrational and superfluous, and hence as largely unsustainable” (p. 542). Past work has shown that highlighting the sustainability of luxury products (for instance, by presenting sustainability claims on product labels) may even impair consumers’ overall perception of those goods’ quality (Ahabou and Dekhili, 2013). In the field of luxury tourism, Line and Hanks (2016) argued that environmental sustainability may lead to unfavorable attitudes toward luxury hotels, as green luxury hotels tend to be perceived as less luxurious than non-green ones, resulting in unfavorable evaluations of green hotels, although this effect is more likely to happen in urban tourism destinations than in nature-based destinations. Voyer and Beckam (2014), moreover, found that people may more readily associate luxury with unsustainability than sustainability, and Davies *et al.* (2012) observed that luxury consumers might choose an unsustainable luxury item over a sustainable one as they might associate the former with higher status, power and prestige.

However, other scholars advanced the possibility that luxury and sustainability might be compatible concepts and that consumers might develop favorable attitudes toward luxury products characterized by sustainability elements (Amatulli *et al.*, 2017; Janssen *et al.*, 2014; Joy *et al.*, 2012; Kapferer, 2010; Nash *et al.*, 2016). For example, Steinhart *et al.* (2013) found that an environmental claim (i.e. an eco-label with a message about a product causing less damage to the environment) might improve consumers’ evaluation of luxury products and motivate them to indulge and use luxuries. Janssen *et al.* (2014) tested whether scarcity and ephemerality might affect consumers’ perception about the fit between luxury and corporate social responsibility (CSR), and how this fit, in turn, shapes consumers’ attitudes toward luxury goods. The results of their experimental study revealed that scarcity signals social responsibility when it comes to enduring luxury product categories (e.g. jewelry), but not for ephemeral luxury product categories (e.g. clothing). Moreover, De Angelis *et al.* (2017) investigated the effect of the design used in the development of new luxury product on sustainable consumption choices, finding that luxury brands can be both “gold and green” (p. 1516). According to this study, consumers may respond more positively to green luxury products modeled after green products made by non-luxury companies rather than previously non-green products made by the luxury company. Finally, in their study about the effect of luxury companies’ CSR activities on consumers’ attitudes and willingness to buy those companies’ luxury goods, Amatulli *et al.* (2018) found that that external CSR activities (i.e. those related to the legal and philanthropic CSR dimensions; see Carroll, 1979) lead to an increase in consumer attitudes toward and willingness to buy luxury goods compared to internal CSR activities (i.e. those related to the economic and ethical CSR dimensions; see Carroll, 1979), especially when consumers have a higher status and conspicuous consumption orientation.

Despite these commendable contributions to advancing knowledge about sustainable luxury, we still lack knowledge about what underlying mechanisms might drive consumers’ reactions to (un)sustainable luxury products. The present study aims to address this gap. Importantly, while previous studies on sustainable luxury focused on consumers’ attitudes and behavioral intentions toward products that carry sustainability elements or toward companies’ sustainability-oriented initiatives, we investigate consumers’ reactions to luxury companies’ *unsustainable* manufacturing practices. Also, unlike previous studies, we look at the consumers’ responses to unsustainable practices undertaken by brands from which those consumers have already purchased products. There are many examples of unsustainable practices adopted by luxury brands. For

instance, in 2017, Burberry burned more than \$36.5 million worth of unsold clothes and accessories instead of reusing, repairing or recycling them [2]. Meanwhile, Chanel has been accused of not using eco-friendly materials and not taking actions to eliminate hazardous chemicals or reduce water consumption, [3] while Louis Vuitton has been criticized for using crocodile leather to produce its bags (PETA, 2017).

Luxury and emotions

Research on consumers' emotional reactions to luxury is still in its infancy. Indeed, as recently noted by Makkar and Yap (2018, pp. 222–223), “while there is a consensus regarding the important role of emotion and emotional responses in marketing, its applications in luxury contexts are limited”. Nonetheless, existing research suggests that luxury consumption might trigger both positive and negative emotions.

On the side of positive emotions, past work has argued and demonstrated that luxury consumption generates pleasure and arousal in consumers (e.g. Cho and Lee, 2017; Ki *et al.*, 2017), while other studies have shown that luxury purchases make consumers feel proud of themselves (Jain *et al.*, 2017; Mandel *et al.*, 2006; McFerran *et al.*, 2014; Penz and Stöttinger, 2012). This position stems from the idea that consumers generally buy luxury goods to obtain something excellent, beautiful, exclusive and often unique (Dubois *et al.*, 2001; Jain *et al.*, 2015; Venkatesh *et al.*, 2010). Such a desire is typically manifested in consumers' tendency to either flaunt their status by owning luxury goods or to satisfy their own personal preference for luxurious items (Amatulli *et al.*, 2015; Amatulli and Guido, 2012; Groth and McDaniel, 1993; Han *et al.*, 2010). Whereas the former group of consumers is drawn to luxury purchasing by a feeling of “hubristic” pride, the latter group is driven by a feeling of “authentic” pride (McFerran *et al.*, 2014, p. 30). Other positive emotions that might stem from luxury purchase and consumption are joy, happiness, contentment and love (Kim *et al.*, 2016; Penz and Stöttinger, 2012).

That being said, some prior research also associates luxury purchase and consumption with negative emotions such as anger, anxiety, fear, sadness and shame (Kim *et al.*, 2016; Penz and Stöttinger, 2012). These emotions might be a function of consumers' perceptions that the luxury store's service quality does not match its product quality (Kim *et al.*, 2016). Other scholars have highlighted that luxury consumption might generate envy in others, particularly in times of economic recessions (e.g. Eckhardt *et al.*, 2015; Wu *et al.*, 2017). Among negative emotions, however, guilt has been most commonly associated with luxury purchases and consumption. Here, we understand guilt as “one's sense of regret, remorse, tension, and anxiety about being culpable and punishable for an offense, or failure of duty, or conscience” (Ferguson, 1999, p. 308). Several studies on luxury concur that consumers might sometimes feel guilty over their luxury consumption due to the high expense of luxury goods (Berens, 2013; Cervellon and Carey, 2011; Ki *et al.*, 2017; Kivetz and Simonson, 2002; Lala and Chakraborty, 2005; Makkar and Yap, 2018). Guilt might also arise when consumers buy counterfeit luxury products (Zampetakis, 2014). Moreover, building on Kivetz and Simonson's (2002) seminal work about the inherent association between guilt and luxury purchasing, Hagtvedt and Patrick (2016) have shown that consumers prefer luxury companies that collaborate with charities due to a reduced sense of guilt. More recently, Soscia *et al.* (2019) found that certain advertising appeals related to luxury vacations might reduce anticipated guilt (defined as guilt feelings that “can be experienced in anticipation of committing an act”; p. 58) without compromising consumers' levels of happiness.

The above studies suggest that guilt may indeed play a role in luxury consumption. Our investigation adds to this stream by predicting that guilt can stem from consumers discovering that they have bought a luxury product manufactured in an unsustainable way.

Hypothesis development

From unsustainability to NWOM through guilt and need to warn others

In the present research, we propose that consumers who realize that a luxury good they own has been manufactured in an environmentally unsustainable (vs sustainable) manner might feel a relatively high sense of guilt about their purchase. One could also argue that luxury product unsustainability might generate negative emotions other than guilt, such as shame. Granted, some studies in psychology treat guilt and shame as synonymous (e.g. Bennett, 1998; Tangney, 1995; Tracy and Robins, 2006). However, we assert that guilt and shame are essentially different: shame implies a reflection on *oneself*, while guilt implies a reflection on the *shortcoming* (Tangney and Dearing, 2002). Shame, on the one hand, arises from a negative judgment about the self and thus typically leads people to engage in coping behaviors aimed at restoring a sense of self-worth (Frijda, 1986). On the other hand, guilt results from a negative judgment about an action one has performed (Amatulli et al., 2017), leading people to feel they are responsible for producing a negative outcome through their consumption behavior (Tracy and Robins, 2004). Shame necessarily involves a devaluation of one's self (Han et al., 2014). Instead, the focus of guilt is generally repairing the harm done (Agrawal and Duhachek, 2010). Our research focuses on guilt rather than shame insofar as we investigate situations in which consumers are led to think about an action they have performed (i.e. buying a product produced in an unsustainable way) rather than the consequences of that action for their own self-image. Thus, we hypothesize that:

H1a. Information revealing the unsustainable nature of a luxury good will make consumers feel guiltier than information revealing the sustainable nature of a luxury good.

According to past research, guilt-laden individuals tend to enact “reparative action, such as apologizing, undoing or in some way repairing the harm that was done” (Tangney et al., 1996, p. 798). Guilt convinces such individuals that they have violated their own or societal norms, thus eliciting a need to engage in a reparative behavior (Tangney et al., 1996). In other words, guilt-laden individuals might feel the necessity to regulate their behaviors and behave in a constructive way to deal with their negative feelings (Newman and Trump, 2017). For instance, they may engage in pro-social actions (Steenhaut and Van Kenhove, 2005, 2006). Building on this evidence, we predict that guilt – triggered by consumers' exposure to messages highlighting the unsustainable nature of luxury products – is likely to foster a need to help other consumers, defined as “the motive to help others by warning them about negative consequences of a particular action” (Sundaram et al., 1998, p. 530). Hence, we hypothesize that:

H1b. Guilt feelings will trigger consumers' need to warn others.

Previous studies have consistently regarded the *need to warn others* as an altruistic antecedent of word-of-mouth behavior (Anderson, 1998; Richins, 1984; Sundaram et al., 1998; Sweeney et al., 2005). In their seminal study on the psychological motives behind electronic word-of-mouth, Hennig-Thurau et al. (2004) included the need to warn others in a broader category named “concern for other consumers” (which is strictly related to the concept of altruism), while Wetzer et al. (2007) included this motive in a category named “helping the receiver”. Although different factors may lead consumers to spread NWOM (e.g. venting negative feelings, revenging on a company, seeking comfort; Berger et al., 2014) in order to regulate their emotional state, it is reasonable to argue that consumers' guilt over making a bad consumption choice – and by extension, their need to warn others about this choice – serves to galvanize their intention to engage in NWOM (Wetzer et al., 2007). Indeed, guilty consumers may spread NWOM as a way to protect other consumers from a similar negative experience and thereby repair the harm done. Therefore, we hypothesize that:

H1c. The need to warn others will positively affect NWOM.

In sum, we theorize that consumers' exposure to information revealing the unsustainable (vs sustainable) nature of a luxury product elicits guilty feelings in those consumers; the feelings trigger a need to warn others, which then inclines consumers to engage in NWOM. This effect likely occurs because guilty consumers perceive NWOM as a form of pro-social behavior. Hence, from this point of view, NWOM may work as a compensatory behavior, in line with previous work showing that sharing information with others often allows individuals to compensate for a temporary lack, such as a lost sense of self-esteem (De Angelis *et al.*, 2012) or a lost sense of personal control (Consiglio *et al.*, 2018; Peluso *et al.*, 2017). In other words, we expect guilt and need to warn others to act as mediators in the relationship between unsustainable (vs sustainable) luxury product information and NWOM. Hence, we hypothesize that:

H1d. Guilt and the need to warn others mediate the effect of information revealing the unsustainable nature of a luxury good on NWOM.

The moderating role of cultural orientation on the effect of need to warn others on NWOM

Following the well-established model proposed by Hofstede (e.g. Hofstede *et al.*, 2010) to describe national cultures, we investigate the role of collectivism (vs individualism) and femininity (vs masculinity) as moderators of the effect that the need to warn others exerts on NWOM.

Collectivism refers to the extent to which the average member of a group of individuals is concerned about the welfare of the community or the society they belong to versus their personal interests. Specifically, collectivistic societies encourage social harmony, cooperation and bonding among individuals and focus on collective achievement, pro-social values, cohesiveness and protection of others (Chu and Choi, 2011). In collectivistic societies, individuals view themselves as part of a larger group, prize pro-social goals over personal ones, share their resources, tend to be loyal to their peers and families (Gelfand *et al.*, 2004), trust each other and rely on the opinion of their reference group to make their judgments (Christodoulides *et al.*, 2012; Luo *et al.*, 2014). Conversely, in individualistic societies, individuals are, on average, more independent, seek personal rewards and recognition (Shavitt and Cho, 2016) and tend to rely on their personal skills and capabilities.

Collectivism may affect individuals' tendency to spread NWOM. Past research has documented that, compared to individualistic consumers (e.g. Americans), collectivistic consumers (e.g. Indians) exhibit a stronger inclination to engage in NWOM under self-threat – for instance, when they fail to achieve a desired outcome (Valenzuela *et al.*, 2018; see also Triandis, 2001; Triandis *et al.*, 1988). Also, it is known that when consumers from collectivistic societies have negative consumption experiences, they avoid complaining directly to companies (so as to minimize confrontation and ensure harmony; Liu and McClure, 2001), but are likely to spread NWOM in order to warn others (especially people within their own social circle; Chapa *et al.*, 2014) about their negative experiences (Barakat *et al.*, 2015; Huang *et al.*, 1996). This may occur because such consumers are more interdependent (Kim and Johnson, 2013), value group opinions and show great reliance on personal sources of information (Hart, 2008; Liu and McClure, 2001).

This evidence is consistent with the idea that collectivistic consumers are more prone than their individualistic counterparts to engage in actions aimed at promoting their group's wellbeing, and that other-focused emotions (such as guilt) are likely to have a stronger influence on the behavior of collectivistic rather than individualistic people (Kim and Johnson, 2013). On the other hand, individualistic consumers are particularly concerned about projecting a positive image of themselves in the society and marketplace (e.g. Berger, 2014), so

they tend to refrain from sharing negative information with others in order to avoid being seen as negative people (e.g. Berger and Milkman, 2012; Berger and Schwartz, 2011; De Angelis *et al.*, 2012; Wojnicki and Godes, 2011).

Therefore, we expect that the need to warn others, arising from guilty feelings, will result in NWOM more likely for consumers from a collectivistic than those from an individualistic culture. Hence, we hypothesize that:

- H2.* The effect of the need to warn others on NWOM is stronger for collectivist consumers than for individualistic consumers.

Meanwhile, femininity refers to a cultural group's emphasis on interpersonal harmony, which is coded as a gender difference in some national cultures (Hofstede *et al.*'s 2010). In masculine cultures (e.g. Latin American countries), male and female roles are differentiated, whereas in feminine cultures (e.g. Scandinavian countries), roles overlap. Groups characterized by high femininity consider caring for others and quality of life as the dominant values in society, whereas groups characterized by high masculinity consider personal success and the achievement of material goals as the dominant values (De Mooij and Hofstede, 2011). Hence, in feminine cultures, people tend to value modesty and relations, whereas in masculine cultures, people tend to value self-enhancement, high social status and personal success (Tang, 2017).

Available research has found that, while individuals from masculine cultural contexts are more likely to complain (Mueller *et al.*, 2003) and express their dissatisfaction to a service provider (Crotts and Erdmann, 2000), individuals from feminine cultural contexts are more likely to voice their dissatisfaction through NWOM (Yuksel *et al.*, 2006). Most relevant to the present research, past work has documented that consumer tendency to help others positively affects NWOM (Chelminski and Coulter, 2007), and that cultures high in both collectivism and femininity are prone to advise others through WOM (Maria Correia Loureiro *et al.*, 2014). Furthermore, past studies found that femininity is typically associated with pro-environmental values and behavior (Brough *et al.*, 2016). Therefore, it appears reasonable to predict that the effect of need to warn others on NWOM may be stronger among consumers from a feminine rather than a masculine cultural context. Formally:

- H3.* The effect of the need to warn others on NWOM is stronger for culturally feminine consumers than for culturally masculine consumers.

Overview of empirical studies

We conducted three online experiments with respondents recruited from five different countries: Italy, US, India, UK and Portugal. The luxury market is growing in all these countries, with expected growth rates for the next three years equal to 2% for Italy and UK, 1% for US and about 5% for India and Portugal. The US, in particular, generates most revenue worldwide (over \$60,000m; Statista, 2020). We tested our hypotheses through sequential mediation and sequential moderated mediation models. In particular, in Study 1 (for which we recruited Italian respondents), we asked participants to recall a luxury product they had purchased and then exposed them to information (seemingly drawn from a real NGO's report) revealing the unsustainable versus sustainable nature of that luxury product. We then measured respondents' guilt feelings, their need to warn others and their intention to engage in NWOM. We found that unsustainable practices led to higher guilt feelings than sustainability practices, that the sense of guilt triggered the need to warn others, and that need, in turn, fostered the intention to spread NWOM.

We employed a similar procedure in Study 2 and Study 3, but we introduced consumers' cultural orientation as a possible moderator of the effect of need to warn others on NWOM.

Specifically, in Study 2, we grouped respondents according to whether their country was relatively individualistic or collectivistic (according to scores from the Hofstede's model), using samples from the US (as an individualistic country; e.g. [Joardar et al., 2007](#); [Shoham and Dalakas, 2003](#)) and India (as a relatively collectivistic country; see, for instance, [Banerjee et al., 2003](#); [Verma and Rangnekar, 2015](#)). We found that the effect of need to warn others on NWOM intention is stronger for Indian than US respondents. This finding aligns with the general cultural characterization of Asiatic versus Western countries ([Becker, 2000](#); [Ngai et al., 2007](#)), which has been empirically substantiated ([Joardar et al., 2007](#)). Indeed, India has an average score on of 48 on the Individualism index ([Hofstede et al., 2010](#)), reflecting the country's known orientation toward relationships and group harmony ([Banerjee et al., 2003](#); [Verma and Rangnekar, 2015](#)), whereas the US' average score on the same index is a very high, i.e. 94. Thus, we follow some previous work that has explicitly treated India as a collectivistic country ([Evanschitzky et al., 2014](#); [Ramesh and Gelfand, 2010](#)), but also sought to increase the robustness of our results by measuring Indians' and Americans' chronic individualistic/collectivistic orientation (see [Ralston et al., 2014](#) for a similar approach).

Study 3 differed from Study 2 insofar as we varied whether respondents' country was relatively more masculine versus feminine (according to scores from the Hofstede's model). To this end, we used using samples from UK (as a masculine country, with a score of 66 in the [Hofstede et al. \(2010\)](#) Masculinity Index) and Portugal (as a feminine country, with a score of 31 in the Masculinity Index). We found that the effect of need to warn others on NWOM behavior is stronger for Portuguese than UK respondents. By utilizing samples drawn from five different countries, our experiments offer evidence for the link between consumers' discovery of luxury companies' unsustainable (vs sustainable) manufacturing practices, guilt feelings, the need to warn others and NWOM (intention and behavior). Additionally, we demonstrate the moderating role of two dimensions from the [Hofstede et al. \(2010\)](#) model.

Study 1: from unsustainable luxury to NWOM through guilt and need to warn others

Study 1 aimed to test [H1a-d](#) and thus investigated whether consumers who realize that one of their luxury products had been produced in an environmentally unsustainable versus sustainable way develop an intention to spread NWOM in order to rectify a feeling of guilt that fosters a need to warn other people.

Procedure and measures

We ran a two-cell online study with 144 Italian respondents ($M_{\text{age}} = 30$, $SD = 10.12$, 63% male) recruited on the Prolific Academic crowdsourcing platform. Participants were randomly assigned to either the unsustainable luxury condition (68 respondents) or the sustainable luxury condition (76 respondents). First, all participants were asked to recall a branded luxury apparel product that they had bought for themselves with which they were satisfied. We particularly underlined the importance of considering a luxury product. Then, participants were asked to write down the brand name of and briefly describe the recalled luxury product, emphasizing why it was a luxury product. Subsequently, respondents were asked to rate the perceived luxuriousness, quality and exclusiveness of that product on a three-item, 7-point scale (1 = Very low, 7 = Very high; $\alpha = 0.80$). Through these items, which we averaged to get an index of perceived luxuriousness, we intended to look at respondents' subjective definition of luxury. This aligns with the idea that luxury should be conceived as a subjective concept ([Phau and Prendergast, 2000](#)), as its meaning is socially constructed and "specific to a particular time and place" ([Belk, 1999](#), p. 41).

Next, we asked participants to read a short excerpt adapted from a real report issued by Greenpeace (2014). In the unsustainable luxury condition, participants read part of a report titled “Polluting chemicals in branded luxury fashion products,” which explained that some luxury apparel products contain pollutant residues (see Appendix). After reading this excerpt, participants were asked to imagine that the brand they had previously recalled was one of the environmentally-irresponsible brands blamed by Greenpeace. Therefore, their previous purchase contributed to damaging the environment. Conversely, in the sustainable luxury condition, participants read an excerpt of a report titled “Progress in cutting hazardous chemicals in branded luxury fashion products,” which stated that some luxury apparel brands were manufacturing their products in ways that ensured the preservation of the environment (see Appendix). We then asked participants to imagine that their product came from one of the environmentally-responsible brands praised by Greenpeace, and therefore their purchase had contributed to the preservation of the environment.

Next, as a check of our unsustainability versus sustainability manipulation, we asked participants to indicate to what extent the apparel product they had recalled was (1) environmentally friendly and (2) a good example of an environmentally friendly product (1 = Strongly disagree, 7 = Strongly agree; $r = 0.89$, $p < 0.001$; adapted from Magnier *et al.*, 2016). Next, respondents rated how guilty they felt after having read the excerpt regarding the luxury apparel product they bought, using three items drawn from previous studies (Kemeny *et al.*, 2004; Lindsay-Hartz, 1984; “I feel a sense of blame”, “I feel like I deserve criticism”, “I feel remorse”; 1 = Not at all, 7 = Very much, $\alpha = 0.92$). Subsequently, they used a seven-point (1 = Strongly disagree, 7 = Strongly agree), single-item measure derived from previous research (Berger, 2014; Wetzer *et al.*, 2007) to indicate if, after reading the excerpt from the Greenpeace report regarding their apparel luxury product, they would feel a need to warn other people. Next, they rated their intention to engage in NWOM about the manufacturer of their luxury apparel product using three items (“I will say negative things about that company to other people”, “I will recommend other people not consider buying from that company”, “I will discredit the company to other people”, 1 = Not at all likely, 7 = Very likely; $\alpha = 0.96$; adapted from Eisingerich *et al.*, 2015).

Then, participants completed six scales that assessed variables that could reasonably affect the focal variables of our research model. We deemed important to control for these variables in order to rule out that they could influence our manipulations. Specifically, participants rated how much they trusted Greenpeace (1 = Not at all; 7 = Very much), how they would rate their attitude toward environmental movements/organizations (1 = Very bad, 7 = Very good), to what extent they were interested in environmental movements/organizations’ activities (1 = Not at all; 7 = Very much), how much they trusted the Greenpeace report (1 = Not at all; 7 = Very much), how reliable they thought the Greenpeace report was (1 = Not at all, 7 = Very much) and how important for them the product they had described was (1 = Not at all; 7 = Very much). Finally, participants provided their demographic information (i.e. gender and age).

Results

We applied a confirmatory factor analysis (CFA) to the variables that we considered in our research. The analysis yielded satisfactory factor loadings and fitted the data acceptably (Table 1; see Hu and Bentler, 1999). The measured constructs also showed satisfactory convergent validity (Table 2), as the composite reliability (CR) indicators and average variance extracted (AVE) indicators were above the recommended thresholds (Hair *et al.*, 2014). The constructs also showed discriminant validity, as the square roots of the AVEs were higher than the inter-construct correlations (see Fornell and Larcker, 1981).

| Variables | Sustainable luxury | | Unsustainable luxury | | <i>F</i> | Sig |
|------------------------------------|--------------------|------|----------------------|------|----------|------|
| | Mean | SD | Mean | SD | | |
| Guilt | 2.24 | 1.28 | 4.09 | 1.77 | 52.60 | 0.00 |
| Need to warn others | 3.70 | 1.68 | 5.25 | 1.44 | 35.02 | 0.00 |
| NWOM intention | 2.24 | 1.33 | 4.48 | 1.70 | 78.56 | 0.00 |
| Perceived product luxuriousness | 5.51 | 0.98 | 5.38 | 1.20 | 0.48 | 0.48 |
| Perceived product sustainability | 5.43 | 1.45 | 3.10 | 1.65 | 81.47 | 0.00 |
| Perceived product importance | 4.57 | 1.77 | 3.75 | 1.72 | 7.83 | 0.00 |
| Trust in Greenpeace | 5.18 | 1.46 | 5.25 | 1.44 | 0.07 | 0.79 |
| Attitude toward env. organizations | 5.43 | 1.47 | 5.21 | 1.43 | 0.89 | 0.35 |
| Interest in env. organizations | 5.21 | 1.38 | 5.03 | 1.39 | 0.61 | 0.43 |
| Trust in the report | 5.16 | 1.38 | 4.97 | 1.53 | 0.60 | 0.44 |
| Report reliability | 4.86 | 1.36 | 4.85 | 1.53 | 0.00 | 0.99 |

Note(s): $N = 144$; Degrees of freedom = (1,142)

Table 3.
ANOVA results for
Study 1

respondents perceived their recalled product as luxuriousness regardless of the condition they were assigned to. We then checked if our manipulation was successful, finding that participants exposed to the unsustainable luxury condition perceived the luxury apparel product as less environmentally sustainable ($M = 3.10$, $SD = 1.65$) than those in the sustainable luxury condition ($M = 5.43$, $SD = 1.45$, $F(1, 142) = 81.47$, $p < 0.001$). Meanwhile, the two conditions did not exhibit significant differences in terms of the control measures; the only exception was the perceived importance of the product recalled, which was higher in the sustainable luxury condition ($M = 4.57$, $SD = 1.77$) than in the unsustainable luxury condition ($M = 3.75$, $SD = 1.72$, $F(1, 142) = 7.83$, $p < 0.001$). We, therefore, retained this variable in the subsequent main analysis. More importantly, we found that participants in the unsustainable luxury condition reported a stronger feeling of guilt ($M = 4.09$, $SD = 1.77$) than those in the sustainable luxury condition ($M = 2.24$, $SD = 1.28$, $F(1, 142) = 52.60$, $p < 0.001$), a stronger need to warn others ($M_{\text{unsustainable}} = 5.25$, $SD = 1.44$ vs $M_{\text{sustainable}} = 3.70$, $SD = 1.68$, $F(1, 142) = 35.02$, $p < 0.001$) and a stronger NWOM intention ($M_{\text{unsustainable}} = 4.48$, $SD = 1.70$ vs $M_{\text{sustainable}} = 2.24$, $SD = 1.33$, $F(1, 142) = 78.56$, $p < 0.001$).

Hypothesis testing. To test the sequential mediation hypothesized in H1a–d, we implemented a serial mediation model using Hayes' (2013) PROCESS macro (Model 6). This model assessed the impact of unsustainable luxury (coded as $-1 = \text{sustainable luxury}$ and $1 = \text{unsustainable luxury}$) on NWOM intention via respondents' sense of guilt and, subsequently, respondents' need to warn others, which worked as first- and second-level mediators, respectively. In this model, we also included the product's perceived importance as a covariate (Table 4). We specifically included this control measure as a covariate because one-way ANOVAs revealed that it was the only measure that significantly varied between the two experimental conditions (see Yzerbyt *et al.*, 2004 for a theoretical clarification of conditions in which the use of covariates is necessary). We found that unsustainable luxury had a positive and significant impact on guilt ($b_{\text{Unstand.}} = 1.83$, $p < 0.001$), thus supporting H1a; next, we regressed need to warn others on guilt and found that guilt had a positive and significant effect on need to warn others ($b_{\text{Unstand.}} = 0.44$, $p < 0.001$), thus supporting H1b. Finally, we regressed NWOM intention on need to warn others, guilt and unsustainable luxury and found that need to warn others positively affected NWOM intention ($b_{\text{Unstand.}} = 0.15$, $p = 0.03$), thus supporting H1c. Moreover, unsustainable luxury ($b_{\text{Unstand.}} = 0.92$, $p < 0.001$) significantly affected NWOM intention. The coefficients of the effect of the covariate were not significant on either guilt, need to warn others or NWOM intention. More importantly, we found that the indirect effect of unsustainable luxury on

| Paths | <i>b</i> | SE | <i>t</i> | <i>p</i> | LLCI | ULCI |
|--|----------|------|----------|----------|-------|------|
| <i>DV: Guilt</i> ($R^2 = 0.27, F[1, 142] = 52.60, p < 0.01$) | | | | | | |
| Constant → Guilt | 2.39 | 0.38 | 6.29 | 0.00 | 1.64 | 3.14 |
| (Un)sustainability → Guilt | 1.83 | 0.26 | 6.94 | 0.00 | 1.30 | 2.34 |
| Product importance → Guilt | -0.03 | 0.07 | -0.45 | 0.65 | -0.18 | 0.11 |
| <i>DV: Need to warn others</i> ($R^2 = 0.34, F[2, 141] = 17.00, p < 0.01$) | | | | | | |
| Constant → Need to warn others | 2.78 | 0.40 | 6.95 | 0.00 | 1.99 | 3.58 |
| Guilt → Need to warn others | 0.44 | 0.08 | 5.59 | 0.00 | 0.28 | 0.59 |
| Product importance → Need to warn others | -0.01 | 0.07 | -0.22 | 0.83 | -0.15 | 0.12 |
| <i>DV: NWOM</i> ($R^2 = 0.65, F[3, 140] = 86.88, p < 0.01$) | | | | | | |
| Constant → NWOM | 0.34 | 0.37 | 0.92 | 0.36 | -0.39 | 1.06 |
| Need to warn others → NWOM intention | 0.15 | 0.07 | 2.22 | 0.03 | 0.02 | 0.28 |
| (Un)sustainability → NWOM intention | 0.92 | 0.23 | 4.03 | 0.00 | 0.47 | 1.38 |
| Product importance → NWOM intention | 0.01 | 0.05 | 0.12 | 0.90 | -0.10 | 0.11 |
| <i>Indirect effects</i> | | | | | | |
| (Un)sustainability → Guilt → NWOM intention | 1.08 | 0.21 | | | 0.73 | 1.53 |
| (Un)sustainability → Guilt → Need to warn others → NWOM intention | 0.12 | 0.08 | | | 0.00 | 0.28 |
| (Un)sustainability → Need to warn others → NWOM intention | 0.11 | 0.07 | | | 0.00 | 0.30 |

Table 4. Results of regression analyses performed in Study 1

Note(s): *N* = 144; DV = Dependent Variable; *b* = Unstandardized regression coefficient

NWOM intention via guilt and need to warn others was positive and significant ($b_{\text{Unstand.}} = 0.12, 95\% \text{ CI: } 0.00, 0.28$), demonstrating the existence of a significant path linking unsustainable luxury to guilt, guilt to need to warn others and need to warn others to NWOM intention. In other words, these results demonstrate that guilt and need to warn others significantly mediate the effect of unsustainable luxury on NWOM intention, thus fully supporting H1d. Figure 2 offers a graphical representation of the sequential mediation path emerged from Study 1’s results.

Study 2: how individualism/collectivism moderates the effect of need to warn others on NWOM intention

Study 2 aimed at testing H2. Accordingly, we designed Study 2 as a cross-country study that involved US participants (as a prototypical example of individualistic consumers) and Indian participants (as a prototypical example of collectivistic consumers), in line with previous studies that have used India as a collectivistic culture (Evanschitzky et al., 2014; Ramesh and

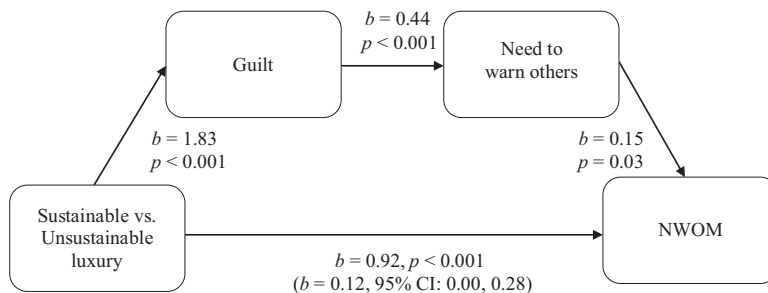


Figure 2. Results of study 1

Gelfand, 2010). India, in particular, represents an interesting market for luxury players: Current estimates suggest that it will account for 10% of the global luxury market by 2025 (Jain and Schultz, 2019). Furthermore, this country will witness a 53% increase in the number of its millionaires by that date (Forbes, 2018c).

Procedure and measures

We ran a two-cell online study with 238 owners ($M_{\text{age}} = 34$, $SD = 10.71$, 63% females) of a luxury accessory, namely a luxury wallet/bag. Participants were recruited on the Amazon Mechanical Turk crowdsourcing platform. In particular, 117 respondents were Americans ($M_{\text{age}} = 38$, $SD = 11.5$, 67% females), while 121 were Indians ($M_{\text{age}} = 31$, $SD = 8.47$, 59% females). We used the respondents' nationality as a dichotomous measure of individualism/collectivism. We first asked participants to think about a luxury wallet/bag that they had recently bought and to write down its brand name and a brief description of it. Importantly, before starting the questionnaire, participants read a message underlining that we were conducting "a research on luxury fashion accessories, particularly luxury wallets or, alternatively, luxury bags", and that if they did not own one of these products, they were not eligible to our research. We allowed recollections of either wallets or bags in order to accommodate both male and female participants. We chose to focus on accessories because they represent an important product category for the luxury business (Bain and Company, 2018). After recalling and describing the luxury product, participants were asked to indicate how much they liked it (1 = Very little, 7 = Very much). Next, participants were asked to imagine that, while browsing an online luxury magazine (with the fictitious name "High-Enders"), they read an article about their wallet/bag. Participants in the unsustainable luxury condition read that the wallet/bag they had bought was made of materials that had a significant impact on the environment, that the packaging was made from non-recyclable paper and that all stages of its production caused the emissions of pollutants. Therefore, they had chosen one of the least environmentally friendly luxury wallets/bags available in the market. In contrast, participants in the sustainable luxury condition read that the wallet/bag they had bought was made of materials that had a minimal impact on the environment, that the packaging was made from 100% recyclable paper and that no stage of its production caused the emission of pollutants (see Appendix). Therefore, they had chosen one of the most environmentally friendly luxury wallets/bags available in the market. After reading the scenario, participants used a seven-point scale (1 = Not at all, 7 = Very much) to rate how sustainable (i.e. environmentally friendly) their wallet/bag was, how much they trusted the article they had read and how luxurious they thought the wallet/bag was.

Next, respondents completed the same measure of guilt ($\alpha = 0.91$) and NWOM intention ($\alpha = 0.87$) as in Study 1. Regarding the need to warn others, we diverged from Study 1's approach by measuring this motive alongside three other motives that, according to the WOM literature (e.g. Berger, 2014; Wetzer et al., 2007), might predict NWOM intention or behavior ("By rating the company I will have the opportunity to: "seek comfort and restore my self-esteem", "give vent to my feelings", "warn other people", "get revenge on the company", 1 = Strongly disagree, 7 = Strongly agree). Then, we measured participants' chronic concern for the environment using a six-item scale (e.g. "I am very concerned about the environment", "I would be willing to reduce my consumption to help protect the environment" and "Major political change is necessary to protect the natural environment", 1 = Strongly disagree, 7 = Strongly agree, $\alpha = 0.91$) drawn from Kilbourne and Pickett (2008). We measured participants' chronic individualistic/collectivistic orientation using a three-item scale ("Individuals should sacrifice self-interest for the group that they belong to", "Group welfare is more important than individual rewards" and "Individuals should pursue their goals after considering the welfare of the group", 1 = Strongly disagree, 7 = Strongly

agree; with higher scores indicating higher levels of collectivism; $\alpha = 0.87$) drawn from Baker *et al.*'s (2013) shorter version of Yoo and Donthu's (2002) scale. We measured participants' dispositional tendency to buy status-signaling products using a seven-item scale (e.g. "I would buy a product just because it has status" and "I would pay more for a product if it has status", 1 = Strongly disagree, 7 = Strongly agree; $\alpha = 0.91$) drawn from Eastman *et al.* (1999). We then asked respondents to rate how often they bought luxury products (1 = Less than once a year, 7 = Every week). Finally, participants provided demographic information.

Results

To test the validity of our multi-item measurements, we ran separate CFAs for the whole sample as well as for each of the two subgroups of US and Indian consumers (Table 5). Such analyses yielded satisfactory factor loadings. The fit was acceptable (Cangur and Ercan, 2015; Hu and Bentler, 1999; Jais, 2007) and our measurements showed satisfactory convergent validity (Table 6): CR indicators and AVE indicators were above the recommended thresholds (Hair *et al.*, 2014). Our measurements also achieved satisfactory discriminant validity, as the square roots of the AVEs were higher than inter-construct correlations (Fornell and Larcker, 1981). Only the square root of guilt AVE was slightly below the correlation between need to warn others and NWOM intention.

Next, we checked whether our measurements were invariant across the two subgroups of respondents by running a test of measurement invariance. We compared the fit between two CFAs: one where factor loadings and covariances were constrained to be equal for both groups of respondents (metric invariance model) and the other where no equality constraints were imposed (configural invariance model). The latter CFA fit the data acceptably ($\chi^2 = 809.430$, $df = 391$, $\chi^2/df = 2.070$, $GFI = 0.776$, $CFI = 0.880$, $RMSEA = 0.067$, $RSMR = 0.089$; Hu and Bentler, 1999) and guaranteed the existence of configural invariance across the two subgroups. The CFA with constrained factor loadings and covariances showed a modest fit ($\chi^2 = 844.250$, $df = 406$, $\chi^2/df = 2.079$, $GFI = 0.775$, $CFI = 0.874$, $RMSEA = 0.068$, $RSMR = 0.092$; Cangur and Ercan, 2015; Jais, 2007). Although there was a significant increase in Chi-square between the two invariance models ($\Delta\chi^2 = 34.820$, $p = 0.003$), the deterioration of the model fit was not particularly severe. Indeed, in line with Han and Nam's (2020) and Chen's (2007) considerations about acceptable changes in RMSEA and SRMR, such changes were less than 0.015 and 0.030, respectively ($\Delta RMSEA = 0.001$; $\Delta SRMR = 0.003$). Furthermore, the relative Chi-square indicator for the metric invariance model ($\chi^2/df = 2.079$) was still below the cut-off level of 3 (Zarantonello *et al.*, 2016).

Next, we assessed our model's scalar invariance by comparing the fit of the configural invariance model with another CFA wherein factor loadings, covariances and intercepts were constrained to be equal for both groups of respondents – i.e. the scalar invariance model. The latter model showed a modest fit ($\chi^2 = 917.281$, $df = 428$, $\chi^2/df = 2.143$, $CFI = 0.859$, $RMSEA = 0.093$, $RSMR = 0.092$; Cangur and Ercan, 2015; Jais, 2007). Again, we detected a significant increase in Chi-square between the two invariance models ($\Delta\chi^2 = 107.851$, $p < 0.001$), but changes in RMSEA and SRMR were within the acceptable thresholds ($\Delta RMSEA = 0.003$; $\Delta SRMR = 0.004$) and the relative Chi-square indicator of the metric invariance model was still acceptable ($\chi^2/df = 2.143$). Although our model exhibited limited invariance, which may depend on the size of the examined sample, we took a conservative approach and retained it for further analyses.

As in Study 1, the average score of the perceived product luxuriousness measure across the two conditions was significantly higher than the scale midpoint ($M = 5.38$, $SD = 1.48$, $t(237) = 14.38$, $p < 0.001$), thus confirming that respondents perceived the accessory as luxurious. Importantly, our analysis on the dispositional measure of individualism/collectivism revealed that our participants from India were more collectivistic

IMR

| Variables and items | Pooled sample Stand. FL | American consumers Stand. FL | Indian consumers Stand. FL |
|--|-------------------------|------------------------------|----------------------------|
| <i>Guilt</i> | | | |
| I feel a sense of blame | 0.91 | 0.94 | 0.88 |
| I feel like I deserve criticism | 0.85 | 0.86 | 0.86 |
| I feel remorse | 0.86 | 0.77 | 0.95 |
| <i>NWOM intention</i> | | | |
| I will say negative things about that company to other people | 0.93 | 0.88 | 0.92 |
| I will recommend other people not considering buying from that company | 0.80 | 0.71 | 0.82 |
| I will discredit that company to other people | 0.90 | 0.79 | 1.04 |
| <i>Concern for the environment</i> | | | |
| I am very concerned about the environment | 0.74 | 0.76 | 0.71 |
| Humans are severely abusing the environment | 0.83 | 0.85 | 0.79 |
| I would be willing to reduce my consumption to help protect the environment | 0.81 | 0.85 | 0.75 |
| Major political change is necessary to protect the natural environment | 0.74 | 0.82 | 0.65 |
| Major social changes are necessary to protect the natural environment | 0.86 | 0.85 | 0.88 |
| Anti-pollution laws should be enforced more strongly | 0.84 | 0.83 | 0.85 |
| <i>Individualistic/collectivistic orientation</i> | | | |
| Individuals should sacrifice self-interest for the group that they belong to | 0.79 | 0.80 | 0.78 |
| Group welfare is more important than individual rewards | 0.90 | 0.84 | 0.93 |
| Individuals should pursue their goals after considering the welfare of the group | 0.82 | 0.92 | 0.72 |
| <i>Status-signaling tendency</i> | | | |
| I would buy a product just because it has status | 0.78 | 0.86 | 0.69 |
| I am interested in new products with status | 0.87 | 0.87 | 0.86 |
| I would pay more for a product if it had status | 0.86 | 0.90 | 0.82 |
| The status of a product is relevant to me | 0.82 | 0.85 | 0.81 |
| A product is more valuable to me if it has some snob appeal | 0.77 | 0.88 | 0.65 |
| <i>Need to warn others</i> | | | |
| I feel a need to warn other people | 0.86 | 0.88 | 0.85 |
| <i>(Un)Sustainability</i> | | | |
| -1 = sustainable luxury, 1 = unsustainable luxury | - | - | - |
| Fit statistics | Pooled sample | US consumers | Indian consumers |
| χ^2 | 299.93 | 286.48 | 323.41 |
| χ^2/df | 1.613*** | 1.54*** | 1.74*** |
| GFI | 0.89 | 0.82 | 0.82 |
| CFI | 0.96 | 0.95 | 0.91 |
| SRMR | 0.05 | 0.06 | 0.07 |
| RMSEA | 0.05 | 0.08 | 0.08 |

Table 5.

Confirmatory factor analyses for Study 2

Note(s): $N = 238$; FL = Factor loadings; *** = significant at the 0.001 level; all factor loadings are significant at the 0.001 level; $df = 186$

($M = 5.19, SD = 1.41$) than our American participants ($M = 4.38, SD = 1.57, F(1, 236) = 17.36, p < 0.001$), thus supporting the idea that the Indian culture is more collectivistic than the American culture.

The results of the one-way ANOVAs (Table 7) revealed that, as expected, participants in the unsustainable luxury condition perceived the luxury product as less environmentally sustainable ($M = 3.25, SD = 1.66$) than participants in the sustainable luxury condition ($M = 4.91, SD = 1.68, F(1, 236) = 57.73, p < 0.001$), thus confirming the validity of our manipulation. Moreover, participants in the unsustainable luxury condition reported a higher feeling of guilt ($M_{\text{unsustainable}} = 2.72, SD = 1.63$ vs $M_{\text{sustainable}} = 1.71, SD = 1.16, F(1, 236) = 31.42, p < 0.001$), a stronger need to warn others ($M_{\text{unsustainable}} = 4.05, SD = 2.00$ vs $M_{\text{sustainable}} = 2.97, SD = 1.88, F(1, 236) = 18.23, p < 0.001$) and a stronger intention to engage in NWOM ($M_{\text{unsustainable}} = 2.87, SD = 1.64$ vs $M_{\text{sustainable}} = 1.89, SD = 1.22, F(1, 236) = 27.75, p < 0.001$). No significant differences emerged between the two experimental conditions when considering the other three NWOM motives we measured: namely, need to seek comfort and restore self-esteem ($M_{\text{unsustainable}} = 3.37, SD = 1.77$ vs $M_{\text{sustainable}} = 3.49, SD = 1.94, F(1, 236) = 0.24, ns$), need to vent negative feelings ($M_{\text{unsustainable}} = 4.02, SD = 1.87$ vs $M_{\text{sustainable}} = 4.19, SD = 1.79, F(1, 236) = 0.51, ns$) and need to get revenge on the company

| Constructs | CR | AVE | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|------|------|------|------|-------|-------|------|------|---|
| 1. Guilt | 0.90 | 0.76 | 0.87 | | | | | | |
| 2. NWOM intention | 0.91 | 0.80 | 0.57 | 0.89 | | | | | |
| 3. Concern for the environment | 0.92 | 0.64 | 0.15 | 0.08 | 0.80 | | | | |
| 4. Individualistic/Collectivistic orientation | 0.88 | 0.70 | 0.22 | 0.15 | 0.68 | 0.84 | | | |
| 5. Status-signaling tendency | 0.91 | 0.68 | 0.07 | 0.13 | -0.07 | 0.04 | 0.82 | | |
| 6. Need to warn others | - | - | 0.75 | 0.88 | 0.31 | 0.27 | 0.19 | - | |
| 7. Unsustainability | - | - | 0.18 | 0.17 | -0.03 | -0.04 | 0.01 | 0.27 | - |

Note(s): $N = 238$; CR = Composite Reliability; AVE = Average Variance Extracted; diagonal figures are the square root of the Average Variance Extracted (AVE) of each construct; off-diagonal figures are inter-construct correlations

Table 6. Convergent and discriminant validity of the multi-item measurements used in Study 2

| Variables | Sustainable luxury | | Unsustainable luxury | | F | Sig |
|----------------------------------|--------------------|------|----------------------|------|-------|------|
| | Mean | SD | Mean | SD | | |
| Guilt | 1.71 | 1.16 | 2.72 | 1.63 | 31.42 | 0.00 |
| Need to warn others | 2.97 | 1.88 | 4.05 | 2.00 | 18.23 | 0.00 |
| NWOM intention | 1.89 | 1.22 | 2.87 | 1.64 | 27.75 | 0.00 |
| Perceived product sustainability | 4.91 | 1.68 | 3.25 | 1.66 | 57.73 | 0.00 |
| Perceived product luxuriousness | 5.48 | 1.32 | 5.26 | 1.64 | 1.30 | 0.25 |
| Product liking | 6.18 | 1.06 | 5.92 | 1.37 | 2.77 | 0.10 |
| To seek comfort | 3.49 | 1.94 | 3.37 | 1.77 | 0.24 | 0.62 |
| To give vent to one's feelings | 4.19 | 1.79 | 4.02 | 1.87 | 0.51 | 0.47 |
| To revenge on the company | 2.39 | 1.80 | 2.57 | 1.87 | 0.59 | 0.44 |
| Environmental concern | 5.61 | 1.21 | 5.48 | 1.39 | 0.59 | 0.44 |
| Collectivism | 4.89 | 1.46 | 4.66 | 1.63 | 1.27 | 0.26 |
| Status-signaling tendency | 3.73 | 1.50 | 3.80 | 1.77 | 0.12 | 0.72 |
| Luxury consumption frequency | 2.81 | 1.60 | 2.64 | 1.44 | 0.64 | 0.42 |
| Trust in the article | 4.60 | 1.63 | 4.15 | 1.54 | 4.64 | 0.04 |

Note(s): $N = 238$; Degrees of freedom = (1, 236)

Table 7. ANOVA results for Study 2

($M_{\text{unsustainable}} = 2.57, SD = 1.87$ vs $M_{\text{sustainable}} = 2.39, SD = 1.80, F(1, 236) = 0.59, ns$). These results further support our idea that need to warn others is the motive most likely to drive NWOM intention following consumers' discovery of the unsustainability of a luxury product they bought. When looking at the other measures we collected (i.e. product liking, perceived wallet/bag luxuriousness, respondents' environmental concern, chronic individualism/collectivism, tendency to buy status-signaling products and frequency with which respondents bought luxury products), no differences emerged between the two experimental conditions; we only found a significant difference for the article trust measure ($M_{\text{unsustainable}} = 4.15, SD = 1.54$ vs $M_{\text{sustainable}} = 4.60, SD = 1.63, F(1, 236) = 4.64, p = 0.04$). Thus, we only retained article trust in our subsequent main analysis and considered it as a covariate.

Hypothesis testing. For our main analysis, we implemented a serial moderated mediation model using Hayes' (2013) PROCESS macro (Model 88). This model assessed the impact of unsustainable luxury (coded as $-1 =$ sustainable luxury and $1 =$ unsustainable luxury) on consumers' NWOM intention via guilt and need to warn others, which worked as first- and second-level mediators, respectively. Moreover, the model tested the moderating role of individualism/collectivism (coded as $-1 =$ US, individualistic cultural orientation and $1 =$ India, collectivistic cultural orientation) in the relationship between need to warn others and NWOM. As a result, we had four experimental conditions, with the "India and sustainable luxury" condition featuring 68 respondents, the "India and unsustainable luxury" condition featuring 53 respondents, the "US and sustainable luxury" condition featuring 59 respondents and the "US and unsustainable luxury" condition featuring 58 respondents. Therefore, such sub-samples are consistent with the minimum number of respondents needed for experimental conditions to guarantee statistical power (Cohen, 1988).

We first regressed guilt on unsustainable luxury. The results (Table 8) revealed that unsustainable luxury had a positive and significant impact on guilt ($b_{\text{Unstand.}} = 1.07, p < 0.001$). Next, we regressed need to warn others on guilt, finding that the latter had a

| Paths | <i>b</i> | SE | <i>t</i> | <i>p</i> | LLCI | ULCI |
|---|----------|------|----------|----------|-------|------|
| <i>DV: Guilt</i> ($R^2 = 0.13, F[2, 235] = 17.60, p < 0.01$) | | | | | | |
| Constant → Guilt | 0.16 | 0.40 | 0.39 | 0.70 | -0.63 | 0.95 |
| (Un)sustainability → Guilt | 1.07 | 0.18 | 5.84 | 0.00 | 0.71 | 1.42 |
| Trust in the article → Guilt | 0.11 | 0.06 | 1.86 | 0.06 | -0.01 | 0.22 |
| <i>DV: Need to warn others</i> ($R^2 = 0.42, F[3, 234] = 17.00, p < 0.01$) | | | | | | |
| Constant → Need to warn others | 2.07 | 0.53 | 3.92 | 0.00 | 1.03 | 3.12 |
| Guilt → Need to warn others | 0.47 | 0.09 | 5.49 | 0.00 | 0.30 | 0.64 |
| Trust in the article → Need to warn others | -0.10 | 0.08 | -1.33 | 0.18 | -0.25 | 0.05 |
| <i>DV: NWOM intention</i> ($R^2 = 0.40, F[7, 230] = 21.74, p < 0.01$) | | | | | | |
| Constant → NWOM intention | -0.02 | 0.36 | -0.04 | 0.97 | -0.72 | 0.69 |
| (Un)sustainability → NWOM intention | 0.39 | 0.17 | 2.31 | 0.02 | 0.06 | 0.73 |
| Need to warn others → NWOM intention | 0.23 | 0.04 | 5.35 | 0.00 | 0.15 | 0.32 |
| Need to warn others × Individ./Collect. → NWOM intention | 0.10 | 0.04 | 2.44 | 0.01 | 0.02 | 0.19 |
| Trust in the article → NWOM intention | 0.04 | 0.05 | 0.78 | 0.44 | -0.06 | 0.14 |
| <i>Condit. effects of Need to warn others on NWOM intention at the two values of Individ./Collect respondents</i> | | | | | | |
| Low Individ./Collect. (coded as -1 and identifying US respondents) | 0.13 | 0.06 | 2.20 | 0.03 | 0.01 | 0.24 |
| High Individ./Collect. (coded as $+1$ and identifying Indian respondents) | 0.34 | 0.06 | 5.25 | 0.00 | 0.21 | 0.46 |
| Note(s): $N = 238$; DV = Dependent Variable; b = Unstandardized regression coefficient; SE = Standard Error | | | | | | |

Table 8.
Results of regression analyses performed in Study 2

positive and significant impact on the former ($b_{\text{Unstand.}} = 0.47, p < 0.001$). Finally, we regressed NWOM intention on unsustainable luxury, guilt, need to warn others, individualism/collectivism (i.e. the dichotomous country-level variable) and the need to warn others \times individualism/collectivism interaction. The results showed that unsustainable luxury ($b_{\text{Unstand.}} = 0.39, p = 0.02$) and need to warn others ($b_{\text{Unstand.}} = 0.23, p < 0.001$) had a positive and significant effect on NWOM intention. More importantly, the need to warn others \times individualism/collectivism interaction was positive and significant ($b_{\text{Unstand.}} = 0.10, p = 0.01$). The effect of article trust was not significant in any of the regression models. For the sake of completeness, we also ran a post-hoc test to rule out an alternative moderation effect. Specifically, we used a two-way ANOVA to test the effect of unsustainable luxury and individualism/collectivism on NWOM intention without the mediating variables (i.e. guilt and need to warn others). The results revealed that only the main effect of unsustainable luxury on NWOM intention was significant ($M_{\text{unsustainable}} = 2.67, SD = 1.65$ vs $M_{\text{sustainable}} = 1.89, SD = 1.23, F(1, 234) = 28.30, p < 0.001$); neither the main effect of individualism/collectivism nor – more importantly – the unsustainable luxury \times individualism/collectivism interaction on NWOM intention were significant.

To test H2, we looked more closely into the need to warn others \times individualism/collectivism interaction through the analysis of conditional effects of need to warn others on NWOM at the two levels of individualism/collectivism (Table 8). We found that the effect of need to warn others on NWOM was positive and significant for both the individualistic and collectivistic cultural orientation. Importantly, however, this effect was relatively stronger for collectivistic respondents ($b_{\text{Unstand.}} = 0.34, p < 0.001$) than for individualistic respondents ($b_{\text{Unstand.}} = 0.13, p = 0.03$). The conditional indirect effect of unsustainability on NWOM intention via guilt and need to warn others (see Table 9) was stronger at high ($b_{\text{Unstand.}} = 0.17, \text{CI: } 0.08, 0.28$) rather than low ($b_{\text{Unstand.}} = 0.06, \text{CI: } 0.01, 0.14$) levels of individualism/collectivism, as confirmed by a significant index of moderated mediation ($b_{\text{Unstand.}} = 0.11, \text{CI: } 0.01, 0.22$). This result demonstrates the existence of both the full sequential mediation path from unsustainable luxury to NWOM through guilt and need to warn others (hypothesized in H1a–d and demonstrated in Study 1) and of the moderating effect of individualism/collectivism, thus lending full support to H2. Figure 3 offers a graphical representation of the sequential moderated mediation path that emerged from Study 2's findings (see Table 9).

Study 3: how masculinity/femininity moderates the effect of need to warn others on NWOM behavior

Study 3 aimed at testing H3. To reach this goal, we designed a cross-country study that involved UK participants as a prototypical example of masculine consumers and Portuguese participants as a prototypical example of feminine consumers.

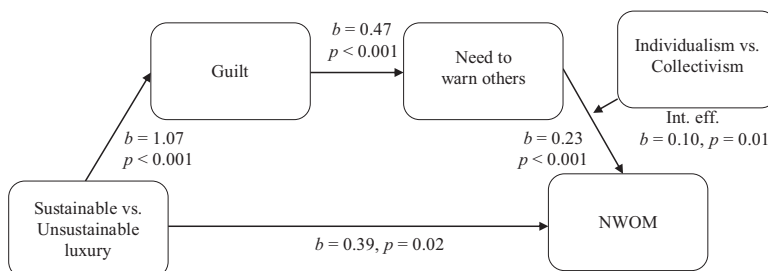


Figure 3. Results of study 2

Procedure and measures

We ran a two-cell online study with 285 respondents ($M_{\text{age}} = 30$, $SD = 9.44$, 58% females) recruited on the Prolific Academic crowdsourcing platform. In particular, 146 participants were from the UK ($M_{\text{age}} = 31$, $SD = 10.18$, 75% females) and 139 participants were from Portugal ($M_{\text{age}} = 29$, $SD = 8.42$, 59% males). Similar to Study 2, we used the respondents' nationality as a dichotomous measure of masculinity/femininity. We used a similar procedure, stimuli and measures as in Study 1 (see [Appendix](#)). Briefly, after being asked to think about a branded luxury apparel product that they had bought for themselves and with which they were satisfied, respondents were asked to rate the perceived luxuriousness, quality and exclusiveness of that product on a 7-point scale (1 = Very low, 7 = Very high, $\alpha = 0.63$). Subsequently, respondents were randomly assigned to either the unsustainable or sustainable luxury condition, whereby they read the same excerpts from the same Greenpeace report as in Study 1. After reading the excerpt describing luxury apparel brands' environmentally unsustainable (vs sustainable) manufacturing practices, participants had to imagine that one of the environmentally-irresponsible (vs responsible) brands blamed (vs praised) by Greenpeace was the brand whose product they had previously recalled—and by purchasing that product, they had already contributed to the collapse (vs the preservation) of the environment.

Next, we checked the appropriateness of our unsustainability versus sustainability manipulation using the same two-item measure as in Study 1 ($r = 0.89$, $p < 0.001$), as well as measured participants' guilt ($\alpha = 0.91$) and need to warn others using the same measures as in Study 1. Importantly, we diverged from Study 1 here by employing a measure of real NWOM behavior in order to offer convergence on this construct from more than one angle and increase the external validity of our results. We told participants they would be given the opportunity to share the Greenpeace report on a social network of their choice, and that they would be able to write a post and/or share the link of the report. Specifically, we measured NWOM behavior by looking at whether respondents ticked a box underneath the following instruction: "I would like to share the report I have just read an excerpt from" (see [Consiglio et al., 2018](#) for a similar procedure). In other words, whether participants ticked the box represented our NWOM behavior variable. Subsequently, we considered possible covariates by measuring how much participants trusted Greenpeace (1 = Not at all, 7 = Very much), how they would rate their attitude toward environmental movements/organizations (1 = Very bad, 7 = Very good), to what extent they were interested in environmental movements/organizations (1 = Not at all, 7 = Very much), how much they trusted the Greenpeace report (1 = Not at all, 7 = Very much), how reliable they thought the Greenpeace report was (1 = Not at all, 7 = Very much) and how important for them the product they had described was (1 = Not at all, 7 = Very much). Finally, as a debrief question, we asked participants to what extent they believed they would be given the opportunity to share the Greenpeace report on social media at the end of the study (1 = I did not believe at all, 7 = I totally believed it). Finally, participants provided their demographic information.

Table 9.
Conditional indirect effects of (Un)sustainability on NWOM intention for Study 2

| Paths | <i>b</i> | SE | LLCI | ULCI |
|---|----------|------|------|------|
| (Un)sustainability → Guilt → Need to warn others → NWOM intention (Individ./Collect. = -1) | 0.06 | 0.04 | 0.01 | 0.14 |
| (Un)sustainability → Guilt → Need to warn others → NWOM intention (Individ./Collect. = +1) | 0.17 | 0.05 | 0.08 | 0.28 |
| Index of moderated mediation | 0.11 | 0.05 | 0.01 | 0.22 |

Note(s): $N = 238$; Individualism/Collectivism = -1 for US respondents; Individualism/Collectivism = +1 for Indian respondents; b = Unstandardized regression coefficient; SE = Standard Error

Results

To test the validity of our multi-item measurements, we ran separate CFAs for the whole sample, as well as for each of the two subgroups of UK and Portuguese consumers. Such analyses yielded satisfactory factor loadings. The fit was acceptable (Table 10; see Hu and Bentler, 1999) and our measures showed satisfactory convergent validity (Table 11): The CR indicators and AVE indicators were above the recommended thresholds for product sustainability and guilt (Hair *et al.*, 2014). The AVE of perceived luxuriousness was slightly below the recommended threshold, but this was not much of a concern as perceived luxuriousness was assessed a control variable. Our measurements also achieved satisfactory discriminant validity, as the square roots of the AVEs were higher than inter-construct correlations (Table 11; see Fornell and Larcker 1981).

Next, we ran a test of measurement invariance to check whether our measurements were invariant across the two subgroups of respondents. Again, we compared the fit two CFAs: one wherein factor loadings and covariances were constrained to be equal for both groups of respondents (metric invariance model), and another wherein no equality constraints were imposed (configural invariance model). The latter CFA showed limited fit ($\chi^2 = 379.916$, $df = 77$, $\chi^2/df = 4.93$, GFI = 0.807, CFI = 0.815, RMSEA = 0.118, RSMR = 0.124). The CFA

| Variables and items | Pooled sample Stand. FL | UK consumers Stand. FL | Portuguese consumers Stand. FL |
|--|----------------------------|---------------------------|-----------------------------------|
| <i>Perceived product luxuriousness</i> | | | |
| Luxuriousness | 0.92 | 0.93 | 0.86 |
| Quality | 0.51 | 0.60 | 0.40 |
| Exclusiveness | 0.60 | 0.59 | 0.61 |
| <i>Perceived product sustainability</i> | | | |
| The apparel product I have recalled is environmentally friendly | 0.92 | 0.91 | 0.93 |
| The apparel product I have recalled is a good example of an environmentally friendly product | 0.96 | 1.01 | 0.91 |
| <i>Guilt</i> | | | |
| I feel a sense of blame | 1.24 | 1.08 | 1.39 |
| I feel like I deserve criticism | 0.55 | 0.70 | 0.50 |
| I feel remorse | 0.59 | 0.60 | 0.60 |
| <i>Need to warn others</i> | | | |
| I feel a need to warn others | 0.82 | 0.84 | 0.76 |
| <i>(Un)Sustainability</i> | | | |
| -1 = sustainable luxury, 1 = unsustainable luxury | - | - | - |
| <i>Negative word-of-mouth (NWOM)</i> | | | |
| 0 = absence of NWOM, 1 = presence of NWOM | 2.38 | 3.96 | 2.04 |
| Fit statistics | Pooled sample | UK consumers | Portuguese consumers |
| χ^2 | 66.39 | 50.33 | 45.63 |
| χ^2/df | 2.37 ^a | 1.79 ^b | 1.63 ^c |
| GFI | 0.96 | 0.94 | 0.95 |
| CFI | 0.97 | 0.97 | 0.98 |
| SRMR | 0.05 | 0.05 | 0.06 |
| RMSEA | 0.06 | 0.07 | 0.07 |

Note(s): $N = 285$; FL = Factor Loading; SE = Standard Error; df (degrees of freedom) = 28; ^a: $p < 0.001$ ^b: $p = 0.006$; ^c: $p = 0.019$; all factor loadings are significant at the 0.001 level

Table 10.
Confirmatory factor
analyses for Study 3

with constrained factor loadings and covariances also showed limited fit ($\chi^2 = 384.769$, $df = 82$, $\chi^2/df = 4.22$, $GFI = 0.804$, $CFI = 0.815$, $RMSEA = 0.114$, $RSMR = 0.124$). However, the comparison suggested that the factor loadings and covariances were invariant across the subgroups ($\Delta\chi^2 = 4.85$, $\Delta df = 5$; $p = 0.43$; see [Hu et al., 2011](#)) and hence led to consideration of the used measures as metrically invariant across the examined samples.

Next, we assessed our model's scalar invariance by comparing the fit of a CFA wherein factor loadings, covariances and intercepts were constrained to be equal for both groups of respondents (scalar invariance model) with the configural invariance model. The scalar invariance model showed limited fit ($\chi^2 = 472.602$, $df = 93$, $\chi^2/df = 4.60$, $CFI = 0.768$, $RMSEA = 0.120$, $RSMR = 0.129$). We detected a significant increase in Chi-square between the two invariance models ($\Delta\chi^2 = 92.69$, $p < 0.001$), but changes in RMSEA and SRMR were within the acceptable thresholds ($\Delta RMSEA = 0.002$; $\Delta SRMR = 0.006$). Like before, we adopted a conservative approach and retained the model for further analyses.

The results of one-way ANOVAs ([Table 12](#)) we performed on the luxury category (coded as $-1 =$ sustainable luxury and $1 =$ unsustainable luxury) revealed that the perceived luxuriousness of the product recalled did not vary between the two experimental conditions ($M_{\text{unsustainable}} = 5.40$, $SD = 0.95$ vs $M_{\text{sustainable}} = 5.58$, $SD = 0.89$, $F(1,283) = 2.63$, ns), although the average score of this measure across the two conditions was significantly higher than the scale midpoint ($M = 5.48$, $SD = 0.92$, $t(284) = 27.14$, $p < 0.001$). We then checked if

Table 11. Convergent and discriminant validity of the multi-item measurements used in Study 3

| Constructs | CR | AVE | 1 | 2 | 3 | 4 | 5 | 6 |
|-------------------------------------|------|------|-------------|-------------|-------------|-------------|-------|---|
| 1. Perceived product luxuriousness | 0.73 | 0.49 | <i>0.70</i> | | | | | |
| 2. Perceived product sustainability | 0.94 | 0.89 | 0.18 | <i>0.94</i> | | | | |
| 3. Guilt | 0.88 | 0.73 | -0.06 | -0.40 | <i>0.85</i> | | | |
| 4. Need to warn others | - | - | -0.13 | -0.69 | 0.69 | - | | |
| 5. (Un)sustainability | - | - | -0.08 | -0.31 | 0.16 | <i>0.32</i> | - | |
| 6. Negative word-of-mouth (NWOM) | - | - | -0.01 | 0.03 | 0.04 | 0.14 | -0.01 | - |

Note(s): $N = 285$; CR = Composite Reliability; AVE = Average Variance Extracted; diagonal figures in italics are the square roots of the Average Variance Extracted (AVE) of each construct; off-diagonal figures are inter-construct correlations

Table 12. ANOVA results for Study 3

| Variables | Sustainable luxury | | Unsustainable luxury | | F | Sig |
|------------------------------------|--------------------|------|----------------------|------|--------|------|
| | Mean | SD | Mean | SD | | |
| Perceived luxuriousness | 5.58 | 0.88 | 5.40 | 0.95 | 2.63 | 0.11 |
| Perceived sustainability | 5.21 | 1.41 | 2.86 | 1.41 | 196.59 | 0.00 |
| Guilt | 2.41 | 1.37 | 3.83 | 1.66 | 60.50 | 0.00 |
| Need to warn others | 3.38 | 1.83 | 4.85 | 1.59 | 52.66 | 0.00 |
| NWOM behavior | 0.24 | 0.43 | 0.21 | 0.41 | 0.36 | 0.55 |
| Perceived product importance | 4.67 | 1.55 | 4.33 | 1.63 | 3.23 | 0.07 |
| Trust in Greenpeace | 5.11 | 1.24 | 5.00 | 1.28 | 0.58 | 0.44 |
| Attitude toward env. organizations | 5.18 | 1.27 | 5.13 | 1.29 | 0.12 | 0.73 |
| Interest in env. organizations | 5.15 | 1.34 | 5.03 | 1.35 | 0.49 | 0.48 |
| Trust in the report | 4.89 | 1.29 | 4.75 | 1.36 | 0.77 | 0.38 |
| Report reliability | 4.73 | 1.32 | 4.64 | 1.33 | 0.38 | 0.54 |
| Luxury consumption frequency | 2.27 | 0.55 | 2.32 | 0.68 | 0.44 | 0.50 |
| Experiment believability | 4.27 | 1.85 | 4.19 | 2.00 | 0.12 | 0.73 |

Note(s): $N = 285$; Degrees of freedom = (1, 283)

our manipulation was successful, finding that participants exposed to the unsustainable luxury condition perceived the luxury apparel product as less environmentally sustainable ($M = 2.86, SD = 1.41$) than those in the sustainable luxury condition ($M = 5.21, SD = 1.41, F(1, 283) = 196.59, p < 0.001$).

Looking at the control measures, we did not find significant differences between the two experimental conditions for any of the control measures; therefore, we did not include any of those as covariates in our main model. Moreover, one-way ANOVAs revealed that participants in the unsustainable luxury condition reported a stronger feeling of guilt ($M = 3.83, SD = 1.66$) than those in the sustainable luxury condition ($M = 2.41, SD = 1.37, F(1, 283) = 60.50, p < 0.001$) and a stronger need to warn others ($M_{\text{unsustainable}} = 4.85, SD = 1.59$ vs $M_{\text{sustainable}} = 3.38, SD = 1.83, F(1, 283) = 52.66, p < 0.001$).

Hypothesis testing. Next, as in Study 2, we implemented a serial moderated mediation model using Hayes' (2013) PROCESS macro (Model 88). This model assessed the impact of unsustainable luxury on NWOM behavior (a binary variable assuming value = 1 if the respondents ticked the box and thus agreed to share the Greenpeace report and 0 otherwise) via guilt and need to warn others, which worked as first- and second-level mediators, respectively. Moreover, the model tested the moderating role of the country-level masculinity/femininity variable (coded as $-1 = \text{UK}$, masculine cultural orientation and $1 = \text{Portugal}$, feminine cultural orientation). As a result, we had four experimental conditions: the "Portugal and sustainable luxury" condition comprised 59 respondents; the "Portugal and unsustainable luxury" condition comprised 80 respondents; the "UK and sustainable luxury" condition comprised 72 respondents, and the "UK and unsustainable luxury" condition comprised 74 respondents.

We first regressed guilt on unsustainability (Table 13) and found that unsustainable luxury had a positive and significant impact on guilt ($b_{\text{Unstand.}} = 1.42, p < 0.001$). Next, we regressed need to warn others on guilt, finding that guilt ($b_{\text{Unstand.}} = 0.59, p < 0.001$) had a positive and significant impact on the need to warn others. Finally, we regressed NWOM behavior on unsustainable luxury, guilt, need to warn others and the need to warn others \times masculinity/femininity interaction. The results showed that unsustainable luxury

| Paths | <i>b</i> | SE | <i>t</i> (<i>z</i>) | <i>p</i> | LLCI | ULCI |
|--|----------|------|-----------------------|----------|-------|-------|
| <i>DV: Guilt</i> ($R^2 = 0.18, F[1, 283] = 60.50, p < 0.01$) | | | | | | |
| Constant \rightarrow Guilt | 2.41 | 0.13 | 18.01 | 0.00 | 2.15 | 2.68 |
| (Un)sustainability \rightarrow Guilt | 1.42 | 0.18 | 7.78 | 0.00 | 1.06 | 1.78 |
| <i>DV: Need to warn others</i> ($R^2 = 0.39, F[2, 282] = 91.07, p < 0.01$) | | | | | | |
| Constant \rightarrow Need to warn others | 1.97 | 0.19 | 10.60 | 0.00 | 1.60 | 2.33 |
| Guilt \rightarrow Need to warn others | 0.59 | 0.06 | 10.45 | 0.00 | 0.48 | 0.70 |
| <i>DV: NWOM</i> ($-2LL = 242.92, \text{ModelLL} = 63.13, \text{df} = 6, p < 0.01$) | | | | | | |
| Constant \rightarrow NWOM behavior | -2.90 | 0.75 | -3.87 | 0.00 | -4.37 | -1.43 |
| (Un)sustainability \rightarrow NWOM behavior | -0.75 | 0.37 | -2.06 | 0.04 | -1.47 | -0.04 |
| Need to warn others \rightarrow NWOM behavior | -0.31 | 0.27 | -1.16 | 0.25 | -0.84 | 0.22 |
| Need to warn others \times Femininity \rightarrow NWOM behavior | 0.75 | 0.31 | 2.46 | 0.01 | 0.15 | 1.35 |
| <i>Condit. effects of Need to warn others at values of Femininity</i> | | | | | | |
| Low Femininity (coded as $-1 = \text{UK}$ respondents) | -0.31 | 0.27 | -1.16 | 0.25 | -0.84 | 0.22 |
| High femininity (coded as $+1 = \text{Portuguese}$ respondents) | 0.44 | 0.15 | 2.98 | 0.00 | 0.15 | 0.73 |
| Note(s): $N = 285$; DV = Dependent Variable; b = Unstandardized regression coefficient; NWOM behavior = dichotomous proxy for NWOM behavior, coded as 0 when respondents did not engage in NWOM and 1 when respondents engaged in NWOM | | | | | | |

Table 13.
Results of regression
analyses performed in
Study 3

($b_{\text{Unstand.}} = -0.75, p = 0.04$) and, above all, the need to warn others \times masculinity/femininity interaction ($b_{\text{Unstand.}} = 0.75, p = 0.01$) had a significant effect on NWOM behavior. Like in Study 1, we ran a post-hoc test to exclude an alternative moderation effect. We used a two-way ANOVA to test the effect of unsustainable luxury and masculinity/femininity on NWOM behavior without the mediating variables. The results revealed that only the main effect of masculinity/femininity on NWOM behavior was significant ($F(1,281) = 50.98, p < 0.001$); neither the main effect of unsustainable luxury nor – more importantly – that of the unsustainable luxury \times masculinity/femininity interaction on NWOM behavior were significant.

In the next step, we scrutinized the need to warn others \times masculinity/femininity interaction through the analysis of conditional effects of need to warn others on NWOM behavior at the two levels of masculinity/femininity (Table 13). We found that the effect of need to warn others on NWOM behavior was not significant in the case of masculine cultural orientation ($b_{\text{Unstand.}} = -0.31, ns$), while it was significant in the case of feminine cultural orientation ($b_{\text{Unstand.}} = 0.44, p < 0.01$). The conditional indirect effect of unsustainability on NWOM behavior via guilt and need to warn others (see Table 14) was not significant in the case of masculine cultural orientation ($b_{\text{Unstand.}} = -0.26, \text{CI: } -0.77, 0.13$), but it was significant in the case of feminine cultural orientation ($b_{\text{Unstand.}} = 0.36, \text{CI: } 0.13, 0.72$). The index of moderated mediation was significant ($b_{\text{Unstand.}} = 0.62, \text{CI: } 0.18, 1.26$), thus demonstrating the existence of both the full sequential mediation path from unsustainable luxury to NWOM through guilt and need to warn others (emerged in Study 1 and Study 2, though with a different dependent variable) and of the moderating effect of masculinity/femininity [4]. Such results lend full support to H3. Figure 4 offers a graphical representation of the sequential moderated mediation path that emerged from Study 3’s findings.

General discussion

Existing research demonstrates that green initiatives generally enhance consumer satisfaction and have a positive impact on word-of-mouth (Gao et al., 2016; Yu et al., 2017).

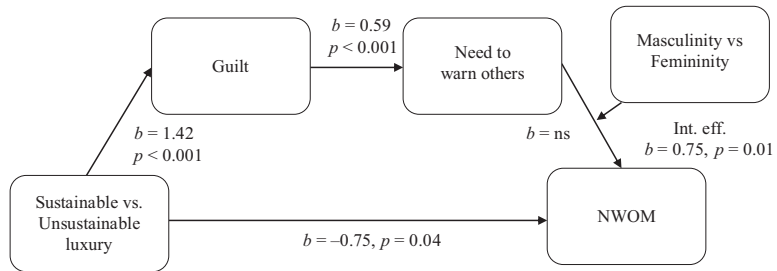


Figure 4. Results of study 3

Table 14. Conditional indirect effects of (Un)sustainability on NWOM behavior for Study 3

| Paths | b | SE | LLCI | ULCI |
|--|-------|------|-------|------|
| (Un)sustainability → Guilt → Need to warn others → NWOM behavior (Masculinity/Femininity = -1) | -0.26 | 0.23 | -0.77 | 0.13 |
| (Un)sustainability → Guilt → Need to warn others → NWOM behavior (Masculinity/Femininity = +1) | 0.36 | 0.15 | 0.13 | 0.72 |
| Index of moderated mediation | 0.62 | 0.28 | 0.18 | 1.26 |

Note(s): $N = 285$; Masculinity/Femininity = -1 for UK respondents; Masculinity/Femininity = +1 for Portuguese respondents; b = Unstandardized regression coefficient

These findings corroborate the idea that ethicality has a positive effect on customer loyalty, which, in turn, positively impacts word-of-mouth (Markovic *et al.*, 2018). However, very few studies have investigated the other side of the coin. Among these, Xie *et al.* (2014) found that corporate irresponsibility may trigger NWOM intentions. So, to contribute to this area of inquiry, the present research focused on unsustainable (vs sustainable) luxury. Across three experimental studies, we showed that consumers experience a sense of guilt when realizing that a luxury product they have bought in the past has been produced in an unsustainable (vs sustainable) way. This sense of guilt, in turn, elicits a need to warn other people, which ultimately leads to NWOM intention and NWOM behavior. Notably, the relationship between need to warn others and NWOM is moderated by consumers' cultural orientation, whereby the effect of need to warn others on NWOM intention and behavior is stronger for consumers with a collectivistic (vs individualistic) and feminine (vs masculine) cultural orientation.

Our article offers a number of important theoretical contributions to different streams of research. First, it contributes to the research on luxury and sustainability in several ways. While sustainable luxury has recently captured the interest of several scholars (e.g. Achabou and Dekhli, 2013; Beckham and Voyer, 2014; De Angelis *et al.*, 2017; Jain, 2019; Kapferer and Michaut-Denizeau, 2014; Torelli *et al.*, 2012), the field still lacks an examination into the psychological mechanisms underlying consumers' reactions. To fill this gap, we focused on unsustainable luxury companies' manufacturing practices (in contrast with past research that focused on sustainable luxury companies' actions), as well as investigated whether guilt and the need to warn others work as underlying drivers of NWOM intention and behavior. In doing so, we contribute to research on sustainable luxury by explaining the process underlying (negative) word-of-mouth reactions to luxury companies' (un)sustainable practices. Our work substantiates both anecdotal evidence and scientific research (e.g. Moraes *et al.*, 2017) suggesting that NWOM, especially in the form of social media firestorms, might seriously harm luxury companies' reputations. Our study is, to the best of our knowledge, the first to shed light on how cultural orientation shapes consumers' responses to information about the unsustainability of luxury products. Notably, unlike previous studies, ours investigated consumers' reactions to the post-purchase discovery of luxury products' unsustainability. Second, our research contributes to the literature on guilt stemming from luxury purchasing (e.g. Berens, 2013; Hagtvedt and Patrick, 2016; Ki *et al.*, 2017; Lala and Chakraborty, 2015; Zampetakis, 2014) by positing such products' unsustainability as a novel source of guilt feelings. Third, this study contributes to the literature on the psychological antecedents of word-of-mouth behavior (e.g. Berger, 2014; Henning-Thurau *et al.*, 2004; Sundaram *et al.*, 1998; Wetzer *et al.*, 2007) by showing that the effect of one such antecedent – the need to warn others – is moderated by consumers' cultural orientation. Overall, our article provides novel insights into how negative emotions (i.e. guilt) and the consumer needs they elicit (i.e. need to warn other consumers) work in conjunction with cultural orientation to shape the relationship between luxury products, (un)sustainability perceptions and NWOM.

Our findings have a number of managerial implications. First, luxury managers should be aware that the diffusion of negative information about the (un)sustainability of their companies' products and production processes may foster negative emotional reactions in consumers, who may then spread NWOM to compensate for this negative feeling (De Angelis *et al.*, 2012; Peluso *et al.*, 2017). Thus, managers who face unsustainability-related problems are advised to design communication strategies or engage in new initiatives intended to relieve such negative feelings in order to reduce the risk that consumers engage in NWOM sharing. For instance, luxury brands may increase their efforts in cause-related marketing (CRM) by creating new partnerships with environmental organizations (Boenigk and Schuchardt, 2013), thus leveraging CSR as a tool to reinforce their ethical corporate identities (Wong and Dhanesh, 2017). Furthermore, luxury brands could follow the example of companies such as LVMH and Kering, which have made significant progress in developing

sustainability programs and communicating sustainability practices in their CSR reports. Indeed, the LVMH Group underlines all its sustainability-oriented initiatives on its website and annual CSR reports (<https://r.lvmh-static.com/uploads/2019/05/2018-social-responsibility-report.pdf>). Similarly, sustainability is one of the most recurrent topics on the Kering Group's website, as the group publishes reports to highlight its economic, environmental, social and ethical performance, as well as the distinctions it receives from the main extra-financial rating organizations (<https://www.kering.com/en/sustainability/reporting-and-ranking/reporting-and-indicators/>).

Second, our results suggest that, while globalization may significantly reduce differences in consumption patterns across the globe, cultural factors still affect consumers' decisions and actions toward luxury companies. We found that, depending on their individualistic/collectivistic and masculine/feminine cultural orientation, consumers may be more or less willing to spread NWOM. Our studies thus contribute to existing research on the role of cultural factors in the diffusion of NWOM (e.g. [Chapa et al., 2014](#); [Maria Correia Loureiro et al., 2014](#); [Valenzuela et al., 2018](#)), while focusing on a topic that has received very little attention so far: unsustainable luxury products. Although past research has examined complaining behavior across different cultures (e.g. [Yuksel et al., 2006](#)) and recently started to investigate the notion of "green word-of-mouth" (intended as the diffusion of positive information about a product's environmental sustainability; [Zhang et al., 2018](#)), we are not aware of studies that have specifically investigated how NWOM about unsustainable luxury products varies across different cultural contexts.

The differences in consumer reactions to unsustainable luxury that emerged from our comparative studies highlight the necessity to embrace tailored marketing approaches to cope with consumers' different cultural orientation. Our results suggest that luxury managers could pay special attention to those markets where consumers are more prone to spread negative information to warn other consumers and tailor their sustainability-related programs and communications activities to consumers' cultural characteristics in order to avoid the diffusion of NWOM. Luxury leaders should have tight control over their sourcing, production and distribution activities to guarantee traceability and transparency throughout their value chain ([Kapferer, 2010](#)). They should share information regarding their sustainable development programs systematically in order to educate and inform consumers. This strategy may prove particularly beneficial in collectivistic and feminine consumption contexts, such as those considered in this research (i.e. India and Portugal). More specifically, to reduce the risk of social media firestorms, which can significantly affect the public's opinion about luxury brands and adversely affect their image, they could plan ad-hoc recovery strategies (e.g. sponsoring some pro-environmental initiatives). They should also monitor (and, if necessary, increase) the sustainability of their products and production processes and be transparent with consumers in the above-mentioned countries, who may tend to spread NWOM following the discovery of such companies' unsustainable practices.

On the other hand, consumer associations and NGOs may find our results particularly insightful for diffusing messages aimed at warning consumers against unsustainable products or production practices. Specifically, our findings indicate that such organizations might be best served spreading news about scandals involving luxury brands in countries such as India and Portugal, which are respectively characterized by a prevalent collectivistic and feminine cultural orientation. On the other hand, consumer associations and NGOs should adopt a different communication approach in countries such as Italy, US and UK, which are characterized by a prevalent individualistic and masculine cultural orientation, as people living in those countries might tend to refrain from sharing negative information about their consumption experiences.

Lastly, our study features some limitations that may represent fruitful avenues for future research. First, we collected data from respondents drawn from a limited number of countries

characterized by different cultural orientations, namely the US (representing an individualistic orientation), India (representing a collectivist orientation), the UK (representing a masculine orientation), Portugal (representing a feminine orientation) and Italy (representing an individualistic and masculine orientation). We detected interesting differences in consumer reactions to unsustainable luxury across the studied groups of respondents, but our model exhibited limited invariance, which is probably due to the limited size of our samples. Hence, we recommend a cautious interpretation of our findings and suggest that, in order to corroborate our results, future studies should survey broader samples, possibly extracted from countries characterized by different cultural orientations than what was investigated in the present research. Second, while our study focused on luxury, future studies could investigate the role that need to warn others and cultural orientation play in other contexts, such as mass-market products. Third, while we investigated the effect of (un)sustainability, guilt, need to warn others and cultural orientation on NWOM, future research could focus on different dependent variables, such as consumers' intention to repurchase the product from the brand (brand loyalty) or engage in brand sabotage (Kähr *et al.*, 2016). Fourth, although our experiments and manipulations were realistic, they were conducted online. Future research may seek to replicate our findings by developing laboratory or field experiments. Finally, it is worth noting that the mean score on the guilt measure obtained in Study 2 was lower than the mean scores on the same measure obtained in Study 1 and Study 3. This might be due to the fact that Study 2 used a fictitious online magazine in the scenario, while the other two experiments referenced Greenpeace, a real organization. In spite of such limits, this research advances the current understanding of consumers' reactions to unsustainable production processes. This topic will only grow in importance as humanity strives to protect the environment by adopting more sustainable production and consumption models.

Notes

1. <https://www.reuters.com/article/moncler-geese/update-1-luxury-coat-maker-moncler-denies-mistreating-geese-as-shares-fall-idUSL6N0ST3PX20141103>
2. <https://nypost.com/2018/07/19/burberry-burned-36-5m-of-unsold-clothes-last-year/>.
3. <https://goodonyou.eco/how-ethical-is-chanel/>.
4. Then, as a robustness check, we removed those respondents with very low scores (1 and 2) on the debriefing question (i.e. those who did not believe the possibility they would have shared the report on social media) from our sample, leaving us with 217 respondents. The results did not change.

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(The Appendix follows overleaf)

Studies 1 and 3

Sustainable luxury condition:

Progress in cutting hazardous chemicals in branded luxury fashion products

Kevin Brigden, Samantha Hetherington, Mengjiao Wang, David Santillo & Paul Johnston

<http://www.greenpeace.to/greenpeace/wp-content/uploads/2014/02/Technical-Report-01-2019.pdf>

Greenpeace has recently published a number of reports showing that a wide range of luxury apparel products, manufactured and sold in many countries around the world, have significantly decreased residues of polluting substances (p. 2)

This study extends this work to include a set of 27 luxury clothing and footwear products, sold by eight major clothing brands and purchased in nine countries/regions around the world (p. 2)

Through this environmentally sustainable approach these brands strongly limit the use of polluting chemicals during manufacture, thus ensuring the preservation of the environment (p. 20)



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Unsustainable luxury condition:

Polluting chemicals in branded luxury fashion products

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Greenpeace has recently published a number of investigations showing that a wide range of luxury apparel products, manufactured and sold in many countries around the world, can contain residues of polluting substances (p. 2)

This study extends this work to include a set of 27 luxury clothing and footwear products, sold by eight major clothing brands and purchased in nine countries/regions around the world (p. 2)

The use of these and other polluting chemicals during manufacture can be expected to result in releases from manufacturing facilities, including within wastewaters (p. 20)



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Study 2

Consumer reactions to unsustainable luxury

Sustainable luxury condition:

Now, please imagine that, while browsing an online luxury magazine, you read an article about your wallet/bag. Please read carefully the following excerpt of that article.

From **High-Enders** (“Fashion & Lifestyle” section)

By N. Krimput

...if you have bought that wallet/bag, be advised that you own a highly sustainable product. Your wallet/bag is made of materials obtained through advanced production processes that have a minimal impact on the environment.

All parts and stitches with organic cotton and lining are made from recycled cloth. Plus, the packaging of your wallet/bag is made from 100% recyclable paper. Its production does not cause the emissions of polluting substances in any stage and waste materials are reused in other industries.

Therefore, you chose one of the most environmentally-friendly wallets/bags available in the market.

Unsustainable luxury condition:

Now, please imagine that, while browsing an online luxury magazine, you read an article about your wallet/bag. Please read carefully the following excerpt of that article.

From **High-Enders** (“Fashion & Lifestyle” section)

By N. Krimput

...if you have bought that wallet/bag, be advised that you own a highly unsustainable product. Your wallet/bag is made of materials obtained through advanced production processes, but they have a significant impact on the environment.

All parts and stitches with synthetic cotton and lining are made from unrecycled cloth. Plus, the packaging of your wallet/bag is made from non-recyclable paper. Its production causes the emissions of highly polluting substances in all stages and waste materials are not reused in other industries.

Therefore, you chose one of the least environmentally-friendly wallets/bags available in the market.

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