

A Work Project, presented as part of the requirements for the Award of a Master's degree in  
Management from the Nova School of Business and Economics.

PSYCHOLOGICAL DETERMINANTS OF SUSTAINABLE CONSUMER BEHAVIOR -  
THE ROLE OF GUILT IN SUSTAINABLE FASHION CONSUMPTION

JOANA RITA BARREIRAS ANTUNES RIBEIRO

Work project carried out under the supervision of:

Arnaud Monnier

14/12/2024

## **Abstract**

The fashion industry's environmental impact has spurred interest in sustainable fashion, emphasizing the need to address the attitude-behaviour gap in sustainable consumption and facilitate a broader adoption of sustainable fashion. The purpose of this research is to investigate how coupling environmental claims with emotional appeals of hope, pride, guilt, and shame, influences consumer purchase intentions in sustainable fashion. This research undertook a quantitative approach, building evidence in favor of the developed hypotheses using a survey-based experimental design with 305 respondents. Data were analyzed through the use of ANOVA, ANCOVA, and Hayes' mediation analyses. Results revealed mixed findings, as the emotional manipulation failed to induce significant differences in the intended emotions. Only the hope appeal showed a statistically significant impact on purchase intentions, albeit with limitations in attributing this to the intended emotional response. The findings highlight the complexity of isolating specific emotions and underscore the need for future research to explore their nuanced roles in promoting sustainable consumption.

## **Keywords**

Sustainable Consumer Behaviour, Sustainable Fashion, Emotional Appeal, Purchase Intention, Environmental Claim, Advertisement, Hope Appeal, Pride Appeal, Guilt Appeal, Shame Appeal

This work used infrastructure and resources funded by Fundação para a Ciência e a Tecnologia (UID/ECO/00124/2013, UID/ECO/00124/2019 and Social Sciences DataLab, Project 22209), POR Lisboa (LISBOA-01-0145-FEDER-007722 and Social Sciences DataLab, Project 22209) and POR Norte (Social Sciences DataLab, Project 22209).

## Table of Contents

<b>1. INTRODUCTION.....</b>	<b>2</b>
<b>1.1 BACKGROUND.....</b>	<b>2</b>
<b>1.2 PROBLEM DISCUSSION .....</b>	<b>4</b>
<b>1.3 RESEARCH PURPOSE AND RESEARCH QUESTION .....</b>	<b>5</b>
<b>2. THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT .....</b>	<b>6</b>
<b>2.1 SUSTAINABLE CONSUMER BEHAVIOR IN FASHION.....</b>	<b>6</b>
<b>2.2 ENVIRONMENTAL CLAIMS .....</b>	<b>9</b>
<b>2.3 EMOTIONAL APPEALS .....</b>	<b>11</b>
<b>2.3.1 Guilt .....</b>	<b>14</b>
<b>3. METHODOLOGY .....</b>	<b>17</b>
<b>3.1 RESEARCH METHOD.....</b>	<b>17</b>
<b>3.2 RESEARCH DESIGN.....</b>	<b>17</b>
<b>4. METHOD .....</b>	<b>18</b>
<b>4.1 PRIMARY DATA COLLECTION.....</b>	<b>18</b>
<b>4.2 SAMPLING PROCESS.....</b>	<b>19</b>
<b>4.3 PROCEDURE.....</b>	<b>20</b>
<b>4.4 DATA ANALYSIS.....</b>	<b>22</b>
<b>4.5 MEASURES AND CONSTRUCTS.....</b>	<b>25</b>
<b>4.6 RESEARCH QUALITY AND ETHICAL CONSIDERATIONS.....</b>	<b>28</b>
<b>5. RESULTS AND ANALYSIS.....</b>	<b>31</b>
<b>INDIVIDUAL STUDY – GUILT .....</b>	<b>31</b>
<b>6. GENERAL DISCUSSION .....</b>	<b>40</b>
<b>7. LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH .....</b>	<b>43</b>
<b>8. THEORETICAL CONTRIBUTIONS AND PRACTICAL IMPLICATIONS.....</b>	<b>46</b>
<b>9. CONCLUSION .....</b>	<b>47</b>
<b>10. REFERENCES .....</b>	<b>48</b>
<b>11. APPENDICES.....</b>	<b>65</b>

## **1. Introduction**

### **1.1 Background**

In recent years, a critical spotlight has been cast on the fashion industry as one of the most environmentally detrimental sectors responsible for excessive water usage, pollution, and immense amounts of waste (Pal and Gander 2018). In response to mounting environmental concerns, sustainable fashion has emerged as a vast concept for clothing and behaviors aimed at meeting present needs while minimizing negative impacts on people and the planet (Mukendi et al. 2020). Although consumer demand for sustainable fashion is on the rise (Dhir et al. 2021), especially among younger generations who prioritize sustainability and corporate social responsibility (Deloitte 2019; McNeill and Venter 2019), the well-documented "attitude-behavior gap" persists, where consumers express strong support for sustainability but often fail to make actions subsequently aligned (K. Peattie and S. Peattie 2009; Vermeir and Verbeke 2006).

From a business perspective, there are many possible approaches to sustainability, including innovative technologies, production systems, business models, corporate policies, and initiatives (Mukendi et al., 2020; Osbaldiston and Schott 2011; Peattie 2010). However, one area with great potential that should not be overlooked pertains to the possibility of influencing individuals' behavior (Osbaldiston and Schott 2011). Although all the aforementioned do play a vital role in the pursuit of sustainability, their contribution remains heavily dependent on both the actions of, and interactions between, producers and consumers (Peattie 2010). Consequently, consumer behavior constitutes a fundamental aspect of sustainable development, with what, how, and how much people consume at its very core (Osbaldiston and Schott 2011; Peattie 2010; Princen, Maniates, and Conca 2002; Trudel 2018). Without consumers'

willingness and ability to change their consumption behaviors and support sustainably efficient businesses, the desired impacts will inevitably be undermined (Peattie 2010).

The term 'sustainable consumer behavior' specifically refers to actions taken by consumers to reduce adverse environmental impacts and decrease the utilization of natural resources throughout the lifecycle of a product, behavior, or service (Mukendi et al. 2020; White, Habib, and Hardisty 2019). Its explicit formulation was first introduced in the 1970s (Osbaldiston and Schott 2011; Peattie 2010; Trudel 2018), but has since evolved significantly, coinciding with an extensive body of literature comprising contributions from a wide range of social and physical science disciplines (Burgess et al. 2003; Peattie 2010). The contemporary understanding holds a rather holistic perspective, viewing sustainable consumption as a multifaceted process strongly influenced by consumer values, norms, and habits, while also being highly complex, diverse, and context-dependent (Peattie 2010; Sarigöllü 2008; Zukin and Maguire 2004). In alignment, modern conceptualizations and promotional tactics consider a broad scope of challenges, driving factors, and potential routes (Trudel 2018; White, Habib, and Hardisty 2019).

However, the most consistent conclusion emerging from the research literature pertains to sustainable consumers' great heterogeneity, and that their behaviors cannot be explained by a single factor or effectively influenced through a one-size-fits-all approach (Nilssen, Bick, and Abratt 2018; Ochoa 2010; White, Habib, and Hardisty 2019). Thus, practitioners need to understand the specific context and underlying psychology to effectively promote sustainable consumer behavior (Osbaldiston and Schott 2011; Trudel 2018; White, Habib, and Hardisty 2019).

Over the years, traditional marketing and its emphasis on continuous growth and aspiration to satisfy consumer demands has played a critical role in shaping consumption behaviors contributing to environmental degradation (Csikszentmihalyi 2000; K. Peattie and S. Peattie 2009; White, Habib, and Hardisty 2019). The conventional marketing mindset encourages mass consumption, often overlooking the long-term environmental consequences of promoting resource-intensive lifestyles (Csikszentmihalyi 2000), while simultaneously reducing the lifespan of products (Sharma 2021). Along with marketing's impact on the environment and consumers' shift in awareness and attitudes, a growing need and realized value for green marketing has emerged in recent years (Sharma 2021). Companies are changing their strategies and functions, and it is essential to adapt to this new environment to leverage long term benefits, as well as fostering sustainable consumption behaviors (White, Habib, and Hardisty 2019). Consequently, there is a notable increase in green marketing spending (Minton et al. 2012), further emphasizing the importance for marketers to understand which communication activities are effective, and which are not (White, Habib, and Hardisty 2019).

## **1.2 Problem Discussion**

The fashion industry's sustainability issues have come under intense scrutiny in recent years, challenging traditional consumption and production practices (Grappi et al. 2024; Mukendi et al. 2020). Although sustainable fashion emerges to address these concerns, a critical challenge remains: *how to attract consumers who are not yet engaged with sustainable clothing?*

While previous research has primarily highlighted factors such as enhancing knowledge and providing economic logic to shape sustainable consumer behavior, emotional and intuitive factors have later gained recognition to be even more influential in practice (Carrus, Passafaro, and Bonnes 2008). It has been further suggested that both negative and positive emotions can

predict sustainable behaviors (Vining and Ebreo 2002; White, Habib, and Hardisty 2019; Yan, Keh, and Murray 2023), and an overall increased engagement in sustainable behaviors can be achieved by coupling cognitive and affective processes (Carrus, Passafaro, and Bonnes 2008). Nonetheless, literature remains equivocal on the absolute effect of negative and positive emotions on sustainable consumer behavior (Grappi et al. 2024), with most works focusing on the sole negative and positive framing rather than examining specific emotions in the message (Griskevicius, Shiota, and Nowlis 2010). Thus, research has not yet completed the full picture on how and in what instances emotions can persistently promote sustainable consumer behavior.

It is against these premises that this paper is situated. Indeed, some literature points to the potential of emotional appeals in promoting sustainable behavior (Grappi et al. 2024; Peattie 2010; White, Habib, and Hardisty 2019). However, existing research also suggests that simply applying lessons from other sustainable consumption contexts, like organic food, may not be effective for other sustainable consumption contexts (McDonagh and Prothero 2014; Ochoa 2010; Ritch 2015). As of yet, this establishes a relevant gap in the literature regarding studies that examine how coupling environmental claims with specific emotional appeals can influence consumer intentions, especially within sustainable fashion (Chen et al. 2022). Addressing this gap is essential for developing marketing strategies that resonate with consumers on an emotional level and thereby promote sustainable consumption in the fashion context.

### **1.3 Research Purpose and Research Question**

This research intends to investigate the role of emotions in promoting sustainable consumer behaviors in fashion. As societal interest in sustainable fashion continues to rise, this research seeks to offer actionable insights for marketers and practitioners on developing effective green

marketing communications that enhance purchase intentions. Therefore, the following research question has been formulated;

*“Does coupling environmental claims with emotional appeals in marketing increase the likelihood of consumer purchase intentions within sustainable fashion consumption?”*

## **2. Theoretical Background and Hypotheses Development**

### **2.1 Sustainable Consumer Behavior in Fashion**

Sustainable consumer behavior is a well-explored research domain that dates back to the 1970s (Osbaldiston and Schott 2011; Peattie 2010; Trudel 2018). It investigates the actions, or inactions, of consumers aimed at reducing their adverse environmental impacts and minimizing the utilization of natural resources throughout the lifecycle of a product, behavior, or service (Mukendi et al. 2020; White, Habib, and Hardisty 2019). These actions can take various forms, such as opting for products with sustainable features that are sustainably sourced and produced, voluntarily cutting back on one’s initial consumption, or disposing products in a sustainable manner (White, Habib, and Hardisty 2019).

The extensive body of literature on the subject indicates a concept of great complexity, often defined as a multifaceted process strongly influenced by consumer values, norms, and habits, while also being highly complex, diverse, and dependent on context (Peattie 2010; Sarigöllü 2008; Zukin and Maguire 2004). It is therefore no wonder that the state of art knowledge on sustainable consumer behavior comprises a vast research landscape (Trudel 2018), including an amalgamation of contributions and theories from a wide range of disciplines (Burgess et al. 2003; Peattie 2010). In fact, the most consistent conclusion among scholars is that sustainable consumers are highly heterogeneous, and that their behaviors cannot be explained by one

overarching theory or effectively influenced through a one-size-fits-all approach (Nilssen, Bick, and Abratt 2018; Ochoa 2010; White, Habib, and Hardisty 2019).

Aligned with this understanding, researchers have frequently emphasized the importance of considering the underlying psychological factors specific to the intended context when promoting sustainable consumer behavior (Ochoa 2010; Trudel 2018; White, Habib, and Hardisty 2019). In other words, one must shift focus from the broad domain of sustainable consumer behavior to the narrower, less-explored context of sustainable consumer behavior in fashion to obtain more relevant insights in terms of the unique sustainable fashion context (McDonagh and Prothero 2014; Mukendi et al. 2020; Ochoa 2010; Ritch 2015).

Despite, it was not until 2008 that sustainable fashion consumption appeared in literature as a distinct subarea (Mukendi et al. 2020), separate from other commodity product categories that had previously dominated the sustainable consumption research (McDonagh and Prothero 2014). While still an emerging field, the steady increase in academic articles since remark a mounting interest in the domain (Mukendi et al., 2020). Similarly, consumer demand for sustainable fashion continues to rise (Dhir et al. 2021). However, not without the presence of the well-documented attitude-behavior gap (Mukendi et al. 2020). This gap manifests uniquely in the sustainable fashion context, in which factors such as how people actually use clothing (Khan et al. 2023), pressures to follow the latest fashion trends, and financial constraints that make some unable to afford sustainable fashion also play role (Mukendi et al. 2020).

Rather than attributing responsibility solely to consumers, literature highlights several barriers inhibiting sustainable fashion consumption, including lack of accessibility, visibility, transparency, and convenience (Han, Seo, and Ko 2017; Khan et al. 2023), which may leave

consumers without the time, ability, or motivation to put additional effort into finding sustainable fashion (Perry and Chung 2016). Adding to these barriers are common consumer perceptions of sustainable fashion as being premium and exclusive (Han, Seo, and Ko 2017; Henninger, Alevizou, and Oates 2016), while at the same time unfashionable and of inferior quality (Harris, Roby, and Dibb 2016; Mukendi et al. 2020). Collectively, these barriers and misconceptions create tensions between consumers' values, desires, commitments, and resources, limiting a broader adoption of sustainable fashion (Henninger, Alevizou, and Oates 2016).

Focusing on consumer drivers, the desire to express oneself, increased awareness, subjective knowledge, social norms and social pressures, are recurring in literature as factors driving sustainable fashion consumption (Mukendi et al. 2020). However, it has been noted that social pressures and norms only function as drivers for non-converted consumers as already converted sustainable fashion consumers do not need further convincing of such (Kang, Liu, and Kim 2013). In alignment, previous purchases of sustainable fashion and attitudes towards sustainable fashion consumption have been suggested to greatly influence purchase intentions (Cowan and Kinley 2014). On the contrary, the consumption literature suggests that individuals do not put environmental aspects into consideration when consuming clothes (Joy et al. 2012). Subsequently, contradictory findings indicate an ambiguity regarding which consumer characteristics and drivers, have the greatest influence within which scenarios (Mukendi et al. 2020).

Similarly, the advice on promoting sustainable fashion consumption is at best conflicted in literature, providing an array of suggestions in relation to this conundrum (Mukendi et al. 2020). Tactics include promoting fashionability (Beard 2008; Blanchet 2017), educating consumers

about sustainable fashion (Harris, Roby, and Dibb 2016; Mukendi et al. 2020), highlighting hedonic benefits (Beard 2008; Visser, Gattol, and Van der Helm 2015), positioning sustainable fashion consumption as a social norm (Kim, Lee, and Hur 2012), and utilizing celebrity endorsement (Blanchet 2017; Kang and Choi 2016). Another more general recommendation proposes incorporating emotional and rational appeals, both positive and negative, into promotional messages to heighten purchase intentions for sustainable fashion (Khan et al. 2023; Kim and Jin 2019).

## **2.2 Environmental Claims**

Environmental advertising is commonly used in the fashion industry, and consumers tend to be highly receptive to such when claims resonate with their personal values and beliefs with regard to environmental protection (Kong, Witmaier, and Ko 2021). However, growing consumer skepticism towards environmental claims has become an important factor to consider in recent years, especially in relation to greenwashing where companies overclaim, misrepresent or falsely exaggerate their environmental practices (Akturan 2018).

There is limited research on classifications of environmental claims, even though they have increased in popularity (Teona, Ko and Kim 2020). In 1993, Carlson, Grove and Kangun (1993) made a classification scheme by investigating environmental advertisements, resulting in four types of claims: (1) product orientation (i.e., claims related to the product itself), (2) process orientation (i.e., claims of the production process of the products), (3) image orientation (i.e., creating an environmental image of the company itself), and (4) environmental fact (i.e., claims that do not relate to the company or its products, solely stating facts about the environment degradation in general). The first two types of claims, product orientation and process orientation, are more substantive, thus expressing more tangibly what the company does in

terms of environmental sustainability (Chan 2000). The latter two, image orientation and environmental facts, are more associative as they are less tangible and do not explicitly convey what the company does for the environment but rather creates an environmentally friendly facade (Chan 2000; Teona, Ko and Kim 2020).

As consumers tend to respond better to claims that are more specific in details about the environmental attributes of the product, easy to understand and supported by information of the benefits, the more substantive claims appear to generate more favorable reactions due to its tangibility compared to the associative claims (Chan 2000). Carlson, Grove and Kangun (1993) had differing findings related to credibility and misleading perceptions of environmental claims and found that the associative claims were perceived as more credible and less misleading than the substantive ones. Similarly, Kim and Damhorst (1999) found that claims regarding environmental activism and creating an environmental image for the company had more positive responses than product-related claims. A later study by Phau and Ong (2007) identified contradicting findings, that product-related claims were perceived more credible with more positive responses than cause-related claims. The researchers posed the potential explanation that modern consumers might have become more skeptical towards claims regarding the core business and claims that involve the company's environmental image compared to the consumer's view on the matter in 1999 (Phau and Ong 2007).

Similarly to the literature of environmental claim classifications, research within the specific context of sustainable fashion is limited. However, the existing body of research implies that substantive claims (product and process orientation) tend to yield more positive responses compared to associative claims (image orientation and environmental facts) within the

sustainable fashion domain (Mukendi et al. 2020; Phau and Ong 2007; Teona, Ko and Kim 2020; Yan, Hyllegard and Blaesl 2012).

The importance of information has been confirmed by previous research suggesting that educating consumers about the sustainability of products or actions can promote pro-environmental behaviors (Osbaldiston and Schott, 2011). However, as stated by Abrahamse et al. (2005) and McKenzie-Mohr (2000) to promote long-term pro-environmental change, providing information alone is not sufficient. Therefore, combining knowledge with other activities may be a more effective strategy to encourage consumers to engage in sustainable behavioral change (Abrahamse et al. 2005; McKenzie-Mohr 2000).

### **2.3 Emotional Appeals**

Emotions arise as a reaction to the environment (Carrus, Passafaro, and Bonnes 2008) when an event or object is perceived as relevant to an individual's concerns and values (Brosch and Steg 2021; Zeelenberg et al. 2008). As emotions adhere to the value given to an event or object, they assist the learning of how to realize those and initialize motivation accordingly (Gifford 2002; Zeelenberg et al. 2008). Thus, emotions operate interconnectedly, not only with cognition as they alter the selection and interpretation of information, but also with actions as they initiate motivational action tendencies and create memory traces that steer future thoughts and behavior (Brosch and Steg 2021). According to Brosch and Steg (2021), this interconnection between emotion, cognition, and behavior, highlights emotions impact on human thoughts and actions across various dimensions, thereby further underscoring their important role in shifting behaviors toward sustainability. In accordance, it has been suggested that emotions operate lawfully, making their outcomes rather consistent and fairly foreseeable (Frijda 2007). Consequently, it is possible to account for the different emotions' impact on the decision-

making process (Zeelenberg et al. 2008), which thereby opens up for the opportunity to further leverage this understanding.

In advertising, emotional appeals has been used to motivate consumers to make a purchase decision by evoking feelings rooted in underlying symbolic, social, or psychological desires (Kim, Jeon and Lee 2020). It is one of the most researched types of message appeals in literature (Kapoor, Balaji and Jiang 2021), and is frequently suggested to be a powerful tool to employ in the context of marketing to influence behaviors (Achar et al. 2016; Andrade 2015). Advertisements can either aim to evoke positive or negative emotions in the recipient (Florence et al. 2022). In regard to sustainable behavior, it has been proposed that both types of emotions can predict sustainably aligned actions (Vining and Ebreo 2002; White, Habib, and Hardisty 2019; Yan, Keh, and Murray 2023).

Positive emotional appeals influence consumer behavior uniquely, with distinct cognitive and motivational mechanisms shaping their effects (Griskevicius, Shiota, and Nowlis 2010). Negative emotional appeals motivate corrective behavior by creating an emotional imbalance that can be rectified through desired actions (Brennan and Binney 2010). To succeed, negative emotional appeals must balance intensity in order to ensure the scope of the problem aligns with the audience's capacity to act (Brennan and Biney 2010). However, similar to other behavioural drivers, emotions do not consistently affect human behaviour, nor do they influence all individuals uniformly or alter all behaviour in the same way every time (Brosch and Steg 2021). Additionally, three main streams of literature on emotion (i.e., affective dynamics, mixed emotions, and meta-emotions) suggests that there are several different interrelations between emotions, making it likely that more than one emotion occurs at the same time (Berrios 2019). In alignment, strategies leveraging positive and negative emotions have favourably promoted

sustainable behaviour in some instances, but in others failed to encourage the desired behaviour or even encouraged opposing behaviours unintendedly (Chapman, Lickel and Markowitz 2017). Therefore, it is particularly necessary to consider the context under which the emotions promote sustainable behaviours (Brosch and Steg 2021).

Literature persists equivocal on the absolute effect of negative and positive emotions on sustainable consumer behaviour (Grappi et al. 2024), with most works focusing on the sole negative and positive framing rather than examining specific emotions in the message (Griskevicius, Shiota, and Nowlis 2010). Emotions can be portrayed in a positive or negative light, depending on whether the message is framed to highlight loss or gain (Zubair et al. 2020). In regard to sustainable consumption behaviours in fashion, some works have argued positively framed messages supremacy over negatively framed messages (Grappi et al. 2024). However, the message framing literature is at best conflicted regarding the most effective framing technique, suggesting that the negative and positive emotions being framed may determine the message framing effects (Baek and Yoon 2017). Although both framing techniques can be effective, they are likely to create different results (Brennan and Binney 2010).

### **2.3.1 Guilt**

Guilt is a self-conscious emotion that occurs when individuals perceive that they have violated personal or social standards, leading to feelings of remorse and responsibility for their actions (Pounders, Lee, and Royne 2017, 38).

Guilt appeals can motivate corrective behavior by causing an emotional imbalance, which individuals try to resolve through actions that address the issue raised by the appeal. By highlighting this responsibility, guilt can drive consumers to seek absolution (Brennan and Binney 2010). Research shows that guilt can drive individuals to direct helping actions, lead to prosocial actions, and promote ethical consumer behavior (Grappi et al. 2024).

Guilt can enhance sustainable behavior by fostering a sense of personal responsibility (Antonetti and Maklan 2014). Research shows that guilt can positively influence perceived consumer effectiveness (PCE), the belief that the action of an individual can make a difference and contribute to specific sustainable development-related outcomes (Antonetti and Maklan 2014; Hanss and Doran 2019, 2).

PCE is relevant in sustainable behavior as it bridges the gap between environmental concern and actual actionable behavior by instilling confidence of one's impact (Hanss and Doran 2019). This is particularly relevant in contexts such as sustainable consumption, where consumers might feel powerless due to the scale of environmental issues (Hanss and Doran 2019). Guilt appeals can work effectively by enhancing PCE, as they can reduce consumers' reliance on neutralization techniques, which are psychological strategies used to justify or deflect blame for unsustainable behaviors (Antonetti and Maklan 2014).

Brennan and Binney (2010) point out that individuals are willing to accept a certain level of guilt before activating self-protection mechanisms. These mechanisms help individuals emotionally detach and overlook messages appealing to their sense of guilt (Brennan and Binney 2010, 143).

Accordingly, the following hypothesis was formulated:

*H3a: Coupling an environmental claim with the emotional appeal of guilt in advertisements will increase consumer purchase intentions within sustainable fashion compared to advertisements with only an environmental claim.*

According to Culiberg et al. (2022), personal responsibility is an important driver of guilt, particularly in relation to pro-environmental behavior. If individuals feel personally responsible for an issue at hand, this can influence feelings of guilt and encourage behaviors such as word-of-mouth and environmental activism (Culiberg et al. 2022).

Watkins, Aitken, and Mather (2016) expand on the notion that Moral Foundations Theory categorizes moral foundations into two dimensions: individualizing (concern for harm and fairness) and binding (focus on group loyalty and authority), which can help in understanding sustainable consumption behaviors (Watkins, Aitken, and Mather 2016).

Their study demonstrates that individuals with individualizing moral foundations are more likely to engage in sustainable consumption, driven by concerns for fairness and harm reduction. On the other hand, those with binding moral foundations may focus on sustainability behaviors that align with their sense of group loyalty and responsibility (Watkins, Aitken, and Mather 2016).

When consumers feel personally accountable for a negative outcome, the emotion of guilt is triggered (Brennan and Binney 2010). We then hypothesize that personal responsibility can be a good mediator for guilt, bridging the gap between emotional appeal and corrective behaviors.

Thus, the following hypothesis was created:

*H3b: Personal responsibility will act as the mediating effect bridging the emotional appeal of guilt and purchase intentions within sustainable fashion.*

### **3. Methodology**

#### **3.1 Research Method**

In the field of consumer behavior there are two primary strands of conducting research; qualitative and quantitative (Ahmad et al. 2019). Whereas the qualitative research builds upon verbal narrative such as written or spoken data, the quantitative research on statistical or logical observations to establish findings (Leavy 2017). This research undertook a quantitative approach, building evidence in favour of the developed hypotheses by examining relationships between variables that are numerically measured and analysed (Saunders, Lewis, and Thornhill 2019). Since the purpose of this research was to investigate how the coupling of environmental claims and emotional appeals in advertisement influenced sustainable purchase intentions, a quantitative research approach was appropriate as they are frequently used to explore correlations, associations and causal relationships (Leavy 2017).

#### **3.2 Research Design**

This research employed a survey-based experimental design to assess consumer responses to emotional appeals in fashion advertising, specifically in the context of sustainable consumption behaviors. By using structured survey techniques, the quantitative analysis facilitated the testing of hypotheses related to behaviors, thus enabling a clear, evidence-based assessment of the influence of different emotions in fashion advertising (J. Park and M. Park 2016). Further, a quantitative research design in terms of a survey, enables researchers to gather a vast amount of data from a large number of respondents (Leavy 2017).

The research design involved experimental testing to establish casual links between emotional appeals and sustainable consumer behavior, leveraging one control group and four experimental groups for precise observation. Experimental designs allow for structured comparisons across

conditions (Kirk 2013), making them suitable for studies investigating how different emotional manipulations (e.g., guilt, pride, hope, and shame) influence consumer purchase intentions in the sustainability contexts. Given the research's focus on “how” emotions affect behaviour, this design facilitated a clearer measurement of these effects compared to simpler survey methods, which would lack the depth necessary for capturing complex behavioural responses (Apuke 2017). By assigning each experimental group a specific emotional manipulation alongside an environmental claim, this research aimed to isolate and analyse the impacts of each emotional appeal on consumer decision-making regarding sustainable fashion.

## **4. Method**

### **4.1 Primary Data Collection**

There are two sources for researchers to obtain data when conducting quantitative research, either in terms of primary data collected by the researchers themselves, or secondary data gathered by other researchers which can be found in databases (Easterby-Smith et al. 2021). The advantage of gathering primary data is that researchers can obtain data specific and best suited to their research purpose, and the method of data collection varies based on the research approach, whether qualitative or quantitative (Hox and Boeije 2005).

For this research, primary data was gathered through a structured survey, a data collection technique well-suited for quantitative research as it enables efficient collection of responses from a large population, making it easier to generalize findings (Apuke 2017). Since this research followed a survey-based experimental design, this method allows for systematic measurement of respondents' behaviors in response to emotional manipulations, with each participant exposed to distinct emotional appeals in controlled conditions (Kirk 2013).

Cross-sectional and longitudinal methodological designs constitute the most common ways of conducting survey research (Leavy 2017). When undertaking research for academic purposes, it is usual to adhere to the former, as these studies often are under limited time constraints (Saunders, Lewis and Thornhill 2019). Cross-sectional designs involve obtaining data at a particular point of time, whereas longitudinal designs obtain data at numerous times to measure potential changes that may occur (Leavy 2017). This research has employed a cross-sectional design due to the purpose of the research as well as the restricted timeframe.

#### **4.2 Sampling Process**

In quantitative studies, a sample constitute the subset of a population used to represent the entire group, enabling researchers to draw generalizable conclusions from a manageable number of respondents (Groves et al. 2009). For this research, a convenience sampling method was used, which is described as the data collection process that results from a population that is more effortlessly reached by the researcher (Golzar, Noor, and Tajik 2022). This method may be appropriate in instances where variations in the population are small, however, it can cause bias in the sample if there are larger variation in the population (Saunders, Lewis, and Thornhill 2019). In circumstances where the latter hold true, it is worth mentioning that interpretations could need to be made with caution.

The survey was distributed online via a Web link through various channels, aiming to reach a minimum of 250 respondents, without targeting a specific demographic. The primary distribution channels included WhatsApp text messages and Instagram stories, which facilitated broad and rapid dissemination to prospect respondents. A total of 305 respondents participated in the experimental survey. Of these, 12 respondents did not provide a response to the gender question. Among the remaining 293 respondents, 1 (0.34%) preferred not to disclose their

gender, 4 (1.37%) identified as non-binary, 113 (38.57%) identified as male, while 175 (59.73%) identified as female. The average age, calculated based on the 293 respondents who provided this information, was 28.44 years. The respondents represented a diverse range of nationalities, where the majority were Portuguese (122), followed by Italians (89) and Swedes (65). A smaller number of participants identified as German (5), Norwegian (4), Brazilian (2), Spanish (1), Dutch (1), Finnish (1), Lebanese (1), and a dual nationality of Danish and Portuguese (1). Additionally, 13 respondents did not complete the survey, leaving this question unanswered.

The survey was structured into five blocks (one control and four experimental), and each participant was randomly assigned to view one of five advertisement conditions, with an equal 20% probability of being assigned to any block. In experimental tests, researchers seek to draw conclusions from the effects of the experimental manipulations, therefore its essential that the various groups are comparable (Leavy 2017). Random assignment ensures that all groups are similar in every relevant aspect to the research except for their exposure to the intended intervention or manipulation (Saunders, Lewis, and Thornhill 2019). For the scope of this research, a randomization was implemented to ensure a balanced representation across each of the blocks. The aim of the survey was to attain a minimum of 50 respondents for each block. This was to ensure that enough data was gathered for each of the conditions to allow for a meaningful comparison between each of the experimental and the control group.

### **4.3 Procedure**

The experimental-based survey was carried out through Qualtrics, an online platform software tool which allows for the condition of randomization, presentations of the stimuli, as well as comprehensive data collection from a large number or respondents (Saunders, Lewis, and

Thornhill 2019). In addition, the Web link enabled both Web and mobile use, facilitating the respondents with the possibility to conduct the survey whenever or wherever they preferred, taking approximately five minutes to complete.

Across each respective advertisement group, an experimental stimulus was developed to ensure controlled and comparable conditions. The environmental claim was constructed with a short, product-related environmental claim with consideration to current literature, suggesting that a substantive claim tend to generate more positive responses within the sustainable fashion domain (Mukendi et al. 2020; Phau and Ong 2007; Teona, Ko, and Kim 2020; Yan, Hyllegard and Blaesi 2012). Thus, the environmental claim exposed in the survey stated “*Made with 100% organic cotton.*” and was included in, and common for, all four experimental groups as well as the control group. Similar for all of the five conditions was the exclusion of a brand or company name. Since brand attitudes, brand attachments and perceptions of corporate social responsibility can influence customer purchase intentions (Kong, Witmaier and Ko 2021), no brand name or real company was included in the research to avoid confounding effects that are company or brand related. The only discrepancy exposed to the respondents between the five groups were the emotional appeal manipulations of hope, pride, guilt and shame, each distributed separately among the experimental groups.

At the very beginning of the survey, respondents were given a brief description of the context and purpose of the research, without explicitly disclosing the exact constructs being studied to avoid any potential bias. Respondents were then presented with a consent form explaining the voluntary nature of participation, data privacy and anonymity guarantees. In order to proceed to the questions, respondents had to agree to the consent form and were then randomly assigned to one of the five advertisement blocks. All of the advertisements displayed a white cotton t-

shirt with a nature-inspired background and the environmental claim. For the experimental groups, an additional sentence was added to the advertisement consisting of each respective emotional appeal. Respondents could view the advertisement for as long as they preferred with the option to go back to it at any point of the survey.

After viewing the advertisement, respondents answered to questions in three different facets. The first facet consisted of fifteen rating questions by which respondents were asked to indicate how strongly they disagree or agree with each statement regarding the advertisement on a Likert scale from one to seven. Statements pertained to purchase intentions, the emotional appeals, and the predicted mediating effects. The second facet included two rating questions considering how often respondents engage in sustainable behaviors from never to always, again on a Likert scale from one to seven. Lastly, the third facet contained of four questions pertaining to respondents' demographics, including gender, age, nationality as well as occupation. The last and fifth question in this facet constituted an attention check to ensure that the respondents have been paying attention to the questions. At the very end of the survey, respondents were thanked for their participation.

#### **4.4 Data Analysis**

*Cleaning of Data.* In order to ensure accuracy in the results, the data was cleaned before performing any analyses. After exporting the survey responses from Qualtrics in an Excel format, 42 entirely blank rows without any responses were removed. Given the experimental survey-based design, the data was organized into five sections once exported to Excel, each corresponding to one of the five advertisement groups (the control group and the four emotional appeal groups), with each section containing identical questions. To streamline the dataset and facilitate analysis, responses to the same question across the sections were consolidated into

single columns. For example, all answers to the first question, across the five sections, were combined into one column labeled "Question 1", and so forth. Next step included reorganizing in terms of transferring data corresponding to each advertisement group into separate sheets. This made the data easier to manage and analyze.

Once all responses were sorted and group assignments were finalized, the dataset was thoroughly reviewed to confirm consistency across it. When reviewing the obtained data, it became evident that some respondents did not finalize the survey, and therefore some data was missing. In this research, we opted for the pairwise exclusion method to handle missing data in our statistical analyses. This choice is grounded in the practical necessity of maximizing our sample size while minimizing data loss. According to Pallant's (2011) literature, pairwise exclusion excludes cases only from specific analyses for which they have missing data but retains them for other analyses where their data is complete. This approach was preferred in our case since it allowed us to use as much of the available data as possible, thereby preserving statistical power and avoiding the unnecessary limitation of our sample size (Pallant 2011). Furthermore, four respondents were removed from the dataset as they failed the attention check, as well as one respondent being removed due to their obviously unserious answers. The overall data cleaning process resulted in a total sample of 305 respondents, with 47 respondents being removed from the original dataset. Subsequently, it was concluded that the dataset was appropriately prepared for proceeding with statistical analyses.

***Cronbach's Alpha.*** Cronbach's alpha provides a measure of the internal consistency of a test or scale by determining how closely related a set of items are and is measured in values between 0 and 1 (Tavakol and Dennick 2011). A recognised standard for evaluating internal consistency suggest a minimum acceptable threshold of 0.7 for social sciences, while values

above 0.9 may suggest item redundancy (Tavakol and Dennick 2011). In this research, Cronbach's alpha was used to assess the consistency of survey items measuring purchase intentions.

***Analysis of Variance (ANOVA).*** Analysis of Variance (ANOVA) is a statistical method used to compare the means of two or more groups to determine if there are significant differences between them (Carnegie Mellon University 2024). ANOVA calculates the ratio of variance between groups to the variance within groups, producing an F-statistic where a larger F-statistic suggests larger differences among group means (Roberts and Russo 1999). The p-value indicates the probability of observing these differences under the null hypothesis that all group means are equal, where a small p-value (typically, and for the purpose of this research,  $<0,05$ ) leads to rejection of the null hypothesis (Carnegie Mellon University 2024).

***Analysis of Covariance (ANCOVA).*** Analysis of covariance (ANCOVA) is an extension of analysis of variance (ANOVA) that examines differences between groups while statistically controlling for one or more continuous variables, known as covariates (Miller and Chapman 2001). By removing the variation in the dependent variable caused by these covariates, ANCOVA enhances the sensitivity of the F-test, increasing the likelihood of detecting significant group differences (Pallant 2011). For this research, ANCOVA was particularly well-suited as it accounted for respondents' current sustainable behaviors, measured through Q2\_1 and Q2\_2, as covariates. This adjustment reduced error variance and ensured that any observed differences in purchase intentions were not confounded by pre-existing behaviors. In interpreting the output from ANCOVA, the Levene's Test of Equality was performed to determine if the assumption of equality of variance was violated. A non-significant result ( $p > .05$ ) indicates equal variances, meeting the assumption, while a significant

result ( $p < .05$ ) suggests a violation (Pallant 2011, 309). In the analysis, interpreting the Levene's Test of Equality results was crucial to ensure the validity of the ANCOVA model, as these rely on the homogeneity of variances for accurate comparisons between groups.

*Hayes' PROCESS Macro (model 4).* The Hayes' PROCESS macro (model 4) mediation analysis is a statistical method that examines whether a mediator variable explains or accounts for the relationship between an independent variable (X) and a dependent variable (Y) (Hayes 2017). It computes direct, indirect, and total effects, providing confidence intervals to evaluate mediation significance (Abu-Bader and Jones 2021). Mediators, which enhance the complexity of relationships, help to clarify how the variables influence one another and contribute to the development of new theoretical frameworks (MacKinnon, Fairchild and Fritz 2007). This method was particularly advantageous for this research as it highlighted indirect pathways and their significance, aligned with the study's aim to understand deeper psychological mechanisms.

#### **4.5 Measures and Constructs**

When more than one manipulation is tested, there are a separate experimental group respective to each test (Saunders, Lewis, and Thornhill 2019). The following sections pertain to disclose the different variables for the between-subject analyses. By specifying the uniform set of variables used across all studies, the researchers can better convey what each represent, how they have been measured and why they are appropriate in regard to the established hypotheses.

*Dependent Variable.* The primary dependent variable used for the main analyses, pertained to the developed hypotheses, constituted of respondents' purchase intentions. The construct was measured on a seven-point Likert scale and operationalized in two items which

assessed the respondents' intentions to buy the product as a direct response to the advertisement they had just viewed. For example, one statement was formulated as followed; *“If I needed a new t-shirt, I would choose this one over other options”*. The response categories adhered to the seven-point Likert scale outlined by Saunders, Lewis, and Thornhill (2019), in order to better capture nuances of responses, ranging from strongly disagree to strongly agree. In regard to the formulation of each hypothesis, it was appropriate to set purchase intentions as the dependent variable to explore how changes in other variables would affect respondents purchase intentions. Given the aim of this research, the choice to set purchase intentions as the dependent variable allowed for a precise examination of how variations in emotional appeals and message framing directly impact respondents' likelihood to purchase the product.

For the manipulation checks, which do not consist of any main outcome variables but rather additional variables to assess the success of the experimental manipulations, the dependent variable was set to respondents reported sense of each emotion. The variables were operationalized by asking the respondents to which extent they sensed the intended emotions of hope, pride, guilt and shame after being exposed to the advertisement, with one item per emotion and again measured on a seven-point Likert scale ranging from strongly disagree to strongly agree. For example, the statement for shame was formulated as followed; *“The ad made me feel a sense of guilt”*. The aim was to understand how effectively the advertisements portrayed the intended emotions.

***Independent Variable.*** The independent variable consisted of the advertisement type that each respondent had been exposed to, either one of the four experimental advertisements or the control advertisement. In the development of the experimental test, hope, pride, guilt and shame were the four emotions targeted. These emotional appeals were operationalized using

somewhat subtle messages referring to the intended emotion, but also by explicitly mentioning the emotion by name. For the positive emotions of hope and pride, the messages were framed to encourage respondents to feel either hope or pride through the imagined purchase of the t-shirt. For example, in the advertisement leveraging the pride appeal, the message was constructed as followed; *“Wear the change you believe in. Feel proud knowing your style resonates with those who care about the planet.”*. Conversely, for the negative emotions, guilt and shame, the messages were framed by encouraging respondents to avoid feeling guilt or shame through an imagined purchase of the t-shirt. For example, in the advertisement leveraging the guilt appeal, the message was constructed as followed; *“Does your wardrobe align with your values? Some people feel guilty about their purchases, with this t-shirt you won't have to.”*. Given the aim to examine how different emotional appeals in advertisements influence consumers' purchase intentions, advertisement type was set as the independent variable.

For further clarification, all five advertisements included the basic white t-shirt as well as the environmental claim which stated that the t-shirt was *“Made with 100% organic cotton”* to convey the claim in a neutral manner. The aim was to avoid eliciting any other emotional arousals stemming from the environmental claim itself.

***Mediating Variables.*** The mediating variables were set based on the hypothesised mediators stemming from the literature review, self-efficacy for hope, social approval for pride, personal responsibility for guilt, and perceived responsibility for shame. Hence, the mediating variable was different for each of the studies, constituting the hypothesised mediators relevant to the emotional appeal assigned for each respective study. The mediating variables were operationalized by using subtle statements conveying their meaning, with one item per

construct. The variables were measured by asking respondents to rate to what extent they strongly disagreed or strongly agreed with the statement using a seven-point Likert scale. For example, the statement for self-efficacy were constructed as followed; *“The ad made me feel confident in my ability to make purchase decisions that benefit the environment”*. Provided the research intent, the selected mediating variables facilitated the analyses of whether the predicted mediators were the underlying mechanisms bridging the relationship of their respective emotional appeal and purchase intentions.

***Covariates.*** The covariates consisted of two items measuring respondents’ current sustainable behaviors, common for all studies. Similar to the other items mentioned in the survey, these were also measured on a seven-point Likert scale, however, in a manner by which respondents were asked to rate their frequency of engaging in the specified behaviors, from never to always. For example, the first item was stated as followed; *“How often do you buy environmentally friendly products?”*. These variables were included in analyses to explore whether observed differences in purchase intentions pertained to respondents’ current sustainable behaviors.

#### **4.6 Research Quality and Ethical Considerations**

***Research Quality.*** When assessing a quantitative research, validity and reliability constitute two core criteria to consider (Leavy 2017). Validity refers to “the extent to which a measure is actually tapping what we think it is tapping” (Leavy 2017, 113), whereas reliability refers to “the consistency of measurement in a composite variable formed by combining scores on a set of items” (Easterby-Smith et al. 2021, 120).

To address the concern of validity, the researchers used successful experimental designs from similar studies made by Rudd, Hildebrand, and Vohs (2018) and Yan, Keh, and Murray (2023) as benchmarks for carefully designing the emotion priming advertisements. By subtly mentioning the emotions by name mid-sentence, the aim was to reduce the risk of demand characteristics. By doing so, researchers can mitigate risks of respondents guessing the purpose of the study or assume what behaviors are expected of them and thereby adjust their responses accordingly or in the opposite direction (Nichols and Maner 2008). To further enhance the validity of the research, the random assignment of respondents to each advertisement condition helped mitigate potential bias and minimized the influence of confounding variables (e.g., individual differences in environmental attitudes or demographics). Supported by Leavy (2017), randomly assigning respondents to groups is a good way of preventing potential threats to internal validity. Randomization also allows for causal inferences to be made regarding the impact of different emotional appeals on purchase intentions.

For a survey to be valid it also has to be reliable (Saunders, Lewis, and Thornhill 2019), which makes reliability an important factor to consider when conducting quantitative research in terms of a survey-based experimental design. When including more than one item to measure the same construct, interitem reliability evaluates the extent to which the items jointly measure the same construct (Leavy 2017). There are a few reliability tests one may utilize to test internal consistency between items (Leavy 2017), with Cronbach's alpha being one of the most prominent methods used (Saunders, Lewis, and Thornhill 2019). To assess the reliability of the variables, this research applied this method with the minimum acceptable threshold of 0.7, a recognised standard for evaluating internal consistency (Bonett and Wright 2014).

In terms of overall data quality, tapping into both validity and reliability, attention checks have been demonstrated to be beneficial as they identify inattentive respondents (Abbey and Meloy 2017; Saunders, Lewis, and Thornhill 2019). Consequently, the survey included one attention check with the aim to favour research quality.

***Ethical Considerations.*** The contemporary research adhered to five important principles of ethical practices. First, informed consent which refers to the voluntary option to either agree or refute to the participation of the research (Saunders, Lewis, and Thornhill 2019). Second, the right to withdraw, which provides respondents the opportunity to withdraw from the research at any given point (Govil 2013). Third, privacy and confidentiality, which ensures avoidance of privacy invasions and confidentiality of the gathered research data relating to individuals (Leavy 2017). Fourth, guaranteed anonymity which refers to the protection of individuals' anonymity throughout the research (Govil 2013).

Furthermore, scholars have increasingly questioned the ethicality of negative message framing, suggesting their potential to cause unnecessary discomfort (Grappi et al. 2024). Therefore, it was further important to consider the moral rightness of the message framing used in the respective advertisements. As positive message frames have gained momentum to be the more morally justifiable option to opt for (Grappi et al. 2024), the emotional appeals used in this research were framed positively regardless their inherent nature (i.e., negative or positive). This is further in line with the ethical principle of harm, stating that research should not cause any psychological harm to its respondents (Govil 2013).

## 5. Results and Analysis

### Individual Study – Guilt

#### Introduction

In this study, the aim was to study how guilt, a negative emotion, can influence purchase intentions for a sustainable fashion product. Considering the hypothesized function of guilt appeals, it was predicted that guilt should increase the purchase intentions for the product in question, with the mediating effect of personal responsibility. The study had a total sample size of 122 respondents, 59 in the guilt appeal group and 63 in the control group.

#### Results

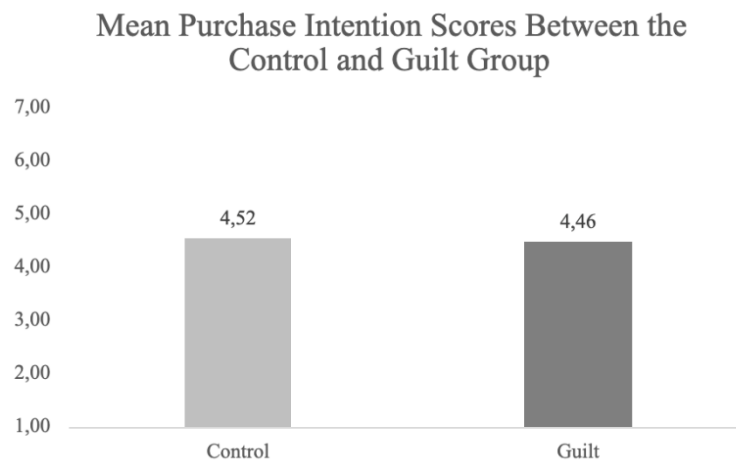
**Reliability Analysis.** Before conducting the main analyses, a reliability analysis using Cronbach's alpha was conducted on the two items measuring purchase intentions to assess their internal consistency.

The results revealed good reliability ( $\alpha = .85$ ) and a strong positive inter-item correlation ( $r = .75$ ). Since the items are measuring the same construct, a composite score for purchase intentions was created and used in the main analyses.

**Purchase Intentions.** A one-way analysis of variance (ANOVA) was conducted in order to study the effect of advertisement type (control vs. guilt appeal) on purchase intention. The results showed no significant difference in purchase intention between the two groups ( $F(1,120) = 0.05, p = .816$ ). Respondents in the control group reflected a mean purchase intention score of  $M = 4.52, SD = 1.49$ , while respondents in the guilt appeal group reported a mean score of  $M = 4.46, SD = 1.64$ .

These results indicated that the guilt appeal did not significantly influence purchase intention in comparison to the control group. Below, bar charts comparing the average purchase

intentions for the guilt group and the control group provide a visual representation of these findings.



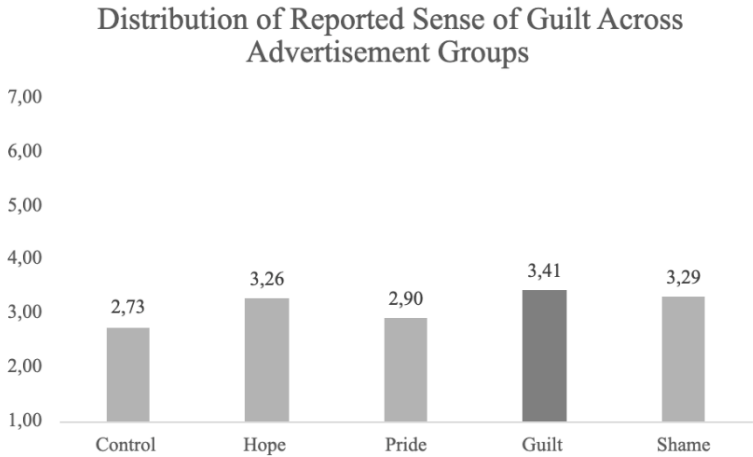
**Figure 1.** Mean purchase intention scores between the control and guilt group.

**Manipulation Check.** Looking into the possibility that an ineffective portrayal of guilt could explain the insignificant result, further analyses should be run. With this in mind, mean scores for feelings of guilt after seeing the advertisement across groups were analyzed.

If the guilt appeal was successful, it would have been expected that respondents exposed to the guilt appeal advertisement would showcase significantly higher guilt scores as opposed to those exposed to the control advertisement and other emotional appeal advertisements. The guilt appeal advertisement did report a higher mean value on guilt than all other advertisements, but it did not appear to be significantly higher to the mean value of guilt on all other advertisements. With this in mind, a one-way analysis of variance (ANOVA) was run in order to analyze whether guilt mean scores differed significantly across the five advertisement groups (control, guilt, shame, pride, and hope). The results indicated no significant difference in guilt scores across groups,  $F(4, 300) = 2.09, p = .082$ . Respondents in the guilt advertisement group had a

slightly higher mean score ( $M = 3.4, SD = 1.8$ ) than respondents in the control group ( $M = 2.7, SD = 1.4$ ), as well as in the shame group ( $M = 3.3, SD = 1.5$ ), the pride group ( $M = 2.9, SD = 1.4$ ), and the hope group ( $M = 3.3, SD = 1.6$ ). Considering that the mean score between the guilt and the control groups looked larger than the others, an ANOVA was run with only the two variables. The results indicated a significant difference between the guilt score between the guilt and control groups,  $F(1,120) = 5.35, p = .022$ . The guilt group ( $M = 3.4, SD = 1.8$ ) had a higher mean score than the control group ( $M = 2.73, SD = 1.4$ ).

While the guilt advertisement group had slightly higher mean guilt scores, the differences were not statistically significant, except for between the guilt and control groups. This result indicates that respondents did not perceive a clear guilt-related message in the guilt advertisement, or possibly that the differences between the advertisements were too subtle to portray distinct emotions. Respondents only reported a higher perception of guilt on the guilt group compared to the control group, but not between guilt and any of the other groups.



**Figure 2.** Distribution of reported sense of guilt across advertisement groups.

*Exploratory Covariate Analysis.* To test if any pre-existing sustainability habits in respondents might have influenced results, an analysis of covariance (ANCOVA) was conducted. Preliminary checks were conducted to ensure that there was no violation of the assumption of equality of variance. The result of Levene's Test for Equality of Variances,  $F(1,117) = 1.289$ ,  $p = .259$ , is not significant ( $p > .05$ ), indicating that the assumption of equal variances is satisfied.

The advertisement group acted as the independent variable (factor), purchase intention as the dependent variable, and the respondents' reported sustainability habits served as covariates.

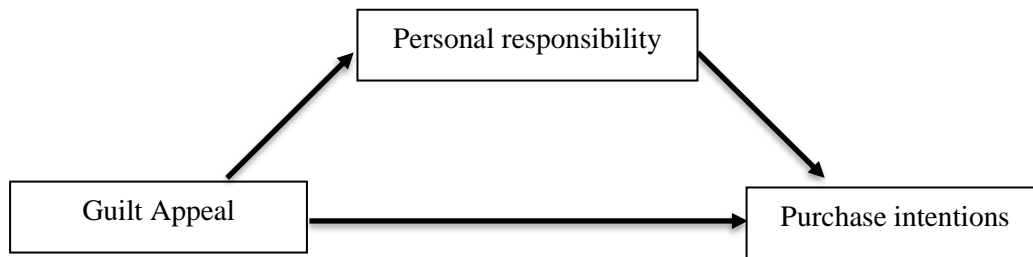
The mean purchase intention score for the control group ( $M = 4.54$ ,  $SD = 1.50$ ) was very slightly higher than for the guilt appeal group ( $M = 4.42$ ,  $SD = 1.65$ ).

The ANCOVA revealed that there was no significant effect of advertisement group on purchase intention, ( $F(1,115) = 0.205$ ,  $p = .652$ ,  $\eta_p^2 = .002$ ) indicating that differences between the control and guilt groups in purchase intention were minimal and not statistically significant.

However, the covariate Q2\_1 (reflecting on if respondents usually buy environmentally friendly products) had a significant effect on purchase intention, ( $F(1,115) = 4.14$ ,  $p = 0.044$ ,  $\eta_p^2 = .035$ ), suggesting that the habitual purchase of environmentally friendly products significantly influences purchase intentions for this product suggesting that respondents with higher sustainability scores for that question, reported higher purchase intentions overall. The partial eta squared value indicates that this covariate explains 3.5% of the variance in purchase intentions, suggesting a small to medium effect size. The results showed that the effect was small, however, it was still statistically significant.

In contrast, Q2\_2 (reflecting how much respondents considered sustainability as a factor when making purchasing decisions) did not show to be a significant covariate, ( $F(1,115) = 0.137$ ,  $p = .712$ , partial  $\eta^2 = .001$ ), and it only explained 0,1% of the variance in purchase intentions.

**Mediation Analysis.** A mediation analysis using Hayes' PROCESS macro (model 4) was performed to investigate if personal responsibility was the underlying mechanism connecting the emotional appeal of guilt to purchase intentions, thereby functioning as a mediator.



**Figure 3.** Conceptual diagram of the mediation model between guilt appeal, personal responsibility and purchase intention.

Included in the analysis was data from both the control group and the guilt appeal group, where advertisement type (0 = control, 1 = guilt appeal) was set as the independent variable (X), personal responsibility as the mediator (M), and purchase intentions as the dependent variable (Y). Bootstrapping with 5000 samples was performed to estimate the indirect effect and generate percentile confidence intervals.

The results revealed that advertisement type was not a significant predictor of personal responsibility ( $b = -0.19$ ,  $SE = 0.33$ ,  $t(120) = -0.59$ ,  $p = .556$ ,  $95\% \text{ CI} = [-0.84, 0.45]$ ).

Personal responsibility was, however, found to be a significant predictor of purchase intentions  $b = 0.38$ ,  $SE = 0.07$ ,  $t(120) = 5.26$ ,  $p < .001$ ,  $95\% \text{ CI} = [0.24, 0.52]$ ).

When controlling for personal responsibility, advertisement type was not found to be a significant predictor of purchase intentions ( $b = 0.006$ ,  $SE = 0.26$ ,  $t(120) = 0.03$ ,  $p = .980$ , 95%  $CI = [-0.50, 0.52]$ ).

The total effect of advertisement type on purchase intentions was not significant ( $b = -0.066$ ,  $SE = 0.28$ ,  $t(121) = -0.23$ ,  $p = .816$ , 95%  $CI = [-0.63, 0.50]$ ).

The indirect effect of advertisement type on purchase intentions through personal responsibility was not significant ( $b = -0.073$ , bootstrapped  $SE = 0.13$ , 95%  $CI = [-0.35, 0.17]$ ). The 95% bootstrap confidence interval includes zero, indicating that personal responsibility does not significantly mediate the relationship between the guilt appeal and purchase intentions.

As the indirect effect was not statistically significant, the mediation analysis did not support H3b.

### **Individual Discussion**

In regard to our main hypothesis, it was found that there was no significant difference in purchase intention between groups, suggesting that the guilt appeal does not make consumers more likely to purchase the sustainable product in question, hence, H3a was not supported. This might have happened because the guilt appeal was not strong enough or not portrayed effectively, or it could have been due to reasons exterior to the emotional appeal, like the product used in the advertisement, or any pre-existing sustainability perceptions in respondents.

Then, a manipulation check was conducted, which showed that the guilt appeal advertisement did have slightly higher guilt scores than other advertisements, but not in a statistically significant way, except for the control group. This leads us to believe that the guilt appeal was, in fact, not portrayed in an effective way. It's also possible that there was an overlap between

emotions, for example, shame and guilt, which would possibly dilute the differences in those two groups.

It is possible that there was a conflict in the message, as guilt is a negative emotion but was positively framed in this study. Negative appeals such as guilt typically create emotional discomfort, which can motivate behavioral change under certain conditions (Brennan and Binney 2010). Guilt has also been shown to influence perceptions of personal responsibility, which can drive sustainable consumption behaviors (Antonetti and Maklan 2014). However, the relevance of positively framing guilt and its implication in this context is less clear and could warrant further research. This framing might have influenced the emotional pull necessary to create a drive to purchase the product, potentially making the appeal less effective (Antonetti and Maklan 2014).

It is also possible that the product portrayed in the advertisement - a white cotton t-shirt - appeared uninspiring to consumers. Luchs, Brower, and Chitturi (2012) note that product aesthetics and uniqueness can significantly impact consumer preferences, particularly in sustainability contexts (Luchs, Brower, and Chitturi 2012). If the product did not feel distinctive or inherently tied to sustainability, it may not have created a strong enough emotional appeal to resonate with consumers and evoke a sense of guilt effectively.

Considering the possibility that other sustainability habits might have influenced responses, an exploratory covariate analysis was conducted, which led us to the conclusion that pre-existing sustainability habits significantly influenced purchase intentions, which may be due to the fact that respondents who already engaged in sustainable behaviors may have stronger purchase intentions in regard to sustainable products, making the emotion appeal redundant. However, the consideration of sustainability as a factor when making a purchase was found to not be

significant, possibly because respondents may have focused on other attributes of the product, such as design.

Although the ANCOVA showed that one of the covariates (habitual purchase of sustainable products) significantly predicted purchase intentions, suggesting that pre-existing sustainability habits influence consumers' likelihood of buying the t-shirt, this covariate only explained a small portion (3.5%) of the variance in purchase intentions.

Despite the influence of this covariate, the overall effect of advertisement type on purchase intentions remained non-significant. This suggests that other factors besides these two covariates also contribute to the lack of difference between the guilt appeal and control groups.

To further investigate the relationship between guilt appeals and purchase intentions, a mediation analysis was conducted to test whether personal responsibility acted as a mediator. The analysis revealed that advertisement type (guilt vs. control) was not a significant predictor of personal responsibility, suggesting that the guilt appeal did not significantly increase feelings of personal responsibility compared to the control group. This finding aligns with the results of the manipulation check, which indicated that the guilt appeal was not portrayed effectively enough to evoke the intended emotional response.

While personal responsibility was found to significantly predict purchase intentions, the indirect effect of advertisement type on purchase intentions through personal responsibility was not significant. This indicates that personal responsibility does not mediate the relationship between the guilt appeal and purchase intentions. One possible explanation for this finding is that respondents who already hold strong sustainability values may not feel an additional sense of

responsibility from the guilt appeal, as they might already perceive themselves as environmentally responsible.

Our findings suggest that neither hypothesis could be fully supported, possibly due to challenges in manipulating guilt effectively and potential overlap with other emotions.

These results highlight the complexity of consumer behavior in the context of sustainability, where emotional appeals can interact with many factors. These findings point to opportunities for future research, particularly when it comes to how differently framing emotions can affect consumer perception and decision-making.

## **6. General Discussion**

In an attempt to extend the literature on sustainable consumer behavior in fashion, the present research examined the effect of coupling an environmental claim with an emotional appeal on consumer purchase intentions within sustainable fashion. Across four studies, the research shed light on the role of emotional appeals (hope, pride, guilt and shame) and their respective predicted mediators (self-efficacy, social approval, personal responsibility and perceived responsibility) in sustainable fashion consumption. By coupling emotional appeals with environmental claims, this research aimed to explore whether these combined approaches could effectively drive behavioral intentions and uncover the mechanisms underlying such relationships.

The studies consisted of two main facets, followed by an additional exploratory analysis. The first facet involved examining the emotional appeals' impact on purchase intentions, whereas the second facet pertained to the predicted mediators aiming to understand whether these psychological factors explained the relationship between emotional appeals and purchase intentions. Lastly, the exploratory analyses considered the impact of pre-existing sustainable behaviors, exploring how respondents' sustainable predispositions influenced their purchase intentions.

Although all four studies hypothesized that the combination of an environmental claim and their respective emotional appeal would increase consumer purchase intentions within sustainable fashion (H1a, H2a, H3a and H4a), only one hypothesis was statistically supported. Results from Study 1 revealed that the respondents in the hope group reported significantly higher purchase intentions compared to the control group. Conversely, the emotional appeals of pride, guilt, and shame did not significantly influence purchase intentions compared to the control group.

Common for all studies, the second one-way between-subjects analysis of variance revealed no significant differences in the reported sense of the intended emotion across all five advertisement groups. In other words, the manipulations intended to elicit specific emotions (hope, pride, guilt, and shame) were not successful. Hence, it is essential to note that the results of study 1 statistically supporting H1a cannot confidently be attributed to the emotional appeal of hope. However, even though the hope manipulation did not achieve statistical significance, the observed trend in the predicted direction is in alignment with literature suggesting hope's positive influence on sustainable behavior (Kerret, Orkibi, and Ronen 2016; Ojala 2012; Ojala 2015; Stevenson and Peterson 2015).

As mentioned throughout previous individual study discussions, this indicates that the overall experimental design could not effectively test the impact of the emotional appeals on purchase intentions within sustainable fashion and reinforces insights from previous literature. Firstly, the consistent null effect shed light on the inherent complexity of human emotions and the great perplexity in evoking isolated emotional responses without eliciting unintended emotional arousals (Berrios 2019). Secondly, despite the conflicting findings from prior research regarding the most effective framing technique (Baek and Yoon 2017), it is worth noting that emotional appeals in each respective study were framed positively. While this approach aligns with the one side of research stating the predominance of positive message framing in fostering sustainable consumption behaviors in fashion (Grappi et al. 2024), it is important to recognize that the positive framing may have influenced the elicitation of the intended emotions. Respondents exposed to positively framed messages sought to evoke guilt, or shame may not have experienced these emotions as strongly, as the framing did not align with the inherent nature of these emotions. Recall that guilt and shame are typically associated with

acknowledging wrongdoing or failing to meet social standards (Lickel et al. 2005), which might be concepts more effectively communicated through information framed in terms of losses (negative framing). Conversely, positive emotions such as pride and hope could hypothetically, in certain instances, be better communicated through negative message framing.

When running an exploratory covariate analysis, the significant effects of the hope appeal and the lack of significant effects of the pride, guilt and shame appeals on purchase intentions persisted even after controlling for current sustainable behaviors. Furthermore, it was found that the habitual purchase of sustainable products (Q2\_1) was a significant predictor of purchase intentions in sustainable fashion, across all studies except for study 4. This partial observation is in accordance with prior research stating that individuals with already established sustainable fashion consumption habits are more inclined to continue such purchase behaviors (Cowan and Kinley 2014). As further argued by Joy et al. (2012), consumers do not account for the environmental aspect in purchase decisions for clothing. Results from the four studies revealed similarities due to the insignificant predictor of frequency of considering sustainability as a factor in purchase decisions (as measured by Q2\_2). The combined findings from the two items of current sustainable behaviors suggest that already established habits have a greater influence on purchase intentions compared to mere sustainability considerations.

By shifting the narrative from the emotional appeals to the hypothesized mediators bridging the relationships between the emotional appeals and purchase intentions (H1b, H2b, H3b and H4b), the results revealed that no hypotheses were supported. The absence of significant indirect effects could be expected due to the fact that the emotional manipulations did not succeed. However, in consensus with (White, Habib, and Hardisty 2019) it was found that self-efficacy,

social approval, personal and perceived responsibility independently predicted purchase intentions, suggesting their relevance in driving consumer behaviors.

## **7. Limitations and Suggestions for Future Research**

Although the studies altogether provide insights into how to promote sustainable fashion consumption through emotional appeals, several limitations and consequent opportunities for future research should be considered.

First, as the manipulations of each emotion were not successful, the interpretations of results with regard to the main hypotheses (H1a, H2a, H3a, and H4a) should be made with caution. For the hope group, even with a significant difference in purchase intentions between the control and hope group, there is not sufficient evidence to confidently attribute the difference to the emotional appeal of hope. Common for all groups, the significant difference and lack of significant differences in purchase intentions might rather be attributed to the failed manipulation of emotions rather than evidence against the emotional appeals' effectiveness. In the context of this research, a pretest of manipulation checks for each emotion would have been necessary to ensure that each study effectively manipulated the intended emotions in the experimental testing. Such proactive measures would have enabled more accurate interpretations of the specific emotions actual impact on purchase intentions in the context of sustainable fashion. Future research should hence pertain focus to the understanding of how to successfully evoke intended emotional arousals within the context of sustainable fashion in order to draw reliable conclusions of its effectiveness in communication. However, the finding that the hope appeal may have a partial influence on purchase intentions, even though it did not achieve statistical significance, indicated a trend in the predicted direction. This finding

emphasizes the relevance in further exploring the emotional appeal of hope and its influence on behavioral intentions within the context of sustainable fashion for future research.

Second, if future research successfully evoked the intended emotions, it should further be explored if the proposed mediators revealed significant indirect effects between the emotional appeals and purchase intentions. Namely, as this study was limited due to failed manipulations resulting in non-significant effects of advertisement types on predicted mediators, consequently leading to non-significant indirect effects. Such insights would contribute with value to practitioners in terms of understanding how to craft messages in advertisements in an effective way to achieve desired consumer behavioral responses, such as increased purchase intentions.

Third, as aforementioned, all emotional appeals in each respective advertisement were framed positively. Although this way of framing aligns with some literature suggesting the superiority of positive message framing in fostering sustainable behavior, it is possible that such framing is not the most effective approach for evoking the intended emotions in the specific context, and that this may have limited the emotional responses of each study. This possibility should be considered and further explored when setting the experimental design for future studies intended to elicit specific emotional appeals in a sustainable fashion context.

Fourth, the experimental tests were limited to fashion products made of sustainable materials. However, we note that sustainable consumer behavior can take various forms within sustainable fashion, such as initially and voluntarily cutting back on one's fashion consumption, consuming fashion products with sustainable features, production and sourcing, or disposing such products more sustainably. Hence, it would be interesting to explore emotional appeals' influence on other consumer behaviors within the broader context of sustainable fashion.

Fifth, no company names or brands were included in this research to rule out any possible effects of brand attitudes, perceptions or other related factors that may affect the emotional responses to the appeals or purchase intentions. However, it would be of interest for future experimental tests to incorporate real brands and control for variables like brand perceptions and attitudes to investigate how those might influence the relationship between emotional appeals and purchase intentions. Studies may also explore how the effectiveness of each emotional appeal varies depending on strong/weak brand attitudes or perceptions, or possible moderating effects. Depending on the outcome and results of such research, practitioners may get a better understanding of how to utilize specific emotional appeals related to their individual brands and consumers' brand relationships.

Sixth, and lastly, the time constraint and experimental design of this research represents a limitation. To evoke specific emotions and accurately grasp emotional and cognitive responses is complex and requires careful development, which was limited by the restricted timeframe. Particularly, insufficient time for thorough pretests, development and adjustments of the final emotional manipulations may have contributed to the failure of evoking the intended emotions. Moreover, the chosen sampling method of the survey may have influenced the research sample. External validity, or generalizability, may be limited due to the use of available rather than random sample from the entire population. Consequently, while the sample provides valuable insights into consumer behavior, it may not fully represent the demographics of the broader population, limiting the extent to which findings can be generalized across different consumer groups. In future research, emphasis and time should pertain to obtain a more random sample, and adequate research design as it would allow for comprehensive development and testing of emotional manipulations. Such an approach could enhance the validity and reliability of the

research findings and allow for deeper insights into how emotional appeals influence consumer behaviors in the context of sustainable fashion.

## **8. Theoretical Contributions and Practical Implications**

Based on the findings, discussion, and theoretical framework presented in this research paper, the authors propose main areas of contribution and implications.

Overall, this research paper contributes valuable insights not only for organizing and understanding emotional appeals in advertisement, but also for providing a basis and greater guidance for future research to build upon when exploring how various emotions' impact purchase intentions in the sustainable fashion context.

Since sustainable consumers are highly heterogenous and their behaviors cannot be effectively regulated through a one-size-fits-all approach, the findings from this research deepens the already established importance of self-efficacy, social approval, personal and perceived responsibility in promoting sustainability and extends their relevance in the sustainable fashion context. By illustrating that self-efficacy, social approval, personal responsibility and perceived responsibility predicts purchase intentions for sustainable fashion, the research reinforces previous beliefs proposing that one can positively influence consumers' purchase decisions by leveraging these psychological factors in advertisements. Therefore, practitioners may utilize this information in their marketing efforts, and tailor strategies to enhance consumers' perceived capability, moral considerations and positive recognition from others in regard to sustainable fashion.

## 9. Conclusion

The purpose of this research was to answer the established research question. In alignment, four studies investigated the role of specific emotions in promoting sustainable consumer behaviors in fashion. The conclusion intends to answer the established research questions based on the quantitative findings.

*RQ: “Does coupling environmental claims with emotional appeals in marketing increase the likelihood of consumer purchase intentions within sustainable fashion consumption?”*

In spite of the theoretical foundation suggesting the potential of hope, pride, guilt and shame appeals, the findings yielded mixed interpretations due to the failed manipulations, emphasizing the complexity of evoking isolated specific emotions and its influences on behavioral intentions. Even though evidence pointed toward the promising potential of leveraging hope in sustainable fashion advertisement to encourage sustainable behaviors, there is a need for further research to determine its exact effectiveness. Likewise, evidence refraining from the effectiveness of pride, guilt and shame does not necessarily invalidate their potential in the specific context.

To conclude, although neither of the four studies could provide evidence to confidently assess the research question nor any of the proposed hypotheses, the studies altogether offer a greater depth for future research to build further upon.

## 10. References

Abbey, James D., and Margaret G. Meloy. 2017. "Attention by Design: Using Attention Checks to Detect Inattentive Respondents and Improve Data Quality." *Journal of Operations Management* 53-56, 1 (July): 63–70. <https://doi.org/10.1016/j.jom.2017.06.001>.

Abrahamse, Wokje, Linda Steg, Charles Vlek, och Talib Rothengatter. 2005. "A Review of Intervention Studies Aimed at Household Energy Conservation". *Journal of Environmental Psychology* 25, 3 (September): 273–291. <https://doi.org/10.1016/j.jenvp.2005.08.002>

Abu-Bader, Soleman, and Tiffanie Victoria Jones. 2021. "Statistical Mediation Analysis Using The Sobel Test And Hayes Spss Process Macro." *International Journal of Quantitative and Qualitative Research Methods* 9, 1 (March): 42-61. <https://ssrn.com/abstract=3799204>.

Achar, Chethana, Nidhi So, Nenkyo Han, and Robert S. Wyer Jr. 2016. "What We Feel and Why We Buy: The Influence of Emotions on Consumer Decision-Making." *Current Opinion in Psychology* 10 (August): 166–170. <https://doi.org/10.1016/j.copsy.2016.01.009>

Ahmad, Sharique, Saeeda Wasim, Sumaiya Irfan, Sudarshana Gogoi, Anshika Srivastava, and Zarina Farheen. 2019. "Qualitative v/s. Quantitative Research - A Summarized Review." *Journal of Evidence-Based Medicine and Healthcare* 6, 43 (October): 2828-2832. DOI: 10.18410/jebmh/2019/587.

Akturan, Ulun. 2018. "How does greenwashing affect green branding equity and purchase intention? An empirical research." *Marketing Intelligence & Planning* 36, 7 (July): 809-824. <https://doi.org/10.1108/MIP-12-2017-0339>.

Andrade, Eduardo B. 2015. "The Effect of Emotion on Consumer Decision Making." In *The Cambridge Handbook of Consumer Psychology*, edited by Michael I. Norton, Derek D. Rucker, and Cait Lambertson, 209-241. Cambridge: Cambridge University Press.

Antonetti, Paolo, and Stan Maklan. 2014. "Feelings That Make a Difference: How Guilt and Pride Convince Consumers of the Effectiveness of Sustainable Consumption Choices." *Journal of Business Ethics* 124, no. 1 (September): 117-134. <https://doi.org/10.1007/s10551-013-1841-9>

Apuke, Oberiri Destiny. 2017. "Quantitative Research Methods: A Synopsis Approach." *Arabian Journal of Business and Management Review (Kuwait Chapter)* 6 (10): 40-47. DOI: 10.12816/0040336.

Baek, Tae Hyun, and Sukki Yoon. 2017. "Guilt and Shame: Environmental Message Framing Effects." *Journal of Advertising* 46, 3, 5 (May): 440-453, <https://doi.org/10.1080/00913367.2017.1321069>.

Beard, Nathaniel Dafydd. 2008. "The Branding of Ethical Fashion and the Consumer: A Luxury Niche or Mass-Market Reality?" *Fashion Theory* 12, 4 (April): 447-67. <https://doi.org/10.2752/175174108X346931>.

Berrios, Raul. 2019. "What Is Complex/Emotional About Emotional Complexity?" *Frontiers in Psychology* 10, no. 1606 (July): 1-11. <https://doi.org/10.3389/fpsyg.2019.01606>.

Blanchet, Vivien. 2017. "'We Make Markets': The Role of the Ethical Fashion Show in Categorising Ethical Fashion." *Recherche et Applications en Marketing (English Edition)* 32, no. 2 (January): 26–45. <https://doi.org/10.1177/2051570716685521>.

Bonett, Douglas G., and Thomas A. Wright. 2014. "Cronbach's Alpha Reliability: Interval Estimation, Hypothesis Testing, and Sample Size Planning." *Journal of Organizational Behavior* 35 (October): 3–15. <https://doi.org/10.1002/job.1960>.

Brennan, Linda, and Wayne Binney. 2010. "Fear, Guilt, and Shame Appeals in Social Marketing." *Journal of Business Research* 63, 2 (February): 140-146. <https://doi.org/10.1016/j.jbusres.2009.02.006>.

Brosch, Tobias, and Linda Steg. 2021. "Leveraging Emotions for Sustainable Action." *Current Opinion in Behavioral Sciences* 42 (December): 1–6. <https://doi.org/10.1016/j.cobeha.2021.02.001>

Burgess, Jacquelin, Tracey Bedford, Kersty Hobson, Gail Davies, and Carolyn Harrison. 2003. "(Un)sustainable Consumption." In *Negotiating Environmental Change: New Perspectives from Social Science*, edited by Frans Berkhout, Melissa Leach, and Ian Scoones, 261–292. Cheltenham: Edward Elgar.

Carlson, Les, Stephen J. Grove, and Norman Kangun. 1993. "A content analysis of environmental advertising claims: A matrix method approach." *Journal of advertising* 22(3): 27-39. <https://doi.org/10.1080/00913367.1993.10673409>.

Carnegie Mellon University. 2024. "One-Way ANOVA." Accessed December 12, 2024.  
<https://www.stat.cmu.edu/~hseltman/309/Book/chapter7.pdf>

Carrus, Giuseppe, Paola Passafaro, and Mirilia Bonnes. 2008. "Emotions, habits and rational choices in ecological behaviours: The case of recycling and use of public transportation." *Journal of environmental psychology* 28, 1 (March): 51-62.  
<https://doi.org/10.1016/j.jenvp.2007.09.003>

Chan, Ricky Y.K. 2000. "The effectiveness of environmental advertising: the role of claim type and the source country green image." *International Journal of Advertising* 19, 3 (March): 349-375. <https://doi.org/10.1080/02650487.2000.11104806>.

Chapman, Daniel A., Brian Lickel, and Ezra M. Markowitz. 2017. "Reassessing emotion in climate change communication." *Nature Climate Change* 7, 12 (November): 850-852.  
<https://doi.org/10.1038/s41558-017-0021-9>

Chen, Lihong, Lin He, Xinfeng Yan, and Chunhong Liu. 2022. "Green Message Framing in Enhancing Sustainable Consumption Behavior of Fashion Based on the Cross-Theoretical Model." *Journal of Environmental and Public Health* 2022, 1 (September): 4038992.  
<https://doi.org/10.1155/2022/4038992>.

Cowan, K., and T. Kinley. 2014. "Green Spirit: Consumer Empathies for Green Apparel." *International Journal of Consumer Studies* 38, 5 (August): 493-499.  
<https://doi.org/10.1111/ijcs.12125>.

Csikszentmihalyi, Mihaly. 2000. "The Costs and Benefits of Consuming." *Journal of Consumer Research* 27,2 (September): 267–272. <https://doi.org/10.1086/314324>.

Culiberg, Barbara, Irena Elgert, and Dejan Pahor. 2022. "The Role of Moral Foundations, Anticipated Guilt, and Personal Responsibility in Predicting Anti-Consumption for Environmental Reasons." *Journal of Business Ethics* 182, 2 (January): 465–481.

<https://doi.org/10.1007/s10551-021-05016-7>

Deloitte. 2019. "Global Powers of Luxury Goods 2019: Bridging the Gap between the Old and the New." Deloitte. Accessed September 20, 2024.

[https://www2.deloitte.com/content/dam/Deloitte/ar/Documents/Consumer\\_and\\_Industrial\\_Products/Global-Powers-of-Luxury-Goods-abril-2019.pdf](https://www2.deloitte.com/content/dam/Deloitte/ar/Documents/Consumer_and_Industrial_Products/Global-Powers-of-Luxury-Goods-abril-2019.pdf).

Dhir, Amandeep, Shalini Talwar, Mohd Sadiq, Mototaka Sakashita, and Puneet Kaur. 2021. "Green Apparel Buying Behaviour: A Stimulus–Organism–Behaviour–Consequence (SOBC) Perspective on Sustainability-Oriented Consumption in Japan." *Business Strategy and the Environment* 30, 8 (December): 3589–3605. <https://doi.org/10.1002/bse.2821>.

Easterby-Smith, Mark, Jonas L. Jaspersen, Richard Thorpe, and Daiana Valizade. 2021. *Management and Business Research*. 7th ed. United Kingdom: SAGE Publications.

Florence, Emma Shaozhen, David Fleischman, Rory Mulcahy, and Monte Wynder. 2022. "Message framing effects on sustainable consumer behaviour: a systematic review and future research directions for social marketing." *Journal of Social Marketing* 12, 4 (July): 623–652.

<https://doi.org/10.1108/JSOCM-09-2021-0221>

Frijda, Nico H. 2007. *The Laws of Emotion*. 1st ed. New York: Psychology Press.

Gifford Jr, Adam. 2002. "Emotion and Self-Control." *Journal of Economic Behavior & Organization* 49, 1 (September): 113-130. [https://doi.org/10.1016/S0167-2681\(02\)00061-6](https://doi.org/10.1016/S0167-2681(02)00061-6)

Govil, Punita. 2013. "Ethical considerations in educational research." *International Journal of Advancement in Education and Social Sciences* 1 (2): 17–22.

Golzar, Jawad, Shagofah Noor, and Omid Tajik. 2022. "Sampling Method: Descriptive Research." *International Journal of Education & Language Studies* 1 (2): 72–77. <https://doi.org/10.22034/ijels.2022.162981>

Grappi, Silvia, Francesca Bergianti, Veronica Gabrielli, and Ilaria Baghi. 2024. "The Effect of Message Framing on Young Adult Consumers' Sustainable Fashion Consumption." *Journal of Business Research*. 170 (January): 114341 <https://doi.org/10.1016/j.jbusres.2023.114341>.

Griskevicius, Vladas, Michelle N. Shiota, and Stephen M. Nowlis. 2010. "The Many Shades of Rose-Colored Glasses: An Evolutionary Approach to the Influence of Different Positive Emotions." *Journal of Consumer Research* 37, 2 (February): 238–250. <https://doi.org/10.1086/651442>.

Groves, Robert M., Floyd J. Fowler, Mick P. Couper, James M. Lepkowski, Eleanor Singer, and Roger Tourangeau. 2009. *Survey Methodology*. 2nd ed. New Jersey and Canada: Wiley.

Han, Jinghe, Yuri Seo, and Eunju Ko. 2017. "Staging Luxury Experiences for Understanding Sustainable Fashion Consumption: A Balance Theory Application." *Journal of Business Research* 74 (May): 162–167. <https://doi.org/10.1016/j.jbusres.2016.10.029>.

Hanss, Daniel, and Rouven Doran. 2019. "Perceived Consumer Effectiveness." In *Responsible Consumption and Production, Encyclopedia of the UN Sustainable Development Goals*, edited by Walter Leal Filho, Anabela Marisa Azul, Luciana Brandli, Amanda Lange Salvia, and Tony Wall, 1–10. Cham: Springer. [https://doi.org/10.1007/978-3-319-71062-4\\_33-1](https://doi.org/10.1007/978-3-319-71062-4_33-1)

Harris, Fiona, Helen Roby, and Sally Dibb. 2016. "Sustainable Clothing: Challenges, Barriers and Interventions for Encouraging More Sustainable Consumer Behaviour." *International Journal of Consumer Studies* 40, 3 (November): 309–318.

<https://doi.org/10.1111/ijcs.12257>.

Hayes, Andrew F. 2017. "Partial, conditional, and moderated moderated mediation: Quantification, inference, and interpretation." *Communication monographs* 85, 1 (August): 4–40. <https://doi.org/10.1080/03637751.2017.1352100>

Henninger, Claudia E., Panayiota J. Alevizou, and Caroline J. Oates. 2016. "What Is Sustainable Fashion?" *Journal of Fashion Marketing and Management* 20, 4 (October): 400–416. <https://doi.org/10.1108/JFMM-07-2015-0052>.

Hox, Joop J., and Hennie R. Boeije. 2005. "Data collection, Primary vs. Secondary." *Encyclopedia of social measurement* 1(1): 593-599. <https://doi.org/10.1016/B0-12-369398-5/00041-4>.

Joy, Annamma, John F. Sherry, Alladi Venkatesh, Jeff Wang, and Ricky Chan. 2012. "Fast Fashion, Sustainability, and the Ethical Appeal of Luxury Brands." *Fashion Theory* 16(3): 273–295. <https://doi.org/10.2752/175174112X13340749707123>.

Kang, Jiyun, Chuanlan Liu, and Sang-Hoon Kim. 2013. "Environmentally Sustainable Textile and Apparel Consumption: The Role of Consumer Knowledge, Perceived Consumer Effectiveness, and Perceived Personal Relevance." *International Journal of Consumer Studies* 37, 4 (July): 442–452. <https://doi.org/10.1111/ijcs.12013>.

Kang, Jiyun, and Woo Jin Choi. 2016. "Endorsed Sustainable Products: The Role of Celebrity Ethicality and Brand Ethicality." *Clothing and Textiles Research Journal* 34, 4 (July): 303–319. <https://doi.org/10.1177/0887302X16658345>.

Kapoor, Payal S., M. S. Balaji, and Yangyang Jiang. 2021. "Effectiveness of sustainability communication on social media: role of message appeal and message source." *International Journal of Contemporary Hospitality Management* 33, 3 (February): 949-972. <https://doi.org/10.1108/IJCHM-09-2020-0974>

Kerret, Dorit, Hod Orkibi, and Tammie Ronen. 2016. "Testing a model linking environmental hope and self-control with students' positive emotions and environmental behavior." *The Journal of Environmental Education* 47, 4 (May): 307-317. <https://doi.org/10.1080/00958964.2016.1182886>.

Khan, Sher Jahan, Saeed Badghish, Puneet Kaur, Rajat Sharma, and Amandeep Dhir. 2023. "What Motivates the Purchasing of Green Apparel Products? A Systematic Review and Future Research Agenda." *Business Strategy and the Environment* 32, 7 (November): 4183–4201. <https://doi.org/10.1002/bse.3360>.

Kim, Cheong, Hyeon Gyu Jeon, and Kun Chang Lee. 2020. "Discovering the role of emotional and rational appeals and hidden heterogeneity of consumers in advertising copies for sustainable marketing." *Sustainability* 12, 12 (June): 5189. <https://doi.org/10.3390/su12125189>

Kim, Gwia, and Byoungho Ellie Jin. 2019. "Older Female Consumers' Environmentally Sustainable Apparel Consumption: The Impact of Time Perspective and Advertising Appeals." *Journal of Fashion Marketing and Management* 23, 4 (August): 487–503. <https://doi.org/10.1108/JFMM-04-2019-0068>.

Kim, Hanna, Eun-Jung Lee, and Won-Moo Hur. 2012. "The Normative Social Influence on Eco-Friendly Consumer Behavior: The Moderating Effect of Environmental Marketing Claims." *Clothing and Textiles Research Journal* 30, 1 (April): 4–18. <https://doi.org/10.1177/0887302X12440875>.

Kim, Hye-Shin, and Mary Lynn Damhorst. 1999. "Environmental attitude and commitment in relation to ad message credibility." *Journal of Fashion Marketing and Management* 3, 1 (January): 18-30. <https://doi.org/10.1108/eb022545>.

Kirk, Roger E. 2013. *Experimental Design: Procedures for the Behavioral Sciences*. 4th ed., Thousand Oaks, CA: SAGE Publications, Inc.

Kong, Hyun Min, Alexander Witmaier, and Eunju Ko. 2021. "Sustainability and Social Media Communication: How Consumers Respond to Marketing Efforts of Luxury and Non-Luxury Fashion Brands". *Journal of Business Research* 131 (July): 640–651.

<https://doi.org/10.1016/j.jbusres.2020.08.021>

Leavy, Patricia. 2017. *Research Design: Quantitative, Qualitative, Mixed Methods, Arts-Based, and Community-Based Participatory Research Approaches*. 1st ed. New York: The Guilford Press.

Lickel, Brian, Toni Schmader, Mathew Curtis, Michelle Scarnier, and Daniel R. Ames. 2005. "Vicarious Shame and Guilt." *Group Processes & Intergroup Relations* 8, 2 (April): 145–157.

<https://doi.org/10.1177/1368430205051064>

Luchs, Michael G., Jacob Brower, and Ravindra Chitturi. 2012. "Product Choice and the Importance of Aesthetic Design Given the Emotion-Laden Trade-Off Between Sustainability and Functional Performance." *Journal of Product Innovation Management* 29, 6 (November): 903–916.

<https://doi.org/10.1111/j.1540-5885.2012.00970.x>

MacKinnon, David, Amanda Fairchild, and Matthew Fritz. 2007. "Mediation Analysis." *Annual Review of Psychology*, 58, 1 (January): 593-614.

<https://doi.org/10.1146/annurev.psych.58.110405.085542>

McDonagh, Pierre, and Andrea Prothero. 2014. "Sustainability Marketing Research: Past, Present and Future." *Journal of Marketing Management* 30, 11–12 (August): 1186–1219. <https://doi.org/10.1080/0267257X.2014.943263>.

McKenzie-Mohr, Doug. 2000. "New Ways to Promote Proenvironmental Behavior: Promoting Sustainable Behavior: An Introduction to Community-Based Social Marketing". *Journal of Social Issues* 56 (3): 543–554. <https://doi.org/10.1111/0022-4537.00183>.

McNeill, Lisa, and Brittany Venter. 2019. "Identity, Self-Concept and Young Women's Engagement with Collaborative, Sustainable Fashion Consumption Models." *International Journal of Consumer Studies* 43, 4 (February): 368–378. <https://doi.org/10.1111/ijcs.12516>.

Miller, Gregory A., and Jean P. Chapman. 2001. "Misunderstanding analysis of covariance." *Journal of abnormal psychology* 110(1): 40-48. <https://doi.org/10.1037/0021-843X.110.1.40>

Minton, Elizabeth, Christopher Lee, Ulrich Orth, Chung-Hyun Kim, and Lynn Kahle. 2012. "Sustainable Marketing and Social Media: A Cross-Country Analysis of Motives for Sustainable Behaviors." *Journal of Advertising* 41 (4): 69-84. <https://doi.org/10.1080/00913367.2012.10672458>

Mukendi, Amira, Ian Davies, Sarah Glozer, and Pierre McDonagh. 2020. "Sustainable Fashion: Current and Future Research Directions." *European Journal of Marketing* 54, 11 (February): 2873-2909. <https://doi.org/10.1108/EJM-02-2019-0132>.

Nichols, Austin Lee, and Jon K. Maner. 2008. "The Good-Subject Effect: Investigating Participant Demand Characteristics." *The Journal of General Psychology* 135 (2): 151–66. <https://doi.org/10.3200/GENP.135.2.151-166>.

Nilssen, Ragna, Geoff Bick and Russell Abratt. 2018. "Comparing the relative importance of sustainability as a consumer purchase criterion of food and clothing in the retail sector." *Journal of Brand Management* 26 (May): 71-83. <https://doi.org/10.1057/s41262-018-0113-5>.

Ochoa, Lina María Ceballos. 2010. "Will 'Eco-Fashion' Take Off? A Survey of Potential Customers of Organic Cotton Clothes in London." *AD-minister*: 115-132.

Ojala, Maria. 2012. "Hope and Climate Change: The Importance of Hope for Environmental Engagement among Young People". *Environmental Education Research* 18(5): 625–642. <https://doi.org/10.1080/13504622.2011.637157>.

Ojala, Maria. 2015. "Hope in the face of climate change: Associations with environmental engagement and student perceptions of teachers' emotion communication style and future orientation." *The Journal of Environmental Education* 46, 3 (June): 133-148. <https://doi.org/10.1080/00958964.2015.1021662>.

Osbaldiston, Richard, and John Paul Schott. 2011. "Environmental Sustainability and Behavioral Science: Meta-Analysis of Proenvironmental Behavior Experiments." *Environment and Behavior* 44, 2 (April): 257–299. <https://doi.org/10.1177/0013916511402673>.

Pal, Rudrajeet, and Jonathan Gander. 2018. "Modelling environmental value: An examination of sustainable business models within the fashion industry." *Journal of cleaner production* 184 (May): 251-263. <https://doi.org/10.1016/j.jclepro.2018.02.001>.

Pallant, Julie. 2011. *SPSS SURVIVAL MANUAL A step by step guide to data analysis using SPSS*. 4th edition. Crows Nest, NSW: Allen & Unwin.

Park, Jeongeun, and Minhye Park. 2016. "Qualitative versus Quantitative Research Methods: Discovery or Justification?" *Journal of Marketing Thought* 3, 1 (May): 1–8.

Peattie, Ken and Sue Peattie. 2009. "Social Marketing: A Pathway to Consumption Reduction?" *Journal of Business Research* 62, 2 (February): 260–268.  
<https://doi.org/10.1016/j.jbusres.2008.01.033>

Peattie, Ken. 2010. "Green Consumption: Behavior and Norms." *Annual Review of Environment and Resources* 35, 1 (August): 195–228. <https://doi.org/10.1146/annurev-environ-032609-094328>.

Perry, Anna, and Te-Lin Chung. 2016. "Understanding Attitude-Behavior Gaps and Benefit-Behavior Connections in Eco-Apparel." *Journal of Fashion Marketing and Management: An International Journal* 20, 1 (March): 105–119. <https://doi.org/10.1108/JFMM-12-2014-0095>.

Phau, Ian, and Denise Ong. 2007. "An investigation of the effects of environmental claims in promotional messages for clothing brands." *Marketing Intelligence & Planning* 25, 7 (October): 772-788. <https://doi.org/10.1108/02634500710834214>.

Pounders, Kathryn, Seungae Lee, and Marla Royne. 2017. "The Effectiveness of Guilt and Shame Ad Appeals in Social Marketing: The Role of Regulatory Focus." *Journal of Current Issues & Research in Advertising* 39, 1 (October): 37–51.

<https://doi.org/10.1080/10641734.2017.1372322>

Princen, Thomas, Michael Maniates, and Ken Conca, eds. *Confronting Consumption*. 2002. Cambridge, MA: MIT Press. <https://doi.org/10.7551/mitpress/2097.001.0001>.

Ritch, Elaine L. 2015. "Consumers Interpreting Sustainability: Moving Beyond Food to Fashion." *International Journal of Retail & Distribution Management* 43, 12 (December): 1162–1181. <https://doi.org/10.1108/IJRDM-04-2014-0042>.

Roberts, Maxwell J, and Riccardo Russo. (1999). *A Student's Guide to Analysis of Variance*. 1<sup>st</sup> ed. United Kingdom: Routledge.

Rudd, Michael, Catherine Hildebrand, and Kathleen D. Vohs. 2018. "Inspired to Create: Awe Enhances Openness to Learning and the Desire for Experiential Creation." *Journal of Marketing Research* 55, 5 (October): 766–781. <https://doi.org/10.1177/0022243718802853>.

Sarigöllü, Emine. 2008. "A Cross-Country Exploration of Environmental Attitudes." *Environment and Behavior* 41, 3 (May): 365–386.

<https://doi.org/10.1177/0013916507313920>.

Saunders, Mark, Philip Lewis, and Adrian Thornhill. 2019. *Research Methods for Business Students*. 8th ed. Harlow, United Kingdom: Pearson.

Sharma, Ajai Pal. 2021. "Consumers' purchase behaviour and green marketing: A synthesis, review and agenda." *International Journal of Consumer Studies* 45, 6 (June): 1217-1238. <https://doi.org/10.1111/ijcs.12722>.

Stevenson, Kathryn, and Nils Peterson. 2015. "Motivating action through fostering climate change hope and concern and avoiding despair among adolescents." *Sustainability* 8, 1 (December): 6. <https://doi.org/10.3390/su8010006>.

Teona, Gogichaishvili, Eunju Ko, and Sang Jin Kim. 2020. "Environmental claims in online video advertising: effects for fast-fashion and luxury brands." *International Journal of Advertising* 39 (6): 858-887. <https://doi.org/10.1080/02650487.2019.1644144>.

Tavakol, Mohsen, and Reg Dennick. 2011. "Making Sense of Cronbach's Alpha." *International Journal of Medical Education* 2 (June): 53–55. <https://doi.org/10.5116/ijme.4dfb.8dfd>

Trudel, Remi. 2018. "Sustainable Consumer Behavior." *Consumption Psychology Review* 2, 1 (December): 85-96. <https://doi.org/10.1002/arcp.1045>.

Vining, Joanne, and Angela Ebreo. 2002. "Emerging theoretical and methodological perspectives on conservation behavior." In *New Handbook of Environmental Psychology*, edited by R. B. Bechtel and Arza Churchman. Wiley. 541-558.

Vermeir, Iris, and Wim Verbeke. 2006. "Sustainable Food Consumption: Exploring the Consumer 'Attitude–Behavioral Intention' Gap." *Journal of Agricultural and Environmental Ethics* 19, (April): 169–194. <https://doi.org/10.1007/s10806-005-5485-3>

Visser, Mirjam, Valentin Gattol, and Rosan Van der Helm. 2015. "Communicating Sustainable Shoes to Mainstream Consumers: The Impact of Advertisement Design on Buying Intention" *Sustainability* 7, 7 (June): 8420-8436. <https://doi.org/10.3390/su7078420>.

Watkins, Leah, Robert Aitken, and Damien Mather. 2016. "Conscientious Consumers: A Relationship Between Moral Foundations, Political Orientation, and Sustainable Consumption." *Journal of Cleaner Production* 134 (October): 137–146. <https://doi.org/10.1016/j.jclepro.2015.06.009>

White, Katherine, Rishad Habib, and David J. Hardisty. 2019. "How to SHIFT Consumer Behaviors to Be More Sustainable: A Literature Review and Guiding Framework." *Journal of Marketing* 83, 3 (February): 22-49. <https://doi.org/10.1177/0022242919825649>.

Yan, Li, Hean Tat Keh, and Kyle B. Murray. 2023. "Feeling the Values: How Pride and Awe Differentially Enhance Consumers' Sustainable Behavioral Intentions." *Journal of the Academy of Marketing Science* 52, 1 (March): 75–96. <https://doi.org/10.1007/s11747-023-00928-4>.

Yan, Ruoh-Nan, Karen H. Hyllegard, and LaVon F. Blaesi. 2012. "Marketing eco-fashion: The influence of brand name and message explicitness." *Journal of Marketing Communications* 18(2): 151-168. <https://doi.org/10.1080/13527266.2010.490420>.

Zeelenberg, Marcel, Rob M. A. Nelissen, Seger M. Breugelmans, and Rik Pieters. 2008. "On emotion specificity in decision making: Why feeling is for doing." *Judgment and Decision making* 3, 1 (January): 18-27. <https://doi.org/10.1017/S1930297500000139>

Zubair, Muhammad, Sidra Iqbal, Sardar Muhammad Usman, Muhammad Awais, Ruining Wang, and Xiaoyi Wang. 2020. "Message Framing and Self-Conscious Emotions Help to Understand Pro-environment Consumer Purchase Intention: An ERP Study." *Scientific Reports* 10, 1 (October): 18304 . <https://doi.org/10.1038/s41598-020-75343-8>.

Zukin, Sharon, and Jennifer Smith Maguire. 2004. "Consumers and Consumption." *Annual Review of Sociology* 30, 1 (August): 173–97.  
<https://doi.org/10.1146/annurev.soc.30.012703.110553>.

## 11. Appendices

### Appendix A – Advertisement Stimuli

#### Appendix A.1: Control group



#### Appendix A.2: Guilt group



## Appendix B – Results of Statistical Analyses

### Appendix B.1: Results of Cronbach's alpha

Appendix B.1.1: Cronbach's alpha results for guilt

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.854	.854	2

### Appendix B.2: Results of Analysis of Variance (ANOVA)

Appendix B.2.1: ANOVA results for guilt

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.133	1	.133	.054	.816
Within Groups	293.858	120	2.449		
Total	293.992	121			

### Appendix B.3: Results for Manipulation Checks (ANOVA)

Appendix B.3.1: Manipulation check (ANOVA) for guilt

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	20.353	4	5.088	2.089	.082
Within Groups	730.631	300	2.435		
Total	750.984	304			

Appendix B.3.1.1: Post-Hoc ANOVA for guilt vs. control group

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	13,948	1	13,948	5,354	,022
Within Groups	312,650	120	2,605		
Total	326,598	121			

## Appendix B.4: Results of Assumption Checks for Analyses of Covariance (ANCOVA)

### Appendix B.4.1: Levene's test of homogeneity of variances for guilt

#### Levene's Test of Equality of Error Variances<sup>a</sup>

Dependent Variable: PI\_Y

F	df1	df2	Sig.
1,289	1	117	,259

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Q2\_1 + Q2\_2 + Grupo

## Appendix B.5: Results of Analyses of Covariance (ANCOVA)

### Appendix B.5.1: ANCOVA results for guilt

#### Tests of Between-Subjects Effects

Dependent Variable: PI\_Y

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	20,800 <sup>a</sup>	3	6,933	2,957	,035	,072
Intercept	74,954	1	74,954	31,964	<,001	,217
Q2_1	9,717	1	9,717	4,144	,044	,035
Q2_2	,322	1	,322	,137	,712	,001
Grupo	,481	1	,481	,205	,652	,002
Error	269,667	115	2,345			
Total	2682,250	119				
Corrected Total	290,466	118				

a. R Squared = ,072 (Adjusted R Squared = ,047)

## Appendix B.6: Mediation Analysis Hayes PROCESS Macro (model 4)

### Appendix B.6.1: Mediation analysis for guilt

Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Version 4.2 \*\*\*\*\*

Written by Andrew F. Hayes, Ph.D. www.afhayes.com  
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

\*\*\*\*\*

Model : 4  
Y : PL\_Y  
X : IV\_X  
M : Q1\_12

Sample  
Size: 122

\*\*\*\*\*

OUTCOME VARIABLE:  
Q1\_12

Model Summary

R	R-sq	MSE	F	df1	df2	p
.0539	.0029	3.2362	.3493	1.0000	120.0000	.5556

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.1587	.2266	18.3490	.0000	3.7100	4.6075
IV_X	-.1926	.3259	-.5910	.5556	-.8379	.4527

\*\*\*\*\*

OUTCOME VARIABLE:  
PL\_Y

Model Summary

R	R-sq	MSE	F	df1	df2	p
.4346	.1889	2.0039	13.8566	2.0000	119.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	2.9531	.3479	8.4877	.0000	2.2641	3.6420
IV_X	.0066	.2568	.0256	.9796	-.5020	.5151
Q1_12	.3777	.0718	5.2580	.0000	.2355	.5199

\*\*\*\*\* TOTAL EFFECT MODEL \*\*\*\*\*

OUTCOME VARIABLE:  
PL\_Y

Model Summary

R	R-sq	MSE	F	df1	df2	p
.0213	.0005	2.4488	.0545	1.0000	120.0000	.8158

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.5238	.1972	22.9454	.0000	4.1335	4.9142
IV_X	-.0662	.2835	-.2334	.8158	-.6275	.4951

\*\*\*\*\* TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y \*\*\*\*\*

Total effect of X on Y

Effect	se	t	p	LLCI	ULCI
-.0662	.2835	-.2334	.8158	-.6275	.4951

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
.0066	.2568	.0256	.9796	-.5020	.5151

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
Q1_12	-.0728	.1283	-.3476	.1716

\*\*\*\*\* ANALYSIS NOTES AND ERRORS \*\*\*\*\*

Level of confidence for all confidence intervals in output:  
95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:  
5000

----- END MATRIX -----