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Greenwashing and Third-Party Certifications in the Fashion Context

Examining the moderating role of third-party certifications between well-known brands' involvement in greenwashing schemes and consumers' brand valuations

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Abstract

From doing irreversible damage to the planet and its resources, to failing to comply with the workers' rights, the excessive production and consumption of fashion products has brought worrying environmental and social complications. In the light of these events, while some companies have developed Corporate Social Responsibility policies in order to be more ethical, others decided to engage in greenwashing practices, misleading consumers and circumventing their desire for ethical products. Greenwashing has in turn created a consumer scepticism about the brands' ethicality. In an attempt to overcome this issue, brands have been increasingly interested in obtaining third-party certifications to safeguard the ethical characteristics of their products and their business. Based on prior academic literature, an experimental study was conducted to examine the impact of well-known brands' involvement in greenwashing schemes on consumers' brand valuations and the moderating role of third-party certifications in mitigating those impacts. Results show that brands' greenwashing practices have a negative impact on consumers' brand valuations. Namely, on perceived ethicality, trust, brand loyalty, perceived quality, purchase intentions and willingness to pay. Additionally, findings show that third-party certifications are able to partially mitigate the negative impacts of greenwashing. This dissertation provides important theoretical and managerial contributions highlighting the ethical role of brands in the fashion industry. Also, it provides important implications for marketers and brands wanting to understand more about the negative effects of greenwashing and, simultaneously, the tactical implications in restoring consumers' confidence after such scandals.

Keywords: Greenwashing, Third-party Certifications, CSR, Ethical Fashion, Consumer Perceived Ethicality, Consumer Trust, Brand Loyalty, Perceived Quality, Purchase Intentions, Willingness to Pay.

Resumo

Desde causar danos irreversíveis no planeta e nos seus recursos ao incumprimento dos direitos dos trabalhadores, a produção e consumo excessivos de produtos de moda tem trazido preocupantes complicações ambientais e sociais. Dado estes factos, enquanto algumas empresas desenvolveram políticas de Responsabilidade Social para serem mais éticas, outras envolveram-se em práticas de *greenwashing*, para “enganar” os consumidores e contornar o seu desejo por produtos éticos. Estes atos criaram um ceticismo nos consumidores quanto à ética das marcas. Numa tentativa de ultrapassar este problema, as marcas procuram cada vez mais obter certificações de terceiros para salvaguardar as características éticas dos seus produtos e negócios. Baseado em literatura académica prévia, foi conduzido um estudo experimental para examinar o impacto do envolvimento de marcas conhecidas em esquemas de *greenwashing* na avaliação das marcas por parte dos consumidores, assim como o efeito moderador das certificações de terceiros na mitigação desses impactos. Os resultados demonstram que o *greenwashing* tem um impacto negativo nas avaliações das marcas por parte dos consumidores. Nomeadamente, na perceção de ética, confiança, lealdade à marca, perceção de qualidade, intenções de compra e vontade de pagar. Os resultados mostram também que as certificações de terceiros mitigam parcialmente os impactos negativos do *greenwashing*. Esta dissertação fornece importantes contribuições teóricas e de gestão que realçam o papel ético das marcas na indústria da moda. Adicionalmente, fornece importantes implicações para *marketers* e marcas que desejem compreender melhor os efeitos negativos do *greenwashing* e, simultaneamente, implicações táticas na restauração da confiança dos consumidores após esses escândalos.

Palavras Chave: *Greenwashing*, Certificações de Terceiros, Responsabilidade Social Corporativa, Moda Ética, Ética Percebida pelo Consumidor, Confiança do Consumidor, Lealdade à Marca, Qualidade Percebida, Intenções de Compra, Disponibilidade para Pagar.

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Table of Contents

Abstract.....	I
Resumo	II
Acknowledgements	III
Table of Contents	IV
List of Tables.....	V
List of Figures.....	VI
1 Introduction	1
1.1 Problem Definition and Relevance.....	1
1.2 Objectives and Research Questions.....	3
1.3 Thesis Structure	4
2 Literature Review.....	5
2.1 Corporate Social Responsibility (CSR) and Stakeholder Theory	5
2.1.1 CSR on Fashion industry.....	5
2.1.2 Ethical Fashion	6
2.2 Greenwashing	6
2.3 Third-Party Certifications.....	7
Consumers' sustainable and ethical motivations on the use of ethical information	9
Third-party certification's and its halo effect.....	10
2.4 Consumers' Brand Valuations.....	10
Consumer Perceived Ethicality (CPE)	10
Consumers' Trust in Brands	11
Brand Loyalty	12
Perceived Quality	12
Buying Behavioural Measures	13
Purchase Intentions (PI)	13
Willingness to Pay (WTP).....	13
3 Conceptual Model and Hypotheses.....	14
4 Methodology and Data Collection	16
4.1 Research Method	16
4.2 Sampling.....	17
4.3 Research Instruments:.....	17
Pre-test study:	17
Pilot study:.....	18
	IV

Main Study:	18
4.4 Design and Procedure	19
4.5 Stimuli Development	20
4.6 Variables Descriptions	21
4.6.1 Manipulation Check	21
4.6.2 Independent Variable	22
4.6.3 Dependent Variables	22
4.6.4 Moderator	23
4.6.5 Covariate	23
4.6.6 Variables Code	23
5 Analysis and Results	24
5.1 Sampling Characterization	24
5.2 Scales Reliability	24
5.3 Manipulation Check Results	27
5.4 Main Results	30
5.4.1 The effect of well-known brands' involvement in greenwashing schemes on consumers' brand valuations	30
5.4.2 The effect of third-party certifications on consumers' brand valuations..	33
5.4.3 The moderating effects of third-party certifications	36
5.4.4 Consumers' motivations towards sustainable and social issues as covariates	41
6 Conclusions and Implications	42
6.1 Theoretical Implications	43
6.2 Managerial Implications	44
7. Limitations and Future Research	46
8. Appendices	48
9. References	73

List of Tables

<i>Table 1 - Brand Awareness and Familiarity Descriptives</i>	<i>18</i>
<i>Table 2 - Manipulation Scenarios</i>	<i>19</i>
<i>Table 3 - Independent Variables Re-coded</i>	<i>23</i>
<i>Table 4 – Consumers' Trust and Brand Loyalty Pearson Correlations</i>	<i>25</i>
<i>Table 5 - Motivations Factor Analysis</i>	<i>25</i>

<i>Table 6 – CPE, Perceived Quality and Motivations Cronbach's Alfa</i>	26
<i>Table 7 - Moments Notation</i>	27
<i>Table 8 - Brand Awareness and Familiarity Descriptive Statistics</i>	27
<i>Table 9 – Manipulation Check Stimulus A [(One-way ANOVA "Nike respects moral norms" (Moment 2)]</i>	28
<i>Table 10 – Manipulation Check Stimulus C [(One-way ANOVA "Nike respects moral norms" (Moment 3)]</i>	28
<i>Table 11 - Manipulations Check Stimuli B and D (Paired Samples T-Test “Nike Respects Moral Norms”)</i>	29
<i>Table 12 - ΔVariables_1</i>	30
<i>Table 13 – Brands’ Involvement in Greenwashing Schemes Main Effect (One-way MANOVA)</i>	31
<i>Table 14 – Independent-samples T-test Brands’ Involvement in Greenwashing Schemes</i>	31
<i>Table 15 - Paired Samples T-Test Brands’ Involvement in Greenwashing Schemes</i>	32
<i>Table 16 - ΔVariables_2</i>	33
<i>Table 17 – Third-party Certification Main Effect (One-way MANOVA)</i>	34
<i>Table 18 - Independent-samples T-test Third-party Certification</i>	35
<i>Table 19 - Paired Samples T-test (Moments 2 and 3)</i>	35
<i>Table 20 – Brands’ Involvement in Greenwashing Schemes x Third-party Certification Two-way MANOVA</i>	37
<i>Table 21 – Comparison Between Groups</i>	38
<i>Table 22 - Independent-Samples T-test (Groups 3 and 4)</i>	38
<i>Table 23 – Paired Samples T-test (Initial and Final Scores When Exposed to Greenwashing and Third-party Certifications)</i>	39
<i>Table 24 - Comparison of Participants’ Scores When Exposed to Greenwashing and Third-party Certifications</i>	40

List of Figures

<i>Figure 1 - Fairtrade Certification</i>	9
<i>Figure 2 - Conceptual Model</i>	14
<i>Figure 3 – Stimuli’s Visual Content</i>	21

1 Introduction

1.1 Problem Definition and Relevance

The global fashion industry is projected to grow in value from 1.3 trillion U.S. dollars in 2015 to about 1.5 trillion dollars in 2020, showing that the demand for clothing and footwear is increasing worldwide (Statista Research Department, 2020).

This industry represents a significant economic force and is a substantial driver of global GDP (Deloitte, 2019). However, the growing development of this industry has brought significant social and environmental impacts, associated with the production and use of clothing (Allwood et al., 2006).

The most worrying environmental impacts are the emissions of toxic gases, the production of solid waste and the significant depletion of resources (water, minerals, fossil fuels and energy), (Madsen et al., 2007). In addition to its environmental impacts, the fashion industry has also been criticised for unethical practices along its supply chain, such as poor working conditions, long working hours, low wages, child labour and health and safety issues (Allwood et al., 2006; Madsen et al., 2007).

Over the years, the environmental concerns increased (Laroche et al., 2001) and, as a result, many consumers have started to consider environmental and social issues during their purchases and attempting to be more environmentally and socially responsible. For instance, a recent study shows that, 37% of consumers are willing to pay 10% more for sustainable fashion, when compared with “normal” fashion (Statista, 2020).

Driven by these consumer concerns, corporations are becoming more aware of the need to be more eco-friendly and socially conscious (Brown, 2010). Consequently, companies have increasingly begun to develop Corporate Social Responsibility (CSR) policies, aiming to incorporate the stakeholders interests (Kozlowski et al., 2012).

Within the realm of the fashion industry, the concept of ethical fashion emerged, as a consequence of the collective conscience of the need of corporations and stakeholders to be more socially responsible (Shen et al., 2012). Despite the non-existence of a single industrial standard, Joergens (2006, p.361) defines ethical fashion as a "fashion with conscience", arguing that the ruling principle of ethical fashion is fashionable clothing that incorporates ethical principles such as fair trade, sweatshop-free working conditions, and the use of biodegradable materials (e.g., organic cotton) that do not harm the environment or workers.

As soon as companies and associated brands began to understand that being social and environmentally responsible would bring potential benefits, greenwashing as a corporate act emerged as CSR's "evil twin" (De Jong et al., 2018). According to TerraChoice (2010), greenwashing is the act of intentionally misleading or deceiving consumers with false claims about a firm's environmental practices. These deceptive, ambiguous, and misleading practices lead to consumers' scepticism that a product or service is ethical or green (Aji & Sutikno, 2015). Consequently, greenwashing practices lead to consumers' mistrust about the information given and the ethics claimed by the brands (Musgrove et al., 2018; Nyilasy et al., 2014). Furthermore, a research by Parguel et al. (2011) indicates that episodes of greenwashing by a company or brand led to considerably lower scores on perceived CSR efforts, perceived intrinsic motives, and corporate brand evaluations. However, limited research has examined these episodes within fashion industry.

The greenwashing effect on consumers' perceptions about the brands can be influenced by several other factors, one of them being the brand itself. Aaker (1991) states that the brand and all its intangible components are the most important assets of a business. Additionally, Erdem & Keane (1996) identify the brand as a decisive factor in consumer choice. This happens because companies use their brands to construct consumer-brand relationships, which heavily influences consumers' behaviour and experiences (Chang & Chieng, 2006). This suggests that well-known brands among consumers are the ones subjected to the greatest impacts, since consumers have more information and a stronger connection to these brands. Therefore, the present research will focus on well-known brands.

With the growth of brands' engagement in greenwashing practices, brands' difficulty to communicate the ethical aspects of fashion products has been intensified, since consumers' trust has been increasingly damaged. Indeed, Pickett-Baker & Ozaki (2008) point out that consumers' state sometimes it is difficult to identify brands which are truly environmentally friendly.

Therefore, and in an attempt to overcome consumers' distrust and repair their reputation after greenwashing practices, in recent years, brands have been increasingly interested in obtaining various types of certifications attesting that their products are green, ethical, or free from animal cruelty (Cerchia & Piccolo, 2019). Although the important role of certifications has been identified in the literature by several authors (e.g. Darnall et al., 2018; Moore & Wentz, 2009), it is still not clear if the use of third-party certifications

can effectively improve consumers' valuations after exposed to brands' greenwashing conduct.

In line with the aforementioned factors, the main objective of the present research is to understand the extent to which well-known brands are impacted by greenwashing conduct and the ability of certifications in clearing some of the potential negative effects on consumers' valuations. Specifically, the author will examine the impact of well-known brands' involvement in greenwashing practices on consumers' brand valuations - consumers' ethical perceptions about the brand, trust, brand loyalty, perceived quality, purchase intentions and willingness to pay - and whether third-party certifications can neutralize that (negative) impact.

1.2 Objectives and Research Questions

The purpose of this dissertation is to examine the impact of well-known brands' involvement in greenwashing schemes on consumers' brand valuations. Subsequently, how the obtainment of a third-party certification may change these valuations.

Therefore, the first research question intends to understand how consumer's valuations (consumer perceived ethicality, consumer trust in brand, brand loyalty, perceived quality, purchase intention and willingness to pay) are impacted by brands' involvement in greenwashing schemes.

RQ1: What is the impact of well-known brands' involvement in greenwashing schemes on consumers' brands valuations?

The second research question aims to understand the impact of third-party certifications on consumers' brands valuations (consumer perceived ethicality, consumer trust in brand, brand loyalty, perceived quality, purchase intention and willingness to pay).

RQ2: What is the impact of third-party certifications on consumers' valuations towards well-known brands?

Finally, the third research question intends to analyse if third-party certifications can repair well-known brands' reputation after its involvement in greenwashing practices, since literature in the domain of ethical fashion points out third-party certifications as one of the strategies used by brands to resolve unethical episodes of such kind. Therefore, the following research question is addressed:

RQ3: Can third-party certifications mitigate the negative effects of well-known brands' involvement in greenwashing practices, on consumers' brand valuations?

1.3 Thesis Structure

Following the first chapter, which addressed the research problem and its relevance, the dissertation objectives and the research questions, the present study proceeds to chapter two. Chapter two provides a review of the previous literature on which this dissertation is based, addressing the main topics and concepts under study.

Further, on chapter three the conceptual model and the hypotheses of the study are outlined, followed by chapter four that provides a description of the methodology used and the data collection process.

The fifth chapter presents the results' analysis. Finally, the last chapter presents the conclusions and implications of the study, as well as the study's limitations and suggestions for further research.

2 Literature Review

2.1 Corporate Social Responsibility (CSR) and Stakeholder Theory

The European Commission define CSR as “a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis” (European Commission, 2011, p.6). Since negative actions such as environmental pollution or employee abuse will eventually lead to negative reactions from some stakeholders, companies should involve CSR in their management strategy (Freeman, 1984). Therefore, management decisions should not be adapted only to shareholders’ interests, but also to stakeholders’ interests, who are parties with interest in a company and can either affect or be affected by the business. This concept is known as the stakeholder theory (Freeman, 1984; Freeman & McVea, 2005) Among the benefits of CSR is its influence on consumer behaviour and its positive relationship with brand image, helping companies to gain competitive advantage and to motivate employees (Grover, 2014). Additionally, CSR influences corporate reputation, consumer trust, and consumer loyalty. Therefore, by devoting their efforts to CSR activities, companies can expect several beneficial results (Stanaland et al., 2011).

The literature suggests that CSR and economic performance are not mutually exclusive, and can even be complementary, which reinforces the argument that firms can "do well while doing good" (Doh & Guay, 2006, p.65).

2.1.1 CSR on Fashion industry

Within the fashion industry, the fashion consumption paradigm is changing radically and emotional factors, such as consumers attitudes towards social and environmental CSR involvement, are becoming increasingly important (Ciasullo et al., 2017).

Abreu (2015) identifies some CSR practices, drivers and outcomes in the fashion industry. According to the author, CSR may reduce environmental damage, help local communities, and maintain good relationships with stakeholders. Additionally, suggests that CSR practices can bring a set of benefits to companies, such as the creation of a positive responsible business image, the increase of competitive advantages and even profits’ increase.

Therefore, accordingly to Książak (2017), the fashion industry presents a potential for further development towards CSR practices and socially responsible businesses. Several

fashion brands have already realised this potential and increasingly started investing in the development of a more socially responsible fashion (Haug & Busch, 2015). Thus, the concept of ethical fashion emerged, in part due to the fact that major fashion companies such as Gap, Nike and Levi Strauss have been strongly criticized for less ethical practices (Shen et al., 2012).

2.1.2 Ethical Fashion

Ethical fashion is defined as fashion produced under fair trade principles in sweatshop-free working conditions, with efforts to reduce the environmental impacts of the process (Joergens, 2006). Ethical fashion is also often called sustainable fashion, ecological fashion, green fashion, or slow fashion. Regardless of the term used, this concept has become a trend and fashion sustainability has been key words to gain consumers' attention and credibility (Yan et al., 2012).

Although the global market for ethical or environmentally friendly apparel is relatively small and while, accounting for only 1% of the total apparel market, the environmentally friendly fashion market has been growing on a global scale (Lipson, 2008).

Several large fashion companies such as Nike, GAP, Marks & Spencer, Timberland and Levi Strauss are increasingly investing in the development of a more socially responsible fashion (Haug & Busch, 2015). Other brands like H&M and Muji have launched some organic and Fairtrade collections (Haug & Busch, 2015).

However, despite fashion companies effectively starting to invest in the development of a more social and environmental responsible fashion and informing consumers about their ethical practices (Haug & Busch, 2015), cases of greenwashing also emerged (Carlson et al., 1993; Musgrove et al., 2018), as referred in more detail next.

2.2 Greenwashing

Greenpeace defines greenwashing as “the act of misleading consumers regarding the environmental practices of a company or the environmental benefits of a product or service” (Gatti et al., 2019, p.7). Aji and Sutikno (2015) added ethical concerns to the concept, defining it as deceptive, ambiguous, and misleading practices that aim to create a wrong perception that a product or service is ethical or green.

Nowadays, consumers increasingly expect transparency within the entire value chain and want more information about the provenience and quality of the materials used on good's (Gazzola et al., 2020). Therefore, it seemed beneficial for brands to provide information about their ethical and sustainable practices to look good through consumers' good lenses. As a result, brands started to use vague and meaningless statements like "*environmentally friendly*" in their marketing actions to get around consumers' minds (Carlson et al., 1993; Musgrove et al., 2018). This lack of clarity and explicit information is a form of a brand's engagement in greenwashing practices can create confusion in consumers' minds and raise concerns, which may inhibit purchasing decisions. Consequently, can slow the growth of the global market for environmentally friendly apparel (Yan et al., 2012).

Moreover, greenwashing practices have often violated consumer confidence, undermining the image of companies and creating consumer scepticism toward ethical marketing claims (Musgrove et al., 2018).

To circumvent consumers' scepticism, several strategies are often used by marketers to convey trust to consumers, inform them and convince them about brands' ethical practices. Some examples are the use of message-priming techniques (Lee et al., 2020), the use of social labelling (Hilowitz, 1997) and the development of a code of ethics (Cerchia & Piccolo, 2019). However, even with the use of these strategies, some consumers show difficulties identifying brands that are truly environmentally friendly and perform effectively (Pickett-Baker & Ozaki, 2008).

Therefore, and to avoid allegations of greenwashing, brands have increasingly shown interest in obtaining several types of third-party certifications attesting that their products are ecological, ethical, or free from animal cruelty (Cerchia & Piccolo, 2019). By introducing these regulated certifications, brands can help consumers to quickly and easily determine the ethical nature of their products. Simultaneously, reduce consumers' often time-consuming need for external information search regarding brands' manufacturing practices (Shaw et al., 2006).

2.3 Third-Party Certifications

Bhaduri and Ha-Brookshire (2011) uncovered consumers' demand for a standard authorisation agency to verify the claims of transparent companies, as well as their demand for a single consolidated universal standard for all products, such as a government certification.

Despite the inexistence of a universal standard certification, a wide variety of third-party certifications can be found in the marketplace today. Each third-party certification have specific characteristics and objectives, awarded by different external entities (Koszewska, 2011).

Third-party certifications are commonly called eco-labels. Eco-labels are defined by Koszewska (2011), as labelling schemes to differentiate products that best comply with social and ecological standards. These certifications are awarded by public or private organizations that aim to popularize and promote products that are more beneficial to humans or to the environment and, simultaneously, that have comparable usability and functional characteristics (Koszewska, 2011).

The fact that these certifications are granted by a third-party that verifies whether the products meet all required standards, avoids the chance for companies to engage in greenwashing schemes (Strähle & Sfamini, 2016). Therefore, the use of third-party certifications might be a good strategy to increase consumers' trust about brands' ethical promises (Darnall et al., 2018).

Moore & Wentz (2009) further point out that certifications are a growing trend, and a means by which to incorporate ethical information into a concise educational message to consumers. The same authors highlight that such certifications appear to represent the most reliable type of labelling scheme, in a world where the terms “sustainability” and “green” have become the *status quo*.

Despite the immense variety of certifications, the most used on fashion and textile industry deal with social, environmental, and animal cruelty issues (Cerchia & Piccolo, 2019). Environmental certifications that guarantee the manufacturing processes of the garment was not harmful to the environment, neither during the plant cultivation, the spinning of the fabric, or any subsequent processes involved in production process (Cerchia & Piccolo, 2019). Animal cruelty-free certifications specifically guarantee respect for animal welfare, certifying the brand in question does not use materials coming from animals (Cerchia & Piccolo, 2019). Finally, social certifications set a minimum standards of respect for workers' rights and the objective is to provide information, so that consumers are in a position to support ethical businesses and to refrain from unconsciously supporting unethical businesses (Dickson, 2001).

A study by Shaw et al. (2006), stresses that, specifically, consumers frequently express their need for Fair Trade logos in the fashion industry, to guarantee that the products have

not been made under sweetshop conditions and that within the value chain, producers were paid a fair wage for the raw materials sold to the brand.

According to a 2015 research, the Fairtrade mark is the ethical certification label most widely globally recognized (FairTrade International, n.d.-a). The Fairtrade International Programme is seen as the “high bar” of the Fair Trade programmes, differentiating itself from others, by checking each step of the supply chain (Minney & Geffner, 2016).



The Fairtrade certification (Figure 1) promotes equitable trading agreements, ensuring fair prices and fair working conditions for producers and suppliers (FairTrade International, n.d.-b).

Figure 1 - Fairtrade Certification

Consumers' sustainable and ethical motivations on the use of ethical information

According to Thøgersen et al. (2010), the attention consumers pay to certifications, as well as their willingness to understand and use them in the decision-making process, depends on consumers' motivations. Further, Schaefer & Crane (2005) argue that consumers motivated by strong environmental and ethical values and attitudes, seek information on the ethics or environmental friendliness of products and weigh the product environmental cost together with the other attributes such as utility, price, quality and convenience.

Moreover, and although little research about this topic has been conducted in the fashion context, literature on the food industry points out to the importance of consumer motivations in the use of sustainable food information (Grunert et al., 2014). Third-party certifications give consumers the opportunity to consider environmental and ethical issues when they are making their choice and, according to Grunert et al. (2014), consumers' decision of whether or not to use this information will depend on their motivation. Therefore, at least as far as food products are concerned, the more sustainable and ethical consumers are motivated, the more they will be willing to use certifications rationally in their decision. It remains to be seen whether the same is true regarding fashion products.

Third-party certification's and its halo effect

Often, the literature examining sustainable products suggests how halo effects originate as a result of ethical certifications on products (Luchs et al., 2010). The halo effect has been defined as “a rater’s failure to discriminate among conceptually distinct and potentially independent attributes, with the result that individual attribute ratings co-vary more than they otherwise would” (Leuthesser et al., 1995, p.58). In other words, when a product is considered superior on one attribute, it will also be perceived favourably in relation to others along other attribute dimensions (Luchs et al., 2010).

Literature suggests then, if an environmental third-party certification evokes a positive evaluation that a product is ecologically friendly, it can also positively affect the overall evaluation of the product, through the halo effect (Choi & Kim, 2016). It remains to be observed how ethical certifications such as Fair Trade exert similar (positive) effects on consumers’ valuations after being exposed (vs. not) to greenwashing schemes.

2.4 Consumers’ Brand Valuations

Despite the literature efforts, the impact of greenwashing and third-party certifications on consumers’ brand valuations lags behind in the context of fashion industry. Some of the most prominent issues related with fashion brands are its ethical conduct and the perceptions acquired thereof by consumers.

Consumer Perceived Ethicality (CPE)

Consumer Perceived Ethicality (CPE) is a rather recent concept in the sustainable or ethical consumption literature. CPE is a concept developed by defined by Brunk and Bluemelhuber (2010, p.368) who define as the “consumer’s aggregate perception of a subject’s ethicality”, being that subject, for example, a company, a brand, a product or a service.

Previous research finds that the unethical commercial transactions have an negative impact on the ethical perception of consumers, such as disregard laws and moral standards and insufficiently balanced decision-making (Brunk & Bluemelhuber, 2010).

Moreover, unethical perceptions are often one of the root causes of brand image and reputation faltering, which can have a potentially detrimental effect on consumer attitudes and purchasing behaviour (Brunk, 2010b).

Results of a study by Brunk & DeBoer (2015) found that for consumers with higher motivations regarding the process of ethical information, one single negative information can have disastrous consequences and any further virtuous behaviours might be interpreted also as unfavourably (Brunk & DeBoer, 2015). It remains to be understood whether these conclusions also apply when a fashion brand obtains a third-party certification after being involved in a greenwashing scheme. The reason such effects might be distinct is because consumers' perceptions are influenced by the source of the information they used to build their opinions (Brunk, 2010a). Since, consumers trust more external sources than internal sources, it is expected that they also trust external entities responsible for issuing the certifications.

Consumers' Trust in Brands

Consumer researchers have recognized the importance of consumers' trust in brands, which is defined as consumer's belief that the brand is willing and able to deliver on its promises (Chaudhuri & Holbrook, 2001; Rajavi et al., 2019).

Keh and Xie (2009) state that mutual trust is a key feature of successful social exchanges between organizations. For that reason, building a trustworthy identity among various stakeholders (customers, investors and others) should be included in the brands' priorities list. For instance, consumers' admitting that greenwashing practices have violated their trust, created a scepticism toward ethical marketing claims (Musgrove et al., 2018). Regarding third-party-certifications, Darnall et al. (2018) argue that third-party certifications work as an important information cue that enhances consumers' perceived legitimacy and trust about business. Furthermore, research shows that consumers' trust has significant positive impacts on purchase intention and price premium and that companies with favourable reputations benefit from building consumer confidence (Keh & Xie, 2009).

Brand Loyalty

Brand loyalty is a deep commitment to repurchase a preferred product or service consistently in the future, which leads to repetitive purchases of the same brand or set of brands (Oliver, 1999).

High levels of consumers' brand loyalty has high importance for companies to build brands equity and to gain sustainable competitive advantages (Gounaris & Stathakopoulos, 2004). Some of the reasons for that to happen, are the fact that loyal consumers are less likely to switch brands and also the fact that high consumer loyalty leads to higher rates of return on investment (Gounaris & Stathakopoulos, 2004).

Prior research in this domain, found that greenwashing practices are serious problems (Parguel et al., 2011). Consequently, the increasing scepticism towards brands has a strong influence on consumers' perceptions, which weakens the brand image (Guo et al., 2017). Therefore, the literature suggests that greenwashing practices do not favour consumer loyalty. Moreover, a study conducted by Testa et al. (2015) on third-party certifications, suggests that eco-labels can be effective marketing tools while, positively influence brand loyalty.

Perceived Quality

Perceived quality is the consumer's judgment about a product's overall excellence or superiority (Zeithaml, 1988). In other words, perceived quality is the consumers' subjective overall evaluation of a product or service that is influenced by several factors (Das, 2015).

Research by Zhang et al. (2018) found that corporate greenwashing behaviours, like the false representation of products and services as ethical, can lead to a reduction on product quality perceptions amongst consumers.

Moreover, T. Z. Chang & Wildt (1994) suggests that intrinsic and extrinsic product attribute information also influences quality perceptions. Therefore, third-party certifications may be informational cues that also influence consumers' perceived quality on the basis of halo effects.

Buying Behavioural Measures

Purchase Intentions (PI)

Purchase intention is “consumers’ willingness to buy a given product at a specific time or in a specific situation” (Lu et al., 2014, p.261). According to Fishbein & Ajzen, (1975, p.369) purchase intention is "the best predictor of an individual's behaviour will be a measure of his intent to execute that behaviour".

Concerning greenwashing practices, prior research reveals also, that brands’ greenwashing involvements often have negative impacts on brand credibility, brand associations, brand equity. Consequently, these greenwashing schemes affect purchase intentions (Akturan, 2018). As far as the effect of third-party certifications on purchase intentions is concerned, previous research shows that certifications seem to affect purchase intentions favourably (Choi & Kim, 2016).

Willingness to Pay (WTP)

Willingness to pay is the measure of value in which individuals buy a product (Shogren et al., 1994). In other words, WTP is the highest price a consumer is willing to pay for one unit of a good or service.

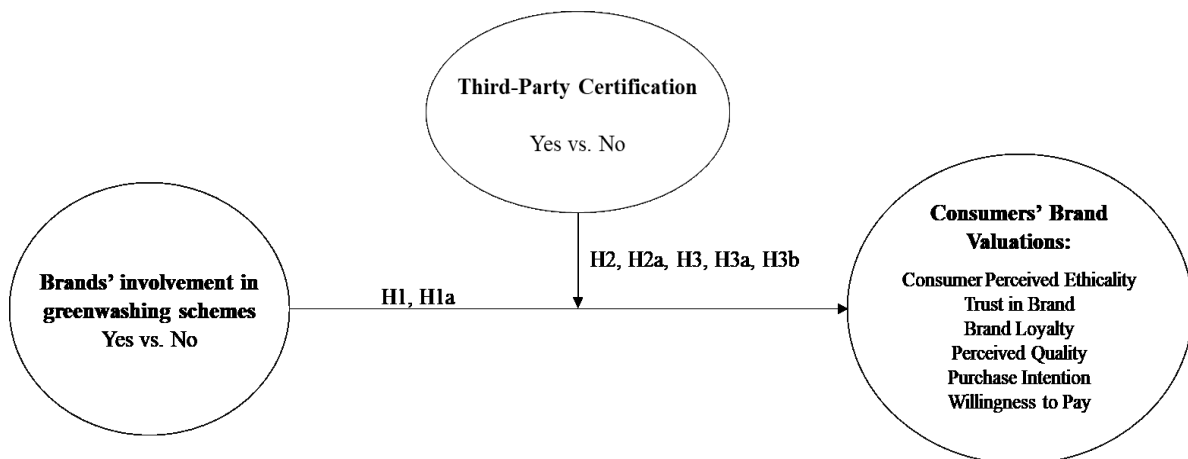
As stated before, consumers are increasingly considering the social and environmental impacts of their choices, which is influencing their willingness to pay towards ethical fashion products. Recent statistics show that, 37% of consumers are willing to pay 10% more for sustainable fashion, when compared with “normal” fashion (Statista, 2020).

Regarding third-party certifications, although it is still unclear in literature how ethical favourable attitudes are translated into willingness to pay (Vogel, 2006), a study by Janssen and Hamm (2012) found out that the WTP for food products is significantly higher when a certification is present. It remains to be analysed whether the same conclusions apply to ethical fashion products.

3 Conceptual Model and Hypotheses

This research examines the influence of brands' previous involvements in greenwashing schemes on consumers' brand valuations in the context of fashion industry. An empirical main study will be conducted to examine the impact of a brand's prior involvement (vs. no involvement) in a greenwashing scheme (the independent variable) on consumer's brand valuations such as, consumer perceived ethicality, trust, brand loyalty, perceived quality, purchase intention and willingness to pay (the dependent variables). Moreover, the study will examine the moderating role of third-party certifications (yes versus no) on the aforementioned relationship.

Figure 2 - Conceptual Model



Hypotheses:

As discussed above, consumers expect companies to deliver what their environmental and social marketing promises. Otherwise, a brand may be seen as opportunistic, which can negatively affect the company's reputation (Fraj-Andrés et al., 2009). Additionally, previous research suggests that sceptical consumers' are likely to have lower brand evaluations when there is a discrepancy between the company's stated objectives and the type of benefits the firm provides (Forehand & Grier, 2003). Therefore, it seems that perceptions of greenwashing are associated with negative brand evaluations (Nyilasy et al., 2014). On the basis of this prior literature, the following hypotheses are proposed:

H1: The involvement of well-known brands in greenwashing schemes will influence consumers' brand valuations.

H1a: The involvement of well-known brands' in greenwashing schemes will negatively impact consumers' ethical perceptions, brand trust, brand loyalty, perceived quality, purchase intentions and willingness to pay.

As aforementioned in the literature review, brands are increasingly doing their best to obtain certifications that attest the ethics and sustainability of their products, to obtain competitive advantages.

The main objective of third-party certifications is to inform consumers about the brand's ethicality and its products. However, previous literature suggests that if third-party certifications can positively affect consumers' perception of brand ethics, it may also positively affect the overall evaluation of the product, through halo effects (Choi & Kim, 2016). In fact, several studies indicate that third-party certifications seem to increase consumers' trust about brands' ethicality, purchase intentions and willingness to pay (Choi & Kim, 2016; Darnall et al., 2018; Janssen & Hamm, 2012). Hereupon, the following hypotheses are proposed:

H2: Third-party certifications will have an impact on consumers' brand valuations.

H2a: Third-party certifications will positively impact consumers' brand valuations - consumers' ethical perceptions, brand trust, brand loyalty, purchase intentions and willingness to pay.

Moreover, prior research suggest that the negative perceptions created in consumers' minds after a brand's unethical behaviour are unlikely to change, even if the brand demonstrates subsequent positive behaviour (Brunk & DeBoer, 2015). However, consumers' perceptions are influenced by the source of the information they used to build their options (Brunk, 2010a). Since certifications are granted by an external reliable entity, third-party certifications may be used as a strategy to mitigate the negative effects of greenwashing. Thus, the following hypotheses are proposed:

H3: The impact of well-known brands' involvement in greenwashing schemes on consumers' brand valuations will be moderated by the third-party certification.

That is:

H3a: Third-party (vs. no third-party) certifications will positively (vs. negatively) impact the relationship between brands' greenwashing involvement and consumers' brand valuations.

H3b: Third-party certifications will mitigate the negative effects of well-known brands' involvement in greenwashing schemes.

4 Methodology and Data Collection

4.1 Research Method

After examining the secondary data presented in the literature review chapter, primary data was collected to meet the research objectives of this study.

Three experimental studies were performed (a pre-test, a pilot test of the main study and a main study). For each, an online survey was developed. This methodology has several advantages, such as lower associated costs and the possibility of collect the data from multiple individuals in a relatively short period of time (Evans & Mathur, 2005). The online surveys were developed in the Qualtrics Survey Software, an intuitive research software that has several beneficial and efficient tools which facilitated the processing of the data collected, such as the randomizing questions and the possibility to download the data directly to SPSS.

The questionnaires distribution was carried out through a link, provided by the platform, that was been shared by e-mail and social media. The use of this methodology provides participants convenience and flexibility, since there is no time or space requirements to answer to the survey (Evans & Mathur, 2005). Moreover, through this methodology, participants have the convenience of filling the survey in their natural environment, which reduces uncertainties, pressures, and constraints. Furthermore, the surveys guarantee the complete anonymity and confidentiality of the information provided by participants, which improves their willingness to participate.

Nevertheless, it must be considered that online surveys also have some disadvantages, since there is no way to ensure that participants are focused and attentive to the questions

and there is no possibility of clarifying respondents' doubts, in case they arise. Therefore, the questionnaires designs developed were simple, precise, comprehensive and with closed-response questions, to minimize these disadvantages.

4.2 Sampling

The sampling method adopted in the current study was the convenience sampling method. The convenience sampling is a non-probability sampling, which includes participants members of the target population that meet certain practical criteria, such as easy accessibility, geographical proximity, availability at a given time, or the willingness to participate (Dornyei, 2007). Accordingly to Etikan (2016), convenience sampling is affordable, easy and the subjects are readily available. Therefore, this method was selected due to the ease of the approach and accessibility to participants.

It important to note that, in each survey, the participants were informed that their responses were anonymous and would be treated completely confidentially, to encourage honesty on their part.

4.3 Research Instruments:

As stated before, three studies were developed in Qualtrics Survey Software and distributed, through an anonymous link, via e-mail and social media channels (Facebook, LinkedIn, Twitter). The following is a description of the procedures adopted in the pre-test study, in the pilot and in the main study.

Pre-test study:

The pre-test study was launched with the aim of identifying a very well-known brand, to be later incorporated into the main study. The measure used to verify that was the level of brand awareness.

Therefore, the pre-test survey consisted of an introductory section to explain the purpose of the study, a second section which assessed consumers' "top of mind" sportswear fashion brands and a final section thanking respondents for their participation.

According to Keller (1993) brands with high brand awareness levels are correctly identified, when a product category is given. Therefore, an unaided recall technique was

used. Since, the category chosen was the sportswear fashion brands, participants were asked to name the first three sportswear brands that came to their mind.

The pre-test survey was available for response from 17th to 21st October and a total of 62 valid answers were received. The results show that Nike was mentioned by 66,1% of respondents as the first brand that came to their minds and by 24,2% as the second (see appendix 2). After this results analysis, Nike was chosen to be used in the main study.

Pilot study:

Before launching the main study, a pilot study was conducted to check whether the manipulations and questions were being correctly understood by the respondents and whether the experimental scenario flow was working correctly.

This pilot study was answered by 10 participants, who did not participate in the main study. The participants were interviewed, after taking the survey, and asked if all the questions and stimuli were clear and understandable. According to their feedback, the necessary adjustments were made in the main survey.

Additionally, the pilot-test helped understanding whether the brand chosen in the stimuli performed according to the author's expectations. Results confirm that Nike is a well-known brand among consumers, since the levels of brand awareness and brand familiarity were significant high ($M_{\text{Brand Awareness}} = 6.70$; $M_{\text{Brand Familiarity}} = 6.10$), (see Table 1).

Table 1 - Brand Awareness and Familiarity Descriptives

	Mean	Std. Deviation
Brand Awareness	6.70	.42
Brand Familiarity	6.10	.88

Main Study:

The main study was available in two languages, English and Portuguese and, as stated before, was shared via email and social media. The survey was launched on November 3rd, as answers were collected until November 11th.

A total of 429 responses were gathered, from which 286 were completed and subsequently analysed. The high drop-outs rate verified is a common issue in web experiments (Reips, 2002; Tijdens, 2014). The length of the survey, the repetitive questions, the low respondent's interest and the potential distractions that the participant

can be exposed during the online survey are some reasons that can explain this high drop-out rate.

On average, 71 responses were collected in each cell of the study, which respects the minimum number of responses per cell that an experimental research should have in order to have a high consistency and validity (Maxwell et al., 2017; Saunders et al., 2015).

4.4 Design and Procedure

After analysing secondary data from previous research, to answer the research questions, primary data was collected in the main study. As stated before, the data was collected through the Qualtrics Survey Software within the month of November 2020.

The main objective of the study is to explore the impact of well-known brands involvement in greenwashing schemes and third-party certifications on consumers' valuations - CPE, consumer's trust, brand loyalty, perceived quality, purchase intentions and WTP.

The study design followed a 2 (Brands' involvement in greenwashing schemes: Yes vs. No) x 2 (Third-Party Certification: Yes vs. No) between-within subject's design.

To clearly understand the impacts of greenwashing schemes and third-party certifications on consumers' brand valuations, it was necessary to measure the dependent variables in three moments: before providing any information about the brand, after providing information about the brands' involvement in a greenwashing scheme (vs. not) and, lastly, after providing information about whether (vs. not) the brand obtained a third-party certification.

Therefore, the main study was composed by five main sections (see Appendix 3 for details). First, participants were presented with a brief text clarifying the scope of the survey and, subsequently, respondents were randomly allocated to one of the four scenarios (see Table 2).

Table 2 - Manipulation Scenarios

		Scenario			
		1	2	3	4
Nike's Involvement in Greenwashing Schemes	Yes	x	x		
	No (neutral information)			x	x
Nike's Third-Party certification	Yes	x		x	
	No (neutral information)		x		x

The first main section exposed participants to the American sportswear brand Nike. Firstly, participants were asked about their levels of familiarity and awareness with the brand. Then, were asked to evaluate their perceptions about the ethicality of the brand (CPE), their trust on the brand, their brand loyalty, their brands' perceived quality, their purchase intentions and their willingness to pay, the dependent variables of the study.

Next, a new section was presented with information, either on the brand's involvement in a greenwashing scheme or a neutral information. Subsequently, the same dependent measures were applied (CPE, consumers' trust, brand loyalty, perceived quality, purchase intentions, WTP).

In the third section respondents were presented with information, either on the acquisition of a third-party certification or a neutral information. Then, respondents were asked, again, about their brand valuations.

In the fourth section participants were asked about their motivations towards sustainability and ethical issues.

Finally, in the last section, demographics measures were assessed (gender, age, country, level of education, current occupation, and monthly income) and participants were thanked for their participation.

4.5 Stimuli Development

According to the pre-test study results, Nike was the brand used as stimuli for a well-known company. Additionally, to serve the purpose of the study, four stimuli texts were developed: stimulus A to inform participants about the brand involvement in greenwashing scandals, stimulus B as a neutral information (non-greenwashing), stimulus C to inform about the obtainment of a third-party certification and stimulus D as a neutral information (see Appendix 4 for details).

Each text was presented along with visual content to increase the stimulus: together with text A an image of an Asian sweatshop fabric was presented, with text B an image of a Nike's store, with text C an image of the Fair Trade certification and together with text D an image of Nike's logo (see Figure 3).

To reduce biases, stimulus A is similar in appearance to stimulus B, in terms of letter font, volume of information and size of the visual content. The same is true for C and D stimuli. All stimuli were tested in the pilot study to ensure that the manipulations were perceived as intended.

Figure 3 – Stimuli's Visual Content



Stimulus A



Stimulus B



Stimulus C



Stimulus D

4.6 Variables Descriptions

4.6.1 Manipulation Check

To confirm that Nike is a well-known brand among consumers, brand awareness and brand familiarity levels were used as manipulation check variables. According to Keller (1993), to consider that a brand has a high level of brand awareness, consumers should correct identify they have been previously seen or heard about the brand. Therefore, to measure brand awareness, an aided recall technique was used, to understand if consumers recognize the brand approached. Therefore, consumers were asked about their level of agreement with the sentences “I have seen or heard about Nike” and “I know the products that Nike offers”. This information was assessed on a 7-point scale (1 – strongly disagree, 7 – strongly agree). To address the brand familiarity level, consumers were asked “How familiar are you with Nike?”. A seven-point scale was used to measure this variable (1 = not at all familiar, 7 = Very much familiar).

An additional manipulation check variable was needed to measure if the four stimuli used in the manipulation’s scenarios were correctly interpreted and understood.

Therefore, participants were asked, before and after being exposed to each stimulus, to rate their level of agreement with the sentence “Nike respects moral norms.” On a 7-point Likert Scale (1 – strongly disagree, 7 – strongly agree).

The manipulation check results will be analysed in the next chapter.

4.6.2 Independent Variable

Brands’ involvement in Greenwashing Schemes: was assessed by exposing participants, either to information about brands’ greenwashing scandals or to a neutral information. The exact same questions about consumers’ brand valuations were asked before and after the information been presented.

4.6.3 Dependent Variables

All the dependent variables, except the buying behavioural measures, were assessed using a 7-point scale (1 – Strongly disagree; 7 – Strongly agree).

Consumer Perceived Ethicality (CPE) - Consumers’ ethical perceptions were assessed through the scale developed by Brunk (2012) (“Nike respects moral norms.”, “Nike always adheres to the law.”, ...), (See Appendix 5).

Consumers’ Trust - In order to assess consumers’ trust in brand, respondents were asked about their level of agreement with two sentences (“I trust Nike.”; “Nike delivers what it promises.”), adapted from Chaudhuri & Holbrook (2001).

Brand Loyalty - To assess consumers’ brands loyalty, respondents were asked about their level of agreement with two sentences (“I would recommend Nike to other people.”; “I would repurchase Nike in my next shopping.”, adapted from Erdoğan & Budeyri-Turan (2012).

Perceived Quality - Perceived quality was assessed by asking participants about their level of agreement with three sentences (“Nike products are of good quality.”; “The material used in Nike products is of good quality.”; “Nike construction quality is good.”, adapted from Erdoğan & Budeyri-Turan (2012).

Purchase intention - To assess consumers' intention of purchasing from the brand, they were asked to indicate their intention to buy at Nike, on a 7-point Likert scale (1 = "Definitely would not buy"; 7 "Definitely would buy"), adapted from (K. Lee & Shin, 2010).

Willingness to pay – To measure this variable, participants were asked how much they would be willing to pay (from 0 to 100 euros) for a Nike t-shirt. Any image of the product was presented to avoid bias, giving respondents the opportunity to imagine the t-shirt.

4.6.4 Moderator

Third-Party Certification information - was assessed by presenting participants with a text (vs. without) related with a third-party certification (vs. neutral) information used by the brand. The exact same questions about consumers' brand valuations (dependent variables) were asked before and after the information was presented.

4.6.5 Covariate

Consumers' motivations towards sustainability and ethical issues - This variable was measured by asking respondents how concerned they were with various dimensions related with environmental and social issues ("Use of child labour in fashion production", "Deforestation of the rain forest",...) on a 7 point scale (1 – Not at all concerned, 7 – Very much concerned), adapted from Grunert et al. (2014), (See Appendix 6).

4.6.6 Variables Code

With the aim of facilitating the analysis of the study conducted the, the following variables were coded as presented in Table 7

Table 3 - Independent Variables Re-coded

Variables	Values
Brands' Involvement in Greenwashing Schemes	0= Non-greenwashing; 1= Greenwashing
Third-Party Certification	0= No Third-party certification; 1= Third-party certification

5 Analysis and Results

5.1 Sampling Characterization

On the final section of the main survey, participants were exposed to some demographic questions, to be possible to provide an accurate portrait of the final sample (see Appendix 7 for details).

The final sample was composed by 286 participants, mostly female (57.7%). As far as age is concerned, 46.5% of participants were aged between 18 to 24 years, followed by 14.7% aged between 35 to 44 years old and 14.3% aged between 45 and 54 years old. Only 13.3% of participants were aged between 25 and 34 years old and the remaining 0.3% were aged 65 or above.

Most of the participants were from Portugal (94.8%), being the remaining percentage composed by participants from Andorra, Brazil, Germany, Mozambique, Serbia, and Switzerland.

Considering participants education level, 19.6% of the respondents were holding a High School degree, 49.7% a Bachelor's degree, 26.6% a Master's degree, 0,7% a Doctoral degree and 2,8% a Professional degree. Only 0,7% of the sample stated to have less than High School as the highest level of education. Regarding respondents' current occupation, 53.5% of participants were employed, followed by 32.5% students, 8.7% student-workers, 3.1% unemployed and 2.1% retired.

Lastly, 27,7% of participants stated to have a personal monthly income of less than 500€, 28.7% a monthly income between 501€ and 1000€, 21% between 1501€ and 2000€ and the remaining 10,1% stated to have a personal monthly income of more than 2000€.

5.2 Scales Reliability

Although the scales used in the present study were adapted from the literature, it is still appropriate to study the scales reliability to guarantee the most accurate results.

Therefore, a bivariate correlation test was conducted to study the correlation between the 2 items used to measure consumers' trust in brand (see Table 4). The same procedure was applied to brand loyalty. The Pearson correlation value (r) indicates the strength of the relationship between the two variables. A correlation of -1 indicates a perfect negative correlation, a correlation of 0 indicates no relationship at all and a correlation of 1.0 indicates a perfect positive correlation (Ahlgren et al., 2003).

Table 4 – Consumers’ Trust and Brand Loyalty Pearson Correlations

Variable	Pearson Correlation (r)	Sig (2-tailed)
Consumers’ trust	0.59	0.000
Brand Loyalty	0.77	0.000

Both Pearson correlations are significant with $p < .001$ and with an $r > 0,5$, which according to Cohen (1988) means a strong positive correlating relationship between both items. This, in turn, means that the scales used to study CTB and brand loyalty have high reliability levels.

To study the scales of the variables that were measured through 3 or more items (Consumer Perceived Ethicality, Perceived Quality and Motivations) a factor analysis procedure with a principal component analysis and varimax rotation was conducted. Only one component was extracted for CPE and Perceived Quality, however in what regards motivations two components were extracted (see Table 5).

Table 5 - Motivations Factor Analysis

Motivations Item	Component	
	1	2
1 - Use of child labour in fashion production	.67	.35
2 - Deforestation of the rain forest	.74	-.14
3 - Starvation and malnutrition in the world population	.74	.34
4 - Emission of toxic gases from the fashion production	.85	-.24
5 - Poor treatment of animals in fashion production	.72	.01
6 - Environmental damage caused by human use of land and water	.82	-.18
7 - The high amount of solid waste from the fashion production	.84	-.27
8 - Using too many of the world's natural resources for fashion production	.80	-.32
9 - Poor working conditions and wages for fashion producers	.74	.47
10 - Poor health and safety conditions for fashion producers	.77	.46
11 - Carbon emissions caused by fashion production	.85	-.21
12 - The amount of energy used when transporting fashion products	.79	-.09

Since all 12 items presented higher values for component 1 than for component 2, the author used the following criteria to disaggregate the items: items that present a negative value or 0 for component 2 were considered as explanatory items of component 1. The remaining items were considered as part of component 2. Therefore, the first component is composed by items 1, 3, 9 and 10, which are items related with social dimensions and the second component is composed by items 2, 4, 5, 6, 7, 8, 11 and 12, which are items related to the environmental dimension. Therefore, the study will integrate two variables for motivations: Social Motivations and Environmental Motivations.

Additionally, to the factor analysis conducted, to assure internal consistency of the scales with 3 or more items, the Cronbach's alpha was assessed (see Table 6).

Table 6 – CPE, Perceived Quality and Motivations Cronbach's Alfa

	Initial number of items	Cronbach's alpha	Cronbach's alpha if item deleted	Items deleted	Final number of items
CPE	6	0.894	0.886	-	6
Perceived Quality	3	0.892	0.890	-	3
Social Motivations	4	0.858	0.861	1	3
Environmental Motivations	8	0.928	0.928	-	8

All the variables presented alphas between 0.80 and 0.90. which according to DeVellis (1991) is the interval for a very good scale. Therefore, this analysis reflects a high level of internal consistency for the four variables.

However, the Social Motivations' Cronbach's alpha can be optimized if item 1 "Use of child labour in fashion production" is deleted. Hence, item 1 was deleted from the scale and, accordingly, the Social Motivations variable were modified, being now composed only by items 3, 9 and 10.

5.3 Manipulation Check Results

Firstly, to facilitate the interpretation of the data, the notation present in Table 7 should be considered:

Table 7 - Moments Notation

Moment	Description
1	Before the information was presented
2	After the first stimulus was presented (greenwashing or neutral)
3	After the second stimulus was presented (third-party certification or neutral)

To verify if the brand chosen is effectively a well-known brand among consumers, brand awareness and brand familiarity levels were used as manipulation check variables. The main survey's results (see Table 8), showed significant high levels of brand awareness and familiarity for Nike, which is in line with the results of the pre-test. Thus, the author considered Nike as an appropriate brand for the purpose.

Table 8 - Brand Awareness and Familiarity Descriptive Statistics

	<i>Mean</i>	<i>Std. Deviation</i>
Brand Awareness	6.52	.68
Brand Familiarity	5.88	1.20

Then, to check if the four manipulations scenarios were correctly understood, participants were asked to state their level of agreement with the sentence “Nike respects moral norms.”, before and after being exposed to each stimulus.

Firstly, to understand how stimulus A (greenwashing) was intended by participants, the scores of the sentence “Nike respects moral norms” in moment 2 (post greenwashing vs. neutral stimuli) were analysed through a one-way ANOVA (see Table 9).

Table 9 – Manipulation Check Stimulus A [(One-way ANOVA "Nike respects moral norms" (Moment 2)]

Non-greenwashing		Greenwashing		F
Mean	SD	Mean	SD	
4.81	1.30	2.98	1.55	112.19***

Note: *** $p < .001$, ** $p < .01$, * $p < .05$, + $p \leq .1$

The results indicate a significant effect of the greenwashing stimulus on consumers' perceptions about the Nike's respect for moral norms ($F(1,285) = 112.19, p < .001$). Moreover, the mean of participants' agreement with the sentence was significantly lower when they were exposed to the greenwashing stimulus ($M_{\text{Greenwashing}} = 2.98; SD = 1.55$) than when exposed to the neutral information ($M_{\text{Non-greenwashing}} = 4.81; SD = 1.30$). This leads us to consider that the greenwashing stimulus has been understood as a negative stimulus, as initially predicted.

Then, the same procedure was adopted to check if stimulus C (third-party certification) was understood as expected. Table 10 shows a significant effect of the third-party certification stimulus on consumers' perception about Nike's respect for moral norms ($F(1,285) = 10.434, p < .01$).

Table 10 – Manipulation Check Stimulus C [(One-way ANOVA "Nike respects moral norms" (Moment 3)]

No Third-party certification		Third-party certification		F
Mean	SD	Mean	SD	
4.10	1.59	4.68	1.45	10.43**

Note: *** $p < .001$, ** $p < .01$, * $p < .05$, + $p \leq .1$

Moreover, the mean is higher when participants were exposed to the third-party certification stimulus ($M_{\text{Third-Party Certification}} = 4.68; SD = 1.45$) than when exposed to neutral information ($M_{\text{No Third-Party Certification}} = 4.10; SD = 1.59$), which leads the author to consider that third-party certification stimulus has been understood as a positive stimulus, as intended.

Finally, to check if stimuli B and D worked as neutral stimuli, the fourth scenario (neutral, neutral) was analysed. A paired samples *t-test* was performed to compare the means of participants' agreement with the sentence on the 3 moments (see Table 11).

Table 11 - Manipulations Check Stimuli B and D (Paired Samples T-Test "Nike Respects Moral Norms")

	<i>Mean</i>	<i>SD</i>	<i>t-test</i>
Moment 1 – pre neutral stimuli B	4.97	1.28	1.03
Moment 2 – post neutral stimuli B and pre neutral stimuli D	4.81	1.37	
Moment 3 – post neutral stimuli D	4.89	1.29	-.78
Note: *** $p < .001$, ** $p < .01$, * $p < .05$, + $p \leq .1$			

Results show that there is no significant mean difference in the scores of the dependent variable before and after the first neutral stimulus (B). Also, there is no significant mean difference in the scores before and after the second neutral stimulus (D) were presented. Therefore, both stimuli functioned as neutral information that did not significantly affect consumer's perceptions, as intended.

5.4 Main Results

5.4.1 The effect of well-known brands' involvement in greenwashing schemes on consumers' brand valuations

H1: *The involvement of well-known brands in greenwashing schemes will influence consumers' brand valuations.*

H1a: *The involvement of well-known brands' in greenwashing schemes will negatively impact consumers' ethical perceptions, brand trust, brand loyalty, perceived quality, purchase intentions and willingness to pay.*

Prior to these hypotheses being tested, 6 new Δ variables were computed, which reflect the difference between the moments 1 (pre first stimulus) and 2 (post first stimulus), (see Table 12).

Table 12 - Δ Variables_1

Variable	Expression
ΔCPE_1	$ CPE_{moment\ 2} - CPE_{moment\ 1} $
$\Delta Trust_1$	$ TRUST_{moment\ 2} - TRUST_{moment\ 1} $
$\Delta Brand_Loyalty_1$	$ B_LOY_{moment\ 2} - B_LOY_{moment\ 1} $
$\Delta Perceived_Quality_1$	$ P_QUAL_{moment\ 2} - P_QUAL_{moment\ 1} $
$\Delta Purchase_Int_1$	$ P_INT_{moment\ 2} - P_INT_{moment\ 1} $
ΔWTP_1	$ WTP_{moment\ 2} - WTP_{moment\ 1} $

To test H1, a one-way multivariate analysis of variance (MANOVA) was performed to verify the main effect of well-known brands' involvement in greenwashing schemes on the Δ variables_1, (see Table 13).

Table 13 – Brands’ Involvement in Greenwashing Schemes Main Effect (One-way MANOVA)

	<i>F test</i>
Δ CPE_1	133.67***
Δ Trust_1	75.38***
Δ Brand_Loyalty_1	87.33***
Δ Perceived_Quality_1	24.76***
Δ Purchase_Int_1	56.81***
Δ WTP_1	13.91***

Note: *** $p < .001$, ** $p < .01$, * $p < .05$, + $p \leq .1$

Analysing the MANOVA results, a significant main effect of brand’s greenwashing involvements was obtained on: Δ CPE_1 ($F(1,285) = 133.67, p < .001$), Δ Trust_1 ($F(1,285) = 75.38, p < .001$), Δ Brand_Loyalty_1 ($F(1,285) = 87.33, p < .001$), Δ Perceived_Quality_1 ($F(1,285) = 24.76, p < .001$), Δ Purchase_Int_1 ($F(1,285) = 56.81, p < .001$) and Δ WTP_1 ($F(1,285) = 13.91, p < .001$), fully supporting H1.

To complete the analysis and to gain a deeper understanding about this impact, an independent-samples *t-test* was conducted, (see Table 14).

Table 14 – Independent-samples T-test Brands’ Involvement in Greenwashing Schemes

	<i>Non-greenwashing</i>		<i>Greenwashing</i>		<i>t-test</i>
	<i>Mean</i>	<i>SD.</i>	<i>Mean</i>	<i>SD.</i>	
Δ CPE_1	.37	.39	1.75	1.30	-11.56***
Δ Trust_1	.39	.49	1.46	1.32	-8.68***
Δ Brand_Loyalty_1	-.01	.48	-1.20	1.36	9.35***
Δ Perceived_Quality_1	.23	.42	.67	.91	-4.98***
Δ Purchase_Int_1	.22	.65	1.14	1.24	-7.54***
Δ WTP_1	1.67	4.64	4.53	7.52	-3.73***

Note: *** $p < .001$, ** $p < .01$, * $p < .05$, + $p \leq .1$

The *t-test* results show that there is a significant mean difference in the scores of the dependent variables when there is exposure to the greenwashing stimulus vs. when there is not, on: Δ CPE_1 ($M_{\text{Non-greenwashing}} = .37$ vs. $M_{\text{Greenwashing}} = 1.75$; $t(284) = -11.56, p < .001$), Δ Trust_1 ($M_{\text{Non-greenwashing}} = .39$ vs. $M_{\text{Greenwashing}} = 1.46$; $t(284) = -8.68, p < .001$),

$\Delta B_Loyalty_1$ ($M_{Non-greenwashing} = -.01$ vs. $M_{Greenwashing} = -1.20$; $t(284) = 9.35$, $p < .001$),
 $\Delta P_Quality_1$ ($M_{Non-greenwashing} = .23$ vs. $M_{Greenwashing} = .67$; $t(284) = -4.98$, $p < .001$),
 $\Delta P_Intentions_1$ ($M_{Non-greenwashing} = .22$ vs. $M_{Greenwashing} = 1.14$; $t(284) = -7.54$, $p < .001$) and
 ΔWTP_1 ($M_{Non-greenwashing} = 1.67$ vs. $M_{Greenwashing} = 4.53$; $t(284) = -3.73$, $p < .001$).

Moreover, the difference between the scores of the two moments are higher when consumers are exposed to the greenwashing information versus when the neutral stimulus was presented.

Then, to test H1a, a paired samples *t-test* was performed on the dependent variables on moments 1 (pre first stimulus) and 2 (post first stimulus), (see Table 15).

Table 15 - Paired Samples T-Test Brands' Involvement in Greenwashing Schemes

	Non-greenwashing			Greenwashing		
	Mean	SD	t-test	Mean	SD	t-test
CPE pre 1 st stimulus	4.87	.98	-1.58	4.87	1.00	15.55***
CPE post 1 st stimulus	4.95	1.08		3.18	1.36	
Trust pre 1 st stimulus	5.35	.93	-2.27*	5.35	.97	11.19***
Trust post 1 st stimulus	5.48	.97		4.05	1.47	
Brand Loyalty pre 1 st stimulus	5.88	1.00	.19	5.87	.95	11.19***
Brand Loyalty post 1 st stimulus	5.87	.99		4.67	1.51	
Perceived Quality pre 1 st stimulus	6.07	.72	.37	6.08	.71	7.60***
Perceived Quality post 1 st stimulus	6.06	.75		5.50	1.10	
Purchase Int. pre 1 st stimulus	5.81	1.21	.13	5.86	1.16	10.98***
Purchase Int. post 1 st stimulus	5.80	1.25		4.76	1.64	
WTP pre 1 st stimulus	25.11	11.96	-.49	24.63	12.05	5.55***
WTP post 1 st stimulus	35.33	11.60		21.11	12.60	

Note: *** $p < .001$, ** $p < .01$, * $p < .05$, + $p \leq .1$

Results show a significant mean difference in the scores of the dependent variables before and after the greenwashing stimulus was presented: CPE ($M_{Pre\ greenwashing\ stimulus} = 4.87$ vs. $M_{Post\ greenwashing\ stimulus} = 3.18$; $t(160) = 15.55$, $p < .001$), Trust ($M_{Pre\ greenwashing\ stimulus} = 5.35$ vs. $M_{Post\ greenwashing\ stimulus} = 4.05$; $t(160) = 11.19$, $p < .001$), Brand_Loyalty ($M_{Pre\ greenwashing\ stimulus} = 5.87$ vs. $M_{Post\ greenwashing\ stimulus} = 4.67$; $t(160) = 11.19$, $p < .001$), Perceived_Quality ($M_{Pre\ greenwashing\ stimulus} = 6.08$ vs. $M_{Post\ greenwashing\ stimulus} = 5.50$; $t(160) = 7.60$, $p < .001$), Purchase_Int ($M_{Pre\ greenwashing\ stimulus} = 5.86$ vs. $M_{Post\ greenwashing\ stimulus} = 4.76$; $t(160) = 10.98$,

$p < .001$) and WTP ($M_{\text{Pre greenwashing stimulus}} = 24.63$ vs. $M_{\text{Post greenwashing stimulus}} = 21.11$; $t(160) = 5.55, p < .001$).

Moreover, results show that consumers' brand valuations scores decreased significantly after the greenwashing stimulus was presented. Therefore, it is suggested that the well-known brands' involvement in greenwashing schemes have a negative impact on the dependent variables, fully supporting H1a.

5.4.2 The effect of third-party certifications on consumers' brand valuations

H2: Third-party certifications will have an impact on consumers' brand valuations.

H2a: Third-party certifications will positively impact consumers' brand valuations - consumers' ethical perceptions, brand trust, brand loyalty, purchase intentions and willingness to pay.

To test H2 and H2a, six new Δ variables were computed (see Table 16). These Δ variables_2 reflect the dependent variables scores' differences between moments 2 (pre second stimulus) and 3 (post second stimulus).

Table 16 - Δ Variables_2

Variable	Expression
ΔCPE_2	$ CPE_{moment\ 3} - CPE_{moment\ 2} $
$\Delta Trust_2$	$ TRUST_{moment\ 3} - TRUST_{moment\ 2} $
$\Delta Brand_Loyalty_2$	$ B_LOY_{moment\ 3} - B_LOY_{moment\ 2} $
$\Delta Perceived_Quality_2$	$ P_QUAL_{moment\ 3} - P_QUAL_{moment\ 2} $
$\Delta Purchase_Int_2$	$ P_INT_{moment\ 3} - P_INT_{moment\ 2} $
ΔWTP_2	$ WTP_{moment\ 3} - WTP_{moment\ 2} $

A one-way MANOVA was then conducted with the Δ variables_2 (Table 17) as the dependent variables and with the third-party certification as the independent variable.

Table 17 – Third-party Certification Main Effect (One-way MANOVA)

	<i>F test</i>
Δ CPE_2	23.47***
Δ Trust_2	4.28*
Δ Brand_Loyalty_2	2.56
Δ Perceived_Quality_2	.33
Δ Purchase_Int_2	2.73
Δ WTP_2	1.75

Note: *** $p < .001$, ** $p < .01$, * $p < .05$, + $p \leq .1$

Results show a significant main effect of the third-party certification on Δ CPE_2 ($F(1,285) = 23.47, p < .001$) and on Δ Trust_2 ($F(1,285) = 4.28, p < .05$). Concerning the remaining dependent variables, no significant main effect of third-party certifications was obtained on consumers' brand valuations (p 's $> .11$). Findings suggest that third-party certifications only have a main effect on CPE and on consumers' trust, partially validating H2.

To further analyse the differences between groups, an independent sample *t-test* was conducted as reviewed in Table 18. Results show that there is a significant mean difference in the scores of CPE and consumers' trust: Δ CPE_2 ($M_{\text{No Third-party certification}} = .39$ vs. $M_{\text{Third-party certification}} = .90$; $t(284) = -4.85, p < .001$) and Δ Trust_1 ($M_{\text{No Third-party certification}} = .45$ vs. $M_{\text{Third-party certification}} = .63$; $t(284) = -2.07, p < .05$). Moreover, analysing the means, it is possible to verify that the difference between the scores of the two moments is higher when consumers are exposed to the third-party certification (vs. when exposed to the neutral stimulus).

Table 18 - Independent-samples T-test Third-party Certification

	No Third-party certification		Third-party certification		t-test
	Mean	SD.	Mean	SD.	
Δ CPE_2	.39	.62	.90	1.05	-4.85***
Δ Trust_2	.45	.58	.63	.85	-2.07*

Note: *** $p < .001$, ** $p < .01$, * $p < .05$, + $p \leq .1$

To test H2a where it is hypothesised that third-party certifications positively influence consumers' brand valuations, and specifically to deeper understand the impact of third-party certification on CPE and on consumers' trust, a paired samples *t*-test was performed on moments 2 (pre second stimulus) and 3 (post second stimulus), (see Table 19).

Table 19 - Paired Samples T-test (Moments 2 and 3)

	Non-greenwashing						Greenwashing					
	No Third-party certification			Third-party certification			No Third-party certification			Third-party certification		
	Mean	SD	t-test	Mean	SD	t-test	Mean	SD	t-test	Mean	SD	t-test
CPE_2 _{pre} 2nd stimulus	5.00	1.06	-.32	4.90	1.12	-4.15***	3.04	1.28	-4.94***	3.30	1.42	-8.51***
CPE_3 _{post} 2nd stimulus	5.02	1.07		5.21	1.06		3.49	1.33		4.45	1.26	
Trust_2 _{pre} 2nd stimulus	5.51	.93	-.42	5.44	1.01	-2.72**	3.92	1.44	-3.23**	4.15	1.49	-5.85***
Trust_3 _{post} 2nd stimulus	5.53	.91		5.62	.92		4.24	1.42		4.85	1.24	

Note: *** $p < .001$, ** $p < .01$, * $p < .05$, + $p \leq .1$

To test H2a, this analysis included the participants' rating subjected to the non-greenwashing condition, since there is a need to understand the effects of third-party certification in isolation of any (prior) greenwashing exposure. Results show that, when exposed to the non-greenwashing and third party certification conditions, there is a significant mean difference in the scores of the CPE and consumers' trust before and after the third-party certification stimulus was presented: CPE ($M_{\text{Pre third-party stimulus}} = 4.90$ vs.

$M_{\text{Post third-party certification stimulus}} = 5.21$; $t(62) = 4.15$, $p < .001$), Trust ($M_{\text{Pre third-party stimulus}} = 5.44$ vs. $M_{\text{Post greenwashing stimulus}} = 5.62$; $t(62) = -2.72$, $p < .01$).

Therefore, the paired-samples *t-test* suggests that the effects of third-party certifications have significant positive impacts on CPE and on consumers' trust, partially validating H2a.

5.4.3 The moderating effects of third-party certifications

H3: The impact of well-known brands' involvement in greenwashing schemes on consumers' brand valuations will be moderated by the third-party certification.

H3a: Third-party (vs. no third-party) certifications will positively (vs. negatively) impact the relationship between brands' greenwashing involvement and consumers' brand valuations.

H3b: Third-party certifications will mitigate the negative effects of well-known brands' involvement in greenwashing schemes.

To test these hypotheses, a 2 (brands' involvement in greenwashing schemes) x 2 (third-party certification) multivariate analysis of variance (MANOVA) was conducted on the dependent variables scores on moments 2 (pre second stimuli) and 3 (post second stimuli) and on the Δ variables_2 (see Table 20).

To specifically test the moderating effect of third-party certifications on the impact of brands' involvement in greenwashing schemes on consumers' brand valuations, the final scores of the consumers' brand valuations were assessed. The MANOVA results show a significant two-way greenwashing x third-party certification interaction effect on CPE_3 ($F(2,285) = 7.11$, $p < .01$), on Perceived_Quality_3 ($F(2,285) = 7.71$, $p < .01$) and on Purchase_Int_3 ($F(2,285) = 4.71$, $p < .05$). Additionally, a marginally significant interaction effect was also found on Trust_3 ($F(2,285) = 3.41$, $p \leq .1$), and on Brand_Loyalty_3 ($F(2,285) = 3.61$, $p \leq .1$). Regarding WTP_3 a non-significant interaction effect was found ($p = .2$, NS).

Results show that the impact of greenwashing practices on CPE, trust, brand loyalty, perceived quality and purchase intention is moderated by the third-party certification obtained, partially supporting H3¹.

*Table 20 – Brands’ Involvement in Greenwashing Schemes x Third-party Certification
Two-way MANOVA*

	Greenwashing main effect	Third-party certifications main effect	Greenwashing main effect *Third-party certifications
	<i>F test</i>	<i>F test</i>	<i>F test</i>
CPE_2 (pre 2nd stimulus)	143.26***	0.25	1.46
CPE_3 (post 2nd stimulus)	64.30***	16.12***	7.11**
ΔCPE_2	30.03***	20.72***	6.62*
Trust_2 (pre 2nd stimulus)	89.36***	.27	.89
Trust_3 (post 2nd stimulus)	54.79***	6.10*	3.41 ⁺
ΔTrust_2	27.75***	3.32 ⁺	.69
Brand_Loyalty_2 (pre 2nd stimulus)	60.84***	0.34	2.24
Brand_Loyalty_3 (post 2nd stimulus)	34.36***	5.21*	3.61 ⁺
ΔBrand_Loyalty_2	26.38***	1.67	1.52
Perceived_Quality_2 (pre 2nd stimulus)	25.53***	1.06	5.08*
Perceived_Quality_3 (post 2nd stimulus)	21.81***	3.77 ⁺	7.71**
ΔPerceived_Quality_2	13.25***	.20	.03
Purchase_Int_2 (pre 2nd stimulus)	35.55***	.01	1.96
Purchase_Int_3 (post 2nd stimulus)	23.60***	.75	4.71*
ΔPurchase_Int_2	5.59*	9.27**	.37
WTP_2 (pre 2nd stimulus)	8.76**	.00	1.37
WTP_3 (post 2nd stimulus)	6.10*	.12	1.48
ΔWTP_2	.37	1.92	.68

Note: *** $p < .001$, ** $p < .01$, * $p < .05$, + $p \leq .1$

¹ To complete the analysis, profile plots can be found on Appendix 9.

To test H3a and H3b, a new variable was computed and coded as Table 21 shows:

Table 21 – Comparison Between Groups

Variable	Values
Comparison between groups	1 = Non-greenwashing, no third-party certification; 2 = Non-greenwashing, third-party certification; 3 = Greenwashing, no third-party certification; 4 = Greenwashing, third-party certification;

Secondly, an independent *t-test* was conducted between the groups 3 (greenwashing, no third-party certification) and 4 (greenwashing, third-party certification) on the final scores of the consumers' brand valuations (moment 3 - after both stimuli were presented), (see Table 22).

Table 22 - Independent-Samples T-test (Groups 3 and 4)

	<i>Greenwashing, no third-party certification</i>		<i>Greenwashing, third-party certification</i>		<i>t-test</i>
	<i>Mean</i>	<i>SD.</i>	<i>Mean</i>	<i>SD.</i>	
CPE_3	3.49	1.33	4.45	1.26	-4.67***
Trust_3	4.25	1.42	4.85	1.24	-2.86**
Brand_Loyalty_3	4.76	1.59	5.38	1.26	-2.76**
Perceived_Qual_3	5.22	1.34	5.77	.89	-3.09**
Purchase_Int_3	4.71	1.69	5.23	1.44	-2.09*

Note: *** $p < .001$, ** $p < .01$, * $p < .05$, + $p \leq .1$

The *t-test* results show a significant mean difference in the final scores of the dependent variables between the two groups: CPE_3 ($M_{\text{Greenwashing, no third-party certification}} = 3.49$ vs. $M_{\text{Greenwashing, third-party certification}} = 4.45$; $t(159) = -4.67$, $p < .001$), Trust_3 ($M_{\text{Greenwashing, no third-party certification}} = 4.25$ vs. $M_{\text{Greenwashing, third-party certification}} = 4.85$; $t(159) = -2.86$, $p < .01$), Brand_Loyalty_3 ($M_{\text{Greenwashing, no third-party certification}} = 4.76$ vs. $M_{\text{Greenwashing, third-party certification}} = 5.38$; $t(159) = -2.76$, $p < .01$), Perceived_Quality_3 ($M_{\text{Greenwashing, no third-party certification}} = 5.22$ vs. $M_{\text{Greenwashing, third-party certification}} = 5.77$; $t(159) = -2.76$, $p < .01$), Purchase_Int_3

($M_{\text{Greenwashing, no third-party certification}} = 4.71$ vs. $M_{\text{Greenwashing, third-party certification}} = 5.23$; $t(159) = -2.09$, $p < .05$).

T-test results show that means are greater when participants were exposed to the greenwashing, and subsequently to the third-party certification condition (vs. greenwashing, no third-party certification). Therefore, third-party certifications have a positive impact on the relationship between brand's greenwashing involvement and consumers' brand valuations, supporting H3a.

Although the *t-test* also suggests that third-party certifications can mitigate the negative effects of greenwashing practices on consumers' brand valuations, it remains to be understood if third-party certifications can fully, or only partially, mitigate such effects. To understand that, a paired sample *t-test* analysis was conducted (see Table 23), on the subjects of group 4 (greenwashing, third party certification), to compare the means of the dependent variables' initial scores (moment 1, before any information presented) and the final scores (moment 3, after greenwashing and third-party certification stimuli presented).

Table 23 – Paired Samples T-test (Initial and Final Scores When Exposed to Greenwashing and Third-party Certifications)

	Greenwashing, Third-party certification		
	Mean	SD	t-test
CPE_1(pre any information)	4.96	0.97	4.24***
CPE_3(post both stimuli)	4.44	1.26	
Trust_1(pre any information)	5.38	.96	4.20***
Trust_3(post both stimuli)	4.84	1.24	
Brand_Loyalty_1(pre any information)	5.97	.86	5.54***
Brand_Loyalty(post both stimuli)	5.38	1.26	
Perceived_Quality_2(pre any information)	6.17	0.70	5.40***
Perceived_Quality_3(post both stimuli)	5.77	0.89	
Purchase_Int_2(pre any information)	6.01	1.03	6.24***
Purchase_Int_3(post both stimuli)	5.23	1.44	

Note: *** $p < .001$, ** $p < .01$, * $p < .05$, + $p \leq .1$

Results show a significant mean difference in the scores of the dependent variables before any information and after both stimuli presented: CPE ($M_{\text{Pre any information}} = 4.96$ vs. $M_{\text{Post both stimuli}} = 4.44$; $t(87) = 4.24, p < .001$), Trust ($M_{\text{Pre any information}} = 5.38$ vs. $M_{\text{Post both stimuli}} = 4.84$; $t(87) = 4.20, p < .001$), Brand_Loyalty ($M_{\text{Pre any information}} = 5.97$ vs. $M_{\text{Post both stimuli}} = 5.38$; $t(87) = 5.54, p < .001$), Perceived_Quality ($M_{\text{Pre any information}} = 6.17$ vs. $M_{\text{Post both stimuli}} = 5.77$; $t(87) = 5.40, p < .001$) and Purchase_Int ($M_{\text{Pre any information}} = 6.01$ vs. $M_{\text{Post both stimuli}} = 5.23$; $t(87) = 6.24, p < .001$).

Therefore, although verified a significant increase on the dependent variable scores when the third-party certification stimulus was presented (vs. no presented), which suggest that third-party certifications can mitigate the negative effects of greenwashing on consumers' well-known brand valuations, the paired sample *t-test* results show that third-party certifications cannot fully mitigate those impacts, since the final scores (moment 3) still present lower means than the initial scores (moment 1), which partially supports H3b. To easily compare the means of the dependent variables scores across the three moments, Table 24 was constructed.

Table 24 - Comparison of Participants' Scores When Exposed to Greenwashing and Third-party Certifications

	Moment 1 (Pre any information)		Moment 2 (Post greenwashing stimulus)		Moment 3 (Post third-party certification stimulus)	
	Mean	SD	Mean	SD	Mean	SD
CPE	4.96	.97	3.30	1.42	4.45	1.26
Trust	5.38	.96	4.15	1.49	4.85	1.24
Brand Loyalty	5.97	.86	4.82	1.43	5.38	1.26
Perceived Quality	6.17	.70	5.67	.93	5.77	.89
Purchase Intentions	6.01	1.03	4.87	1.56	5.23	1.44

It can be verified that, there is a decrease of consumers' brand valuations scores on moment 2 (vs. moment 1), i.e. after the greenwashing stimulus was presented. Then, on moment 3, after the third-party certification stimulus was presented, it is verified a significant increase on the dependent variable scores, however, not enough to achieve the initial scores.

5.4.4 Consumers' motivations towards sustainable and social issues as covariates

Further analysis was conducted to understand if consumers' motivations towards environmental and social issues could be considered explanatory variables of the relationship between brands' involvement in greenwashing schemes and third-party certifications.

To conduct this analysis, a 2 (brands' involvement in greenwashing schemes) x 2 (third-party certification) MANCOVA was carried out, with the environmental motivations and social motivations as covariates, (See Appendix 10).

Comparing the MANCOVA results with the MANOVA (see Table 20), it is possible to verify that the patterns remained similar when the covariates were integrated in the model. This means that, neither consumers' environmental motivations nor consumers' social motivations are covariates of the model.

6 Conclusions and Implications

This dissertation's main purpose was understanding the impacts of well-known brands' involvement in greenwashing schemes on consumers' brand valuations and whether third-party certifications are able to mitigate those impacts.

Regarding the first research question (RQ1), the results show that, indeed, well-known fashion brands' involvement in greenwashing schemes negatively impact consumers' brand valuations. This finding supports previous research (De Jong et al., 2018; Guo et al., 2017; Musgrove et al., 2018; Nyilasy et al., 2014) and shows how such negative episodes can be retained in consumers' minds, which consequently impacts attitudes and buying behaviours.

Concerning the second research question (RQ2), findings show that, although third-party certifications do not impact all consumers' brand valuations covered by the study, they have a special effect on consumers' perceived ethicality (CPE) and on consumers' trust, influencing these evaluations positively. However, if the sample used in the research had more knowledge about the certification presented, the results would possibly be even more positive, since the literature points out that for a certification scheme to be successful, consumer awareness about the corresponding logo is crucial (Janssen & Hamm, 2012).

Then, to answer the third research question (RQ3), further analysis was made in order to understand if, by obtaining third-party certifications, well-known fashion brands could overcome consumers' negative evaluations derived from previous involvements in greenwashing practices. Findings show that third-party certifications can mitigate the negative effects of greenwashing schemes involvements on all consumers' brand valuations studied, except for willingness to pay.

This research supports a recent research by Pancer et al (2017), who examined how the presence of isolated environmental cues (e.g., green colour and eco-labels) influences products efficacy perceptions and purchase intentions. The authors suggested future research to examine whether the addition of third-party certifications reduces the greenwash discount and whether consumers are able to recognise the legitimacy of certifications.

The study hereby conducted shows that the effect of third-party certifications is not strong enough to fully mitigate the negative effects of greenwashing, thus advancing this prior

research, while also showing that consumers' motivations towards social and environmental issues are not explanatory variables of the third-party certification's mitigation effect uncovered by the study.

Overall, this research provides a comprehensive understanding of the various cognitive and affective processes consumers go through when exposed (vs. not) to unethical behaviour of brands. Also, that compensatory strategies such as the use of third-party certifications can be tactically used by brands to mitigate or compensate such negative effects. From a theoretical and managerial standpoint, a number of implications can also be drawn, as discussed next.

6.1 Theoretical Implications

The present dissertation contributes to literature on brands' greenwashing practices (Aji & Sutikno, 2015; Akturan, 2018; Gatti et al., 2019; Guo et al., 2017; Parguel et al., 2011) and on third-party certifications (Darnall et al., 2018; Horne, 2009; Janssen & Hamm, 2012; Koszewska, 2011; Moore & Wentz, 2009; Pancer et al., 2017; Testa et al., 2015; Thøgersen et al., 2010). More specifically, the present study contributes to the literature on the fashion industry, by exploring how consumers' brand valuations are impacted by well-known fashion brands' greenwashing practices and, whether third-party certifications can mitigate those impacts.

The findings confirm the negative impacts of greenwashing practices (Akturan, 2018; De Jong et al., 2018; Musgrove et al., 2018; Nyilasy et al., 2014). Moreover, they confirm Brunk's (2010b) statement that brands' unethical behaviours can damage brand image, which can have harmful effects on consumer attitudes and purchasing behaviour.

Regarding the third-party certifications impact on consumers' brand valuations, the results show that, certifications positively influence CPE and consumers' trust in brand, which is aligned with Choi & Kim (2016) research that suggest that the positive evaluation evoked by the certifications that a product is ecological or ethical can also permeate the overall product evaluation through the halo effect.'

Furthermore, this thesis expands previous literature by studying the moderating effect of third-party certifications on the impact of brands' involvements in greenwashing schemes

on consumers' brand valuations. Findings show that third-party certifications can mitigate (even though not completely) the negative effects of brands' prior involvements in greenwashing schemes on consumers' brand valuations. Therefore, this research stresses the third-party certifications' importance and their power in helping to rebuild a strong brand image after greenwashing scandals. These findings are in line with Vredenburg et al. (2020) who suggests that third-party certifications are tools that can maximise the authenticity of brands' activism strategies, being one of the key ways to safeguard its potential impact for social change.

Finally, and even though previous research suggests that consumers' motivations play a role in the way third-party certifications are used and understood by consumers (Thøgersen et al., 2010), this study discovered that consumers' motivations do not play any significant role in the way third-party certifications moderate the effects of greenwashing on consumers' brand valuations.

6.2 Managerial Implications

This research provides some important implications regarding the disadvantages of engaging in greenwashing practices, as well as the benefits that third-party certifications can bring to the business.

Specifically, the findings show that consumers are negatively impacted by well-known brands' engagement in greenwashing schemes. Therefore, companies do not benefit from giving false statements regarding their ethical practices, in fact they are harmed by these acts. Thus, one of the key takeaways of this thesis is that consumers want transparency regarding the ethicality of the business. Therefore, avoiding unethical behaviours should be part of brands' priorities.

Moreover, it was also found that the main objective of the third-party certifications is fulfilled, since they positively influence consumers' perceptions about the brand's ethicality. Besides that, certifications can positively influence consumers' trust in the brand. Therefore, it can be assumed that presenting third-party certifications to consumers, for example on product labels, will evoke a positive assessment of the brand and, consequently, of the products.

In addition to the aforementioned findings, the main takeaway from this study is that, the subsequent achievement of a third-party certification can, in fact, mitigate the negative effects of brands' involvement in greenwashing schemes, albeit not fully. Therefore, this dissertation findings gives marketers reasons to believe and invest in the power of third-party certifications. Also, that the employment of ethical certifications is indeed positive and that is worth going through a certification process since it pays off.

Moreover, and despite not being the study's focus, the brief analysis carried out on this subject shows evidence that consumers still show a very low level of familiarity with the certifications (see Appendix 9). Therefore, since literature stresses that the consumers' lack of knowledge about third-party certifications could be an issue that might compromise the certifications effectiveness (Austgulen, 2013; Thøgersen, 2000), for an effective use of certifications as marketing tools, companies should invest in communication strategies to further inform and educate consumers since their awareness of third-party certifications is important.

To conclude, this study shows that in the fashion industry context, consumers are becoming increasingly aware of ethical issues and start valuing brands which are transparent and ethical and that third-party certifications are powerful marketing tools that can offer important benefits and competitive advantages to companies and, therefore companies should utilize them actively in their consumer marketing activities

7. Limitations and Future Research

Even though this research provides interesting academic and managerial insights regarding the concepts of greenwashing and third-party certifications in the context of the fashion industry, it presents some limitations.

The first limitation has to do with the research instruments used, the online surveys. The use of online surveys imply a low level of control over the participants, their answers and the circumstances they face when filling in the survey (Ilieva et al., 2002). Additionally, it is hard to control if the participants are interested, focused, attentive, and committed to answer the survey honestly.

Moreover, when responding to surveys, it is common for participants to be influenced by social desirability, which leads them to change their answers to impress others or feel good about themselves (Larson, 2019). Therefore, results might have been influenced by the social desirability bias.

Other limitation regarding online surveys is that the distribution was mainly done via social media platforms. Since there is a high amount of surveys distributed on these platforms, there is a low interest of participants to dedicate their time on it. As a result, the sample size was rather small and it was verified a high level of young generations' participation on the survey, mainly Portuguese (almost 95%). These facts can represent a single-sided view on the subject and, therefore, it is suggested further research to reach broader conclusions for the general population.

It is also relevant to state that, some authors have outlined the common inconsistency between consumer attitudes and their consumption behaviour (Shaw et al., 2016), a phenomenon often described by the literature as the ethical attitude-behaviour gap (Auger & Devinney, 2007; Carrington et al., 2010; Moraes et al., 2012; Shaw et al., 2016; Wiederhold & Martinez, 2018). Thus, it is likely that some of the participants, when filling out the survey, declared their intentions rather than their actual behaviour, which may have influenced the results. Therefore, further research should be conducted to test consumers' actual behaviour in, for example, field experiments.

Furthermore, due to time constraints the study only focuses on high brand awareness brands, therefore further research is recommended to study how different levels of brand awareness play different roles on the effects studied in this research. According to previous literature, brand awareness plays an important role in consumer decision making

and heavily affect consumers' behaviour (Keller, 1993). This proposes that the negative impacts of engaging in greenwashing practices and the positive effects of third-party certifications may vary depending on the level of brand awareness.

Besides brand awareness, it would also be relevant to control for consumers' familiarity with the third-party certifications, since the literature stresses that knowing a certification is essential for consumers' to understand and use it correctly in the decision-making process (Thøgersen, 2000). Thus, further investigation is needed to understand how the mitigation effect of third-party certifications on the negative impacts of brands' greenwashing practices, will be influenced by consumers' understanding, knowledge and level of familiarity on third-party certifications.

Related with this topic, another relevant limitation is that, only one third-party certification (Fairtrade certification) was integrated in the research, due to time constraints. Hereupon, future research is suggested to check whether different third-party certifications, from different natures, have different effects on consumers' brand valuations.

In conclusion, these topics deserve special attention and further research due to their increasing presence in the fashion industry context and due to the verified consequences, they have on consumers' consumption patterns. Further, knowledge on these topics can be of added value for business managers, who can develop strategies and build competitive advantages based on these topics' findings.

8. Appendices

Appendix 1: Survey Pre-Test Study

Introduction to the survey

Dear participants,

Thank you for agreeing to participate in this study, which is part of my master thesis.

The questionnaire will last less than one minute, and all the information provided will be anonymous and confidential.

Thank you for your help.

Inês Pereira

Question 1: Sportswear Brands

Please name the first 3 sportswear fashion brands that come to your mind.

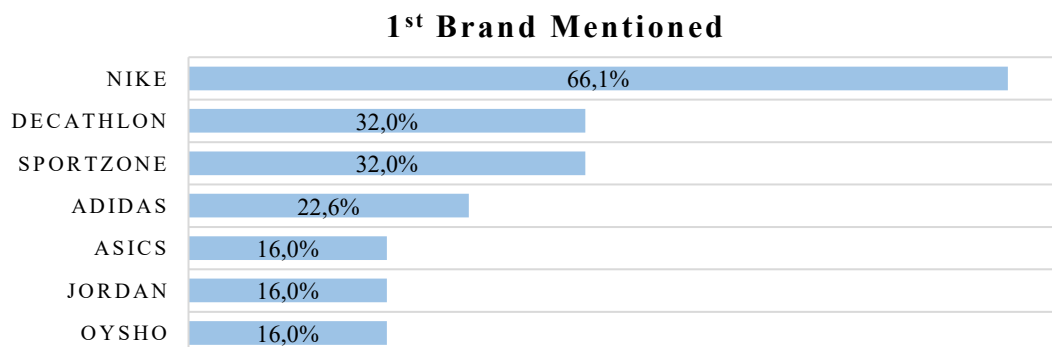
Brand 1	<input type="text"/>
Brand 2	<input type="text"/>
Brand 3	<input type="text"/>

End of the survey and acknowledgment

Thank you for your time spent taking this survey.

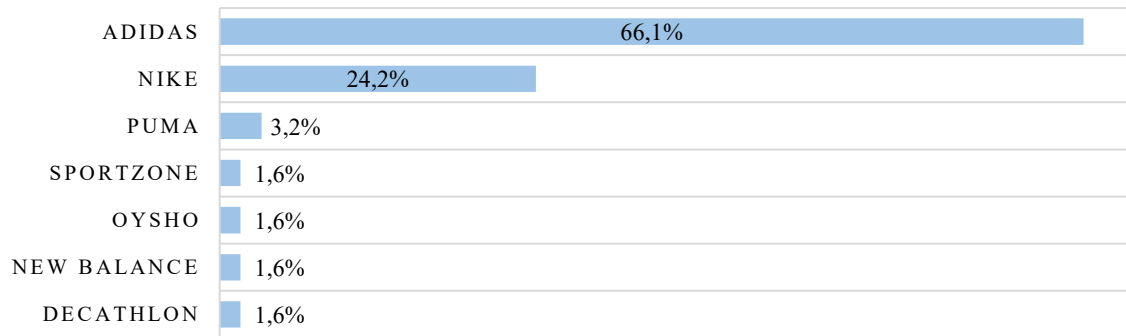
Your response has been recorded.

Appendix 2: Pre-Test Study Results (N=62)



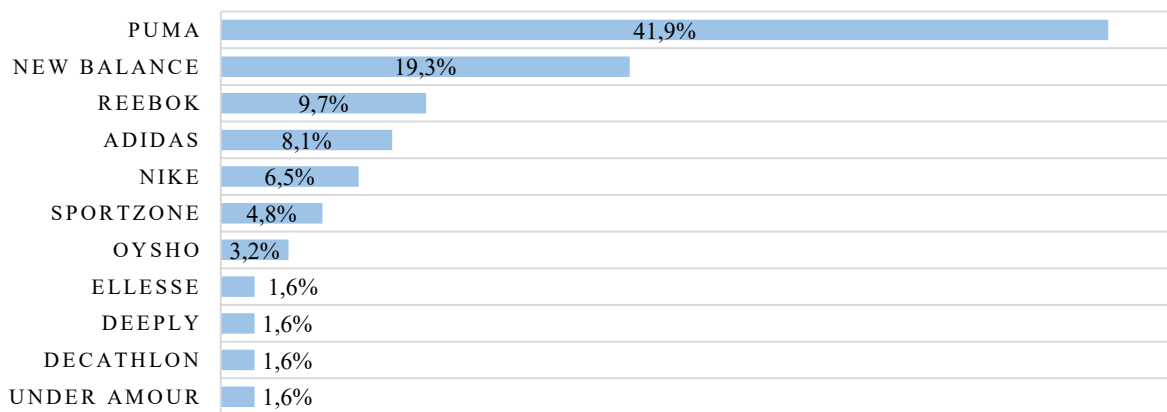
■ Please name the first 3 sportswear fashion brands that come to your mind. - Brand 1

2nd Brand Mentioned



■ Please name the first 3 sportswear fashion brands that come to your mind. - Brand 2

3rd Brand Mentioned



■ Please name the first 3 sportswear fashion brands that come to your mind. - Brand 3

Appendix 3: Survey Main Study

Survey Introduction Block

Dear Participant,

Welcome and thank you for taking the time to complete this survey.

This questionnaire is part of my master thesis and intends to study consumers' brands perceptions, in the fashion industry context.

The survey should take approximately 6 minutes to complete.

There are no right or wrong answers and the data will be kept anonymous and confidential.

Therefore, I would like to ask you to please answer honestly.

If you have questions or feedback regarding the survey, please contact:
 152119311@alunos.lisboa.ucp.pt

Your contribution is highly appreciated!
 Thank you.

Inês

Block 1 – Moment 1

Please think about what you have heard, seen or experienced about the American sportswear brand Nike.

Q1 On a scale from 1 (strongly disagree) to 7 (strongly agree), please rate your level of agreement with the following statements:

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I have seen or heard about Nike	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know the products that Nike offers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q2 On a scale from 1 (not familiar at all) to 7 (very much familiar), please rate your level of familiarity with Nike.

	Not at all familiar (1)	2	3	4	5	6	Very much familiar (7)
How familiar are you with Nike? (1)	<input type="radio"/>						<input type="radio"/>

Q3 Please rate your level of agreement with the following statements, on a scale from 1 (strongly disagree) to 7 (strongly agree).

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
Nike respects moral norms.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nike always adheres to the law.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nike is a socially responsible company.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nike avoids damaging behaviour at all cost.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nike is a good company.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nike will make a decision only after careful consideration of the potential positive or negative consequences for all those involved.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q4 Please rate your level of agreement with the following statements, on a scale from 1 (strongly disagree) to 7 (strongly agree).

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I trust Nike.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nike delivers what it promises.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would recommend Nike to other people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would repurchase Nike in my next shopping.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nike products are of good quality.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The material used in Nike products is of good quality.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nike construction quality is good.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5 On a scale from 1 (definitely would not buy) to 7 (definitely would buying), please indicate your intention to buy at Nike.

	Definitely would not buy (1)	2	3	4	5	6	Definitely would buy (7)
I would buy at Nike	<input type="radio"/>						<input type="radio"/>

Q6 How much would you be willing to pay for a Nike t-shirt?

0 10 20 30 40 50 60 70 80 90 100

How much would you be willing to pay for this Nike t-shirt?	
---	--

Block 2 – Moment 2

In 1997, an audit by Ernest and Young was carried out on a Nike fabric in Vietnam. The audit revealed that workers were being exposed to toxic chemicals, without protection or safety training. Besides that, workers were forced to work illegally overtime and to endure other dangerous conditions. This audit contradicted the brands' claims that the brand was providing good conditions for its workers.

In light of these findings, Nike was prosecuted and accused of misleading publicity and of violating workers' human and labour rights. After that, several scandals about Nike have emerged over the years.



Nike factory in Vietnam

Q7 Please rate your level of agreement with the following statements, on a scale from 1 (strongly disagree) to 7 (strongly agree).

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
Nike respects moral norms.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nike always adheres to the law.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nike is a socially responsible company.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nike avoids damaging behaviour at all cost.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nike is a good company.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nike will make a decision only after careful consideration of the potential positive or negative consequences for all those involved.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q8 Please rate your level of agreement with the following statements, on a scale from 1 (strongly disagree) to 7 (strongly agree).

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I trust Nike.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nike delivers what it promises.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would recommend Nike to other people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would repurchase Nike in my next shopping.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nike products are of good quality.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The material used in Nike products is of good quality.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nike construction quality is good.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q9 On a scale from 1 (definitely would not buy) to 7 (definitely would buying), please indicate your intention to buy at Nike.

	Definitely would not buy (1)	(2)	(3)	(4)	(5)	Definitely would buy (7)
I would buy at Nike.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q10 How much would you be willing to pay for a Nike t-shirt?

0 10 20 30 40 50 60 70 80 90 100

How much would you be willing to pay for this Nike t-shirt?	
---	--

Block 3 – Moment 3

Nike has been taking steps over the last years to improve the social and working conditions of its employees. As a result, Nike received a Fair Trade Certification.

This verification is done independently through regular audits by an accredited external auditor, FLOCERT. Thus, when products are Fair Trade certified, it means that they have been produced in accordance with the strict environmental, economic and social standards of Fair Trade International.



Fairtrade Certification Logo

Q11 On a scale from 1 (not familiar at all) to 7 (very much familiar), please rate your level of familiarity with the Fair Trade Certification.

	Not at all familiar (1)	(2)	(3)	(4)	(5)	(6)	Very much familiar (7)
How familiar are you with the Fair Trade Certification?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q12 Please rate your level of agreement with the following statements, on a scale from 1 (strongly disagree) to 7 (strongly agree).

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagreed (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
Nike respects moral norms.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nike always adheres to the law.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nike is a socially responsible company.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nike avoids damaging behaviour at all cost.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nike is a good company.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nike will make a decision only after careful consideration of the potential	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

positive or negative consequences for all those involved.

Q13 Please rate your level of agreement with the following statements, on a scale from 1 (strongly disagree) to 7 (strongly agree).

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I trust Nike.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nike delivers what it promises.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would recommend Nike to other people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would repurchase Nike in my next shopping.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nike products are of good quality.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The material used in Nike products is of good quality.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Nike
construction quality is
good.

Q14 On a scale from 1 (definitely would not buy) to 7 (definitely would buying), please indicate your intention to buy at Nike.

	Definitely would not buy (1)	(2)	(3)	(4)	(5)	(6)	Definitely would buy (7)
I would buy at Nike	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q15 How much would you be willing to pay for a Nike t-shirt?

0 10 20 30 40 50 60 70 80 90 100

How much would you be willing to pay for this Nike t-shirt?



Motivations Block

Q16 On a scale from 1 (Not at all concerned) to 7 (Very much concerned), please indicate how concerned are you about each of these issues.

	Not at all concerned (1)	(2)	(3)	(4)	(5)	(6)	Very much concerned (7)
Use of child labour in fashion production	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deforestation of the rain forest	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Starvation and malnutrition in the world population	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emission of toxic gases from the fashion production	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poor treatment of animals in fashion production	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Environmental damage caused by human use of land and water	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The high amount of solid waste from the fashion production	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using too many of the world's natural resources for fashion production	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poor working conditions and wages for fashion producers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poor health and safety conditions for fashion producers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Carbon emissions caused by fashion production	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The amount of energy used when transporting fashion products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Demographics Block

Now, please provide some demographic data about yourself.

Q17 What is your gender?

- Male
- Female
- Other

Q18 How old are you?

- Under 18 years
- 18 – 24 years
- 25 – 34 years
- 35 – 44 years
- 45 – 54 years
- 55 – 64 years
- 65 years or above

Q19 Where are you from?

▼ Afghanistan * ... Zimbabwe (1357)

Q20 What is the highest level of education you have completed?

- Less than High School
- High School
- Bachelor's degree
- Master's degree
- Doctoral Degree
- Professional Degree

Q21 What is your current occupation?

- Student
- Student-Worker
- Employed
- Unemployed
- Retired

Q22 What is your personal available monthly income, in euros?

- < 500 € (1)
- 501 € - 1000 € (2)
- 1001 € - 1500 € (3)
- 1501 € - 2000 € (4)
- > 2000 € (5)

Acknowledgment Block

Thank you for your time spent taking this survey. Your response has been recorded.

Your contribution was highly appreciated.

Appendix 4: Stimuli presented in the main survey

A: Brand's involvement in greenwashing schemes

In 1997, an audit by Ernest and Young was carried out on a Nike fabric in Vietnam. The audit revealed that workers were being exposed to toxic chemicals, without protection or safety training. Besides that, workers were forced to work illegally overtime and to endure other dangerous conditions. This audit contradicted the brands' claims that the brand was providing good conditions for its workers.

In light of these findings, Nike was prosecuted and accused of misleading publicity and of violating workers' human and labour rights. After that, several scandals about Nike have emerged over the years.



Nike factory in Vietnam

B: Neutral Information

Nike produces a wide range of sports equipment. Its first products were tennis, however, production has grown and today the brand also makes clothing, accessories and other types of footwear, such as slippers and shoes. Additionally, the brand develops products for a wide range of sports, including athletics, baseball, ice hockey, tennis, football, basketball, cricket, cycling and wrestling.

The brand's first trainers were made on an iron toaster in 1971. The toaster provoked the idea of a sole pattern that was not smooth and that consequently would help athletes to remain stable during the race.



Nike store

C: Third-Party Certification Information

Nike has been taking steps over the last years to improve the social and working conditions of its employees. As a result, Nike received a Fair Trade Certification. This verification is done independently through regular audits by an accredited external auditor, FLOCERT. Thus, when products are Fair Trade certified, it means that they have been produced in accordance with the strict environmental, economic and social standards of Fair Trade International.



Fairtrade Certification Logo

D: Neutral Information

Nike was founded in the 1960s by Bill and Phillip. Nowadays, the brand operates in more than 1000 retail stores throughout the entire world.

Nike shops can be found in business districts and shopping centres and are spacious and luminous spaces with a neutral tone decoration to make the products stand out. The Nike's logo is the "swoosh", which over the years has emerged red, orange or white, although the solid black logo is the most widely used by the brand.



Nike Logo

Appendix 5: Consumer Perceived Ethicality (CPE) Measure

Consumers Perceived Ethicality were assessed through a seven-point scale (1 = strongly disagree, 7 = strongly agree), adapted from Brunk (2012).

Please rate your level of agreement with the following statements...

1. Nike respects moral norms.
2. Nike always adheres to the law.
3. Nike is a socially responsible company.
4. Nike avoids damaging behaviour at all cost.
5. Nike is a good company.
6. Nike will make a decision only after careful consideration of the potential positive or negative consequences for all those involved.

Appendix 6: Consumers' Motivations Towards Sustainability and Ethical Issues Measure

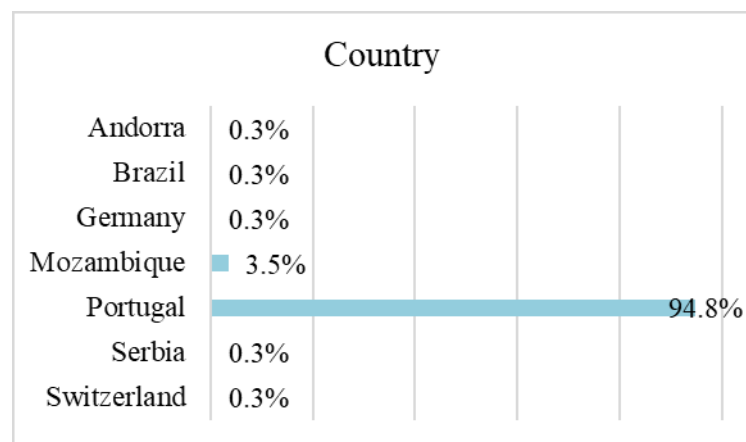
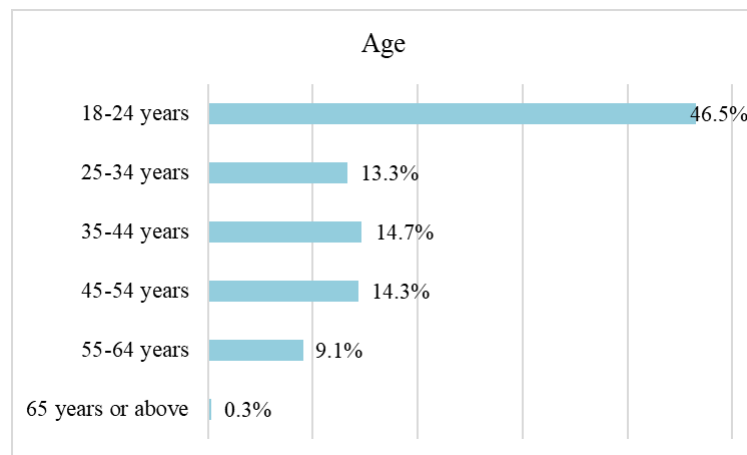
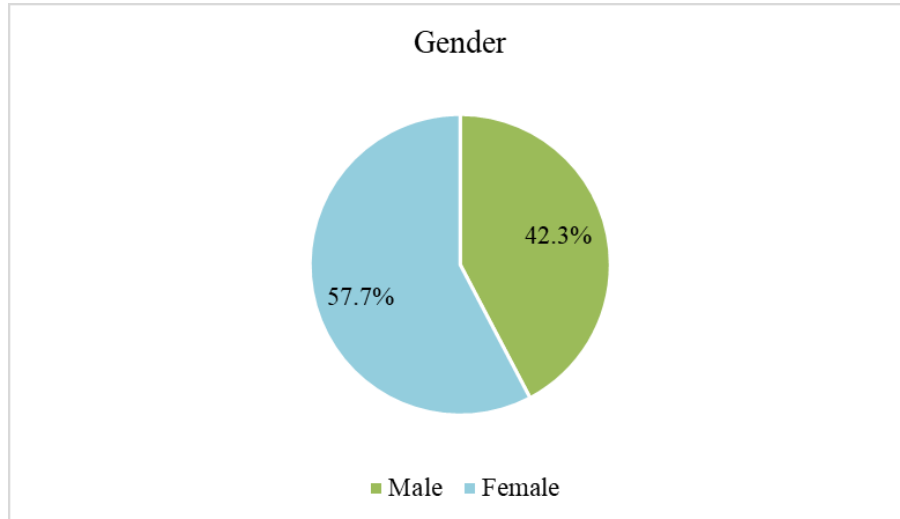
Consumers' motivations towards sustainability and ethical issues were assessed through a seven-point scale (1 = Not at all concerned, 7 = Very much concerned), adapted from Grunert et al. (2014).

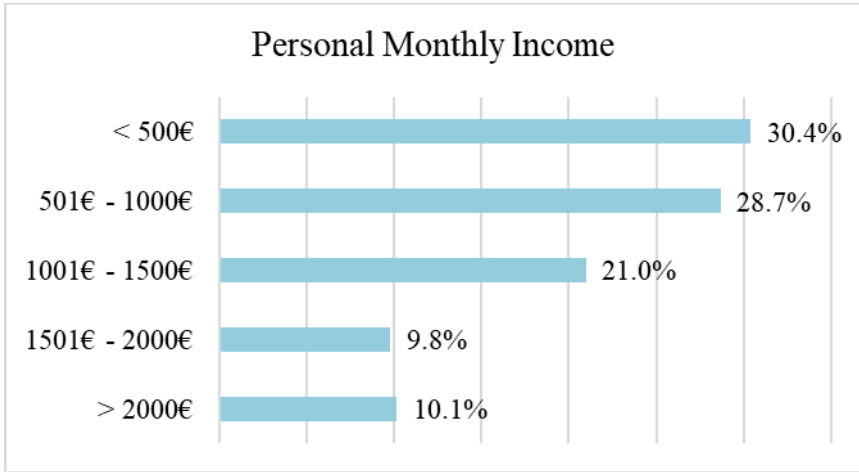
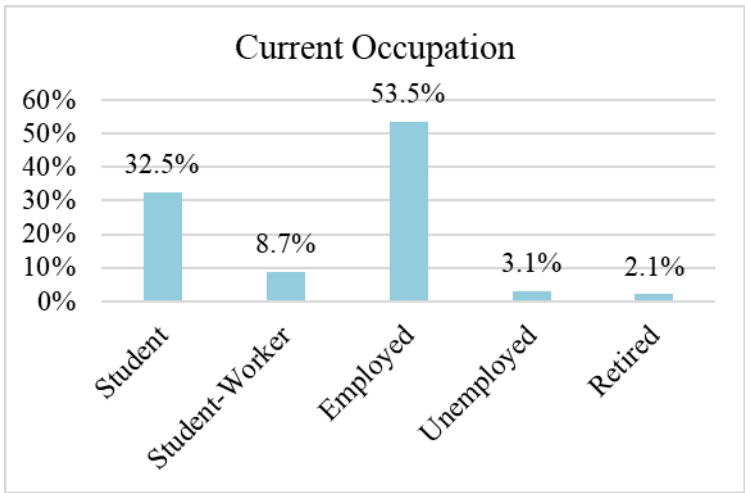
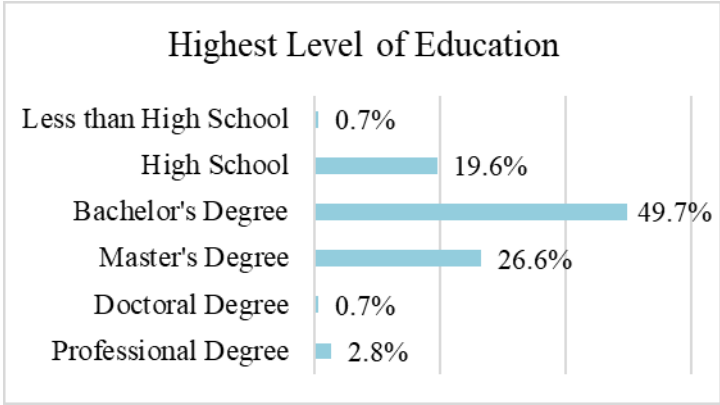
Please indicate how concerned are you about each of these issues:

1. The use of child labour in fashion production.
2. Deforestation of the rain forest.
3. Starvation and malnutrition in the world population.
4. Emission of toxic gases from the fashion production.
5. Poor treatment of animals in fashion production.
6. Environmental damage caused by human use of land and water.
7. The amount of solid waste from the fashion production.
8. Use of too many of the world's natural resources for fashion production.
9. Poor working conditions and wages for fashion producers.
10. Health and safety conditions for fashion producers.
11. Carbon emissions caused by fashion production
12. The amount of energy used when transporting fashion products.

Appendix 7: Sample Characterization

Main survey sample characterization





Appendix 8: Consumers' familiarity with the Fairtrade Certification

On a scale from 1 (not familiar at all) to 7 (very much familiar) please rate your level of familiarity with the Fairtrade Certification.

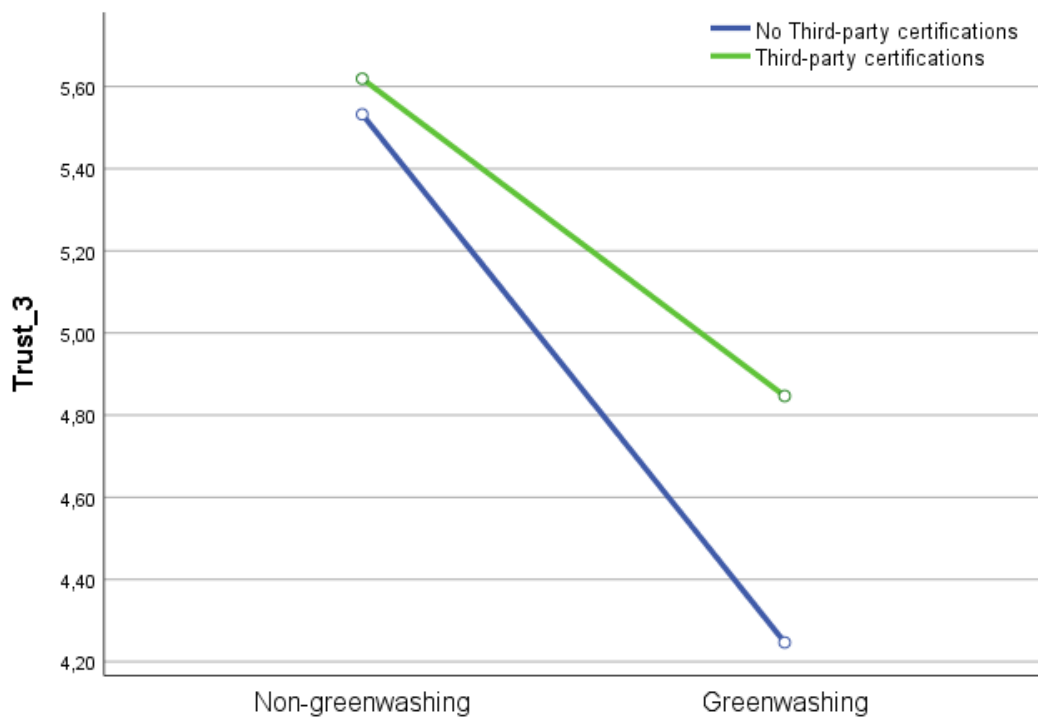
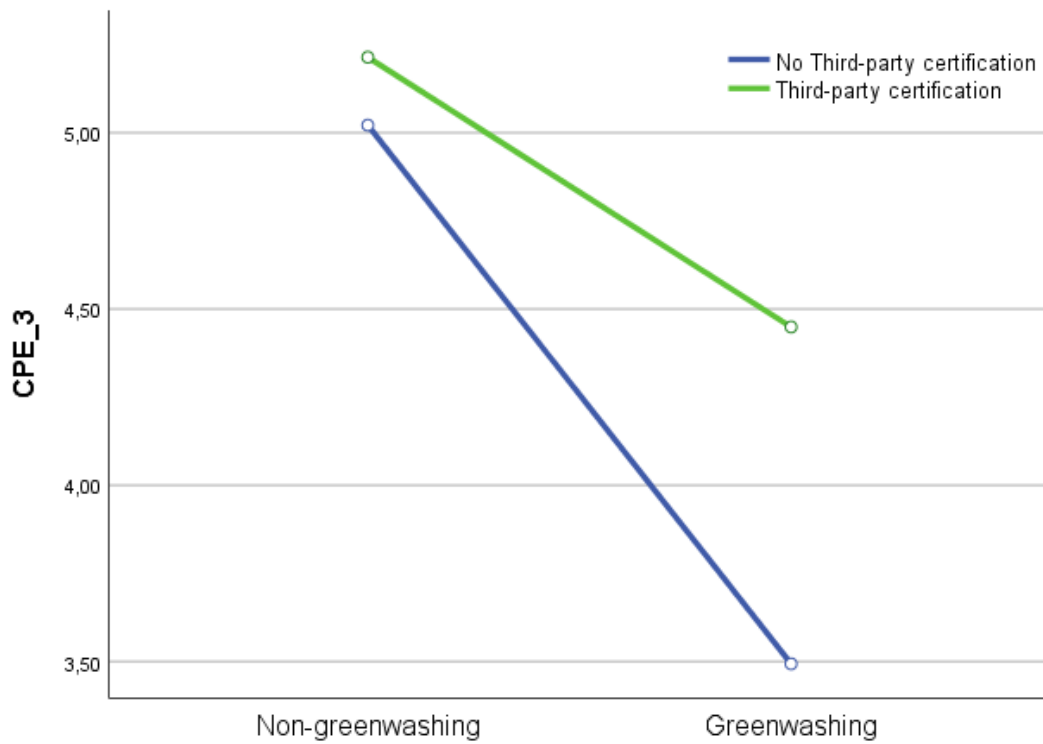
Descriptives

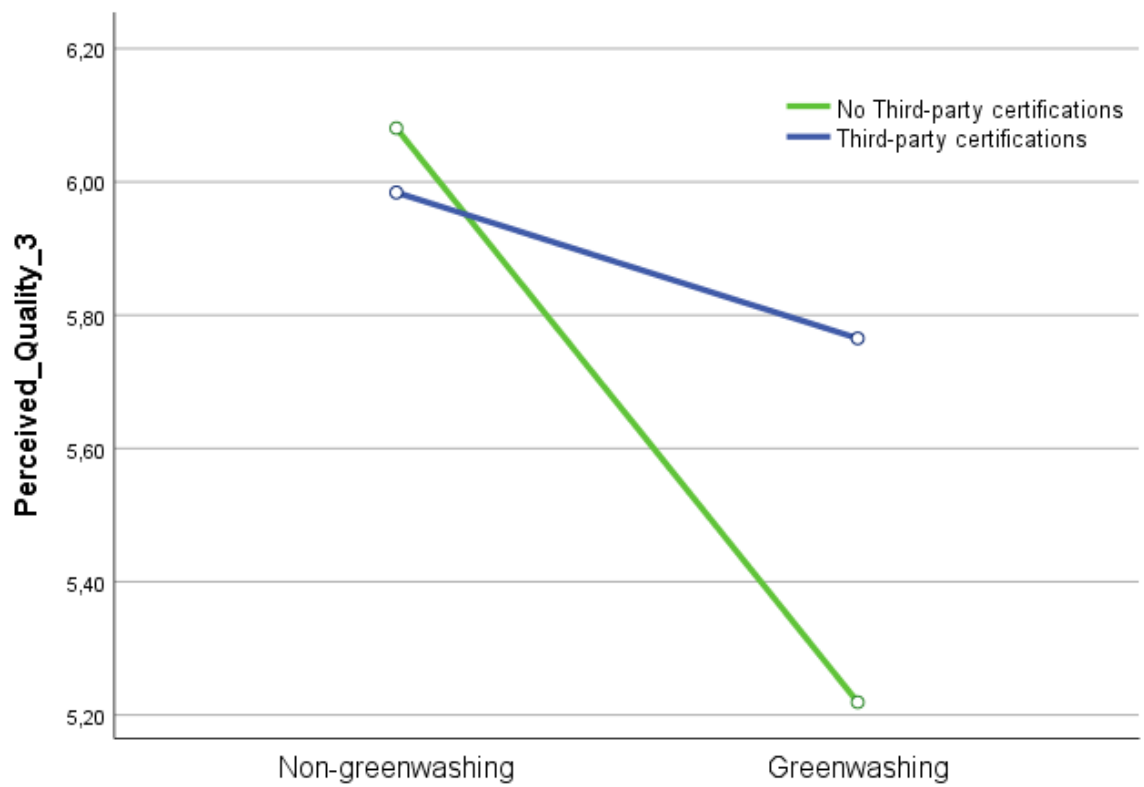
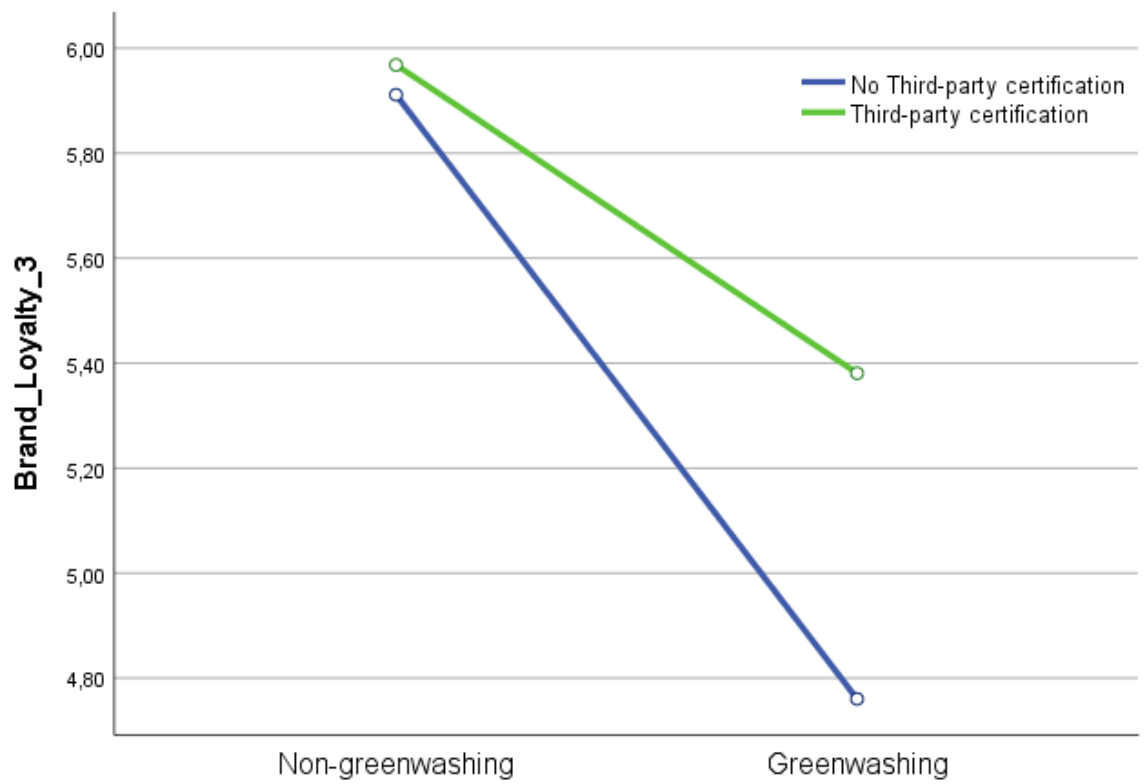
	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. Deviation</i>
Not at all familiar (1)	149	1	7	2.46	1.78

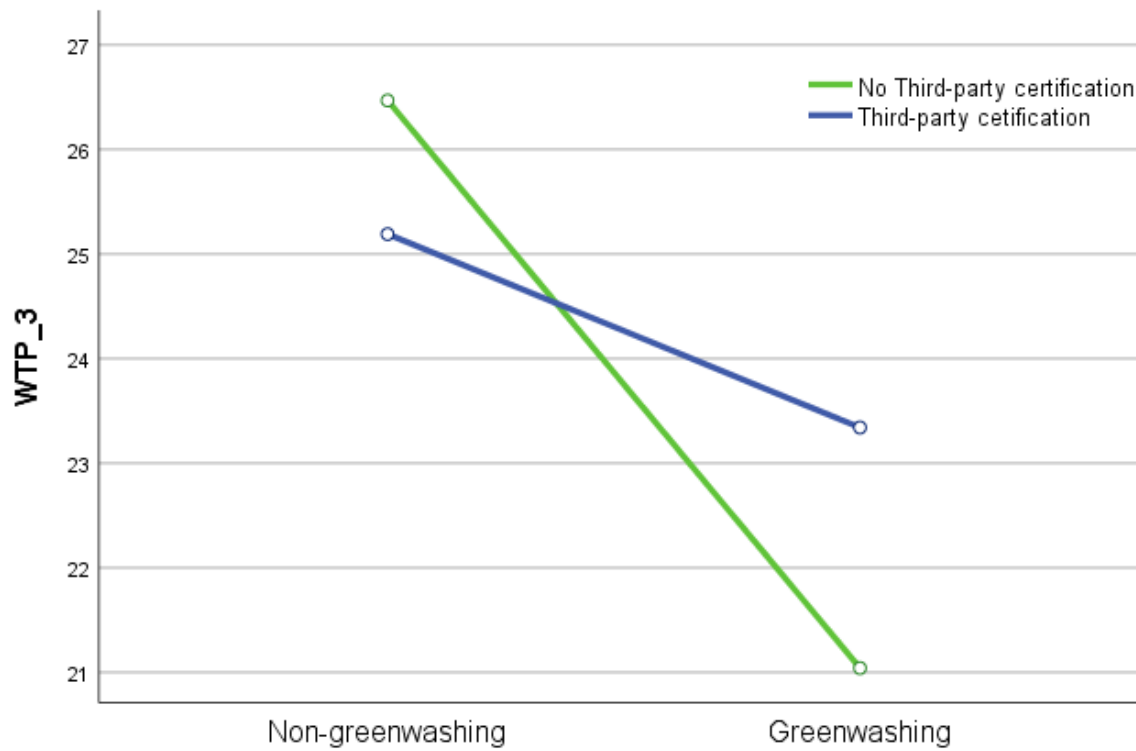
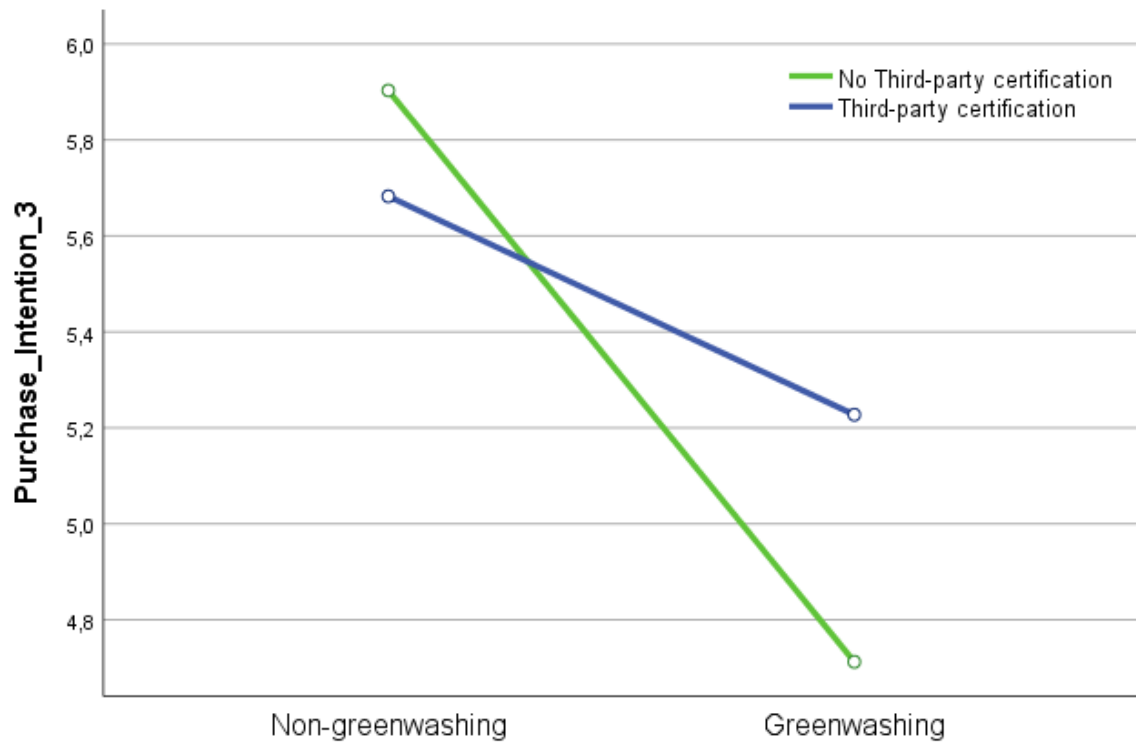
Frequencies

	Frequency	Percent (%)	Cumulative Percent (%)
Not at all familiar (1)	75	50.3	50.3
2	15	10.1	60.4
3	14	9.4	69.8
4	20	13.4	83.2
5	14	9.4	92.6
6	8	5.4	98.0
Very much familiar (7)	3	2.0	100.0
Total	149	100.0	

Appendix 9: Profile Plots - 2 (Brands' involvement in greenwashing schemes) x 2 (Third-party certification) MANOVA







Appendix 10: Two-way MANCOVA

2 (brands' involvement in greenwashing schemes) x 2 (third-party certification) MANCOVA, with environmental and social motivations as covariates.

	Greenwashing main effect	Third-party certifications main effect	Greenwashing main effect *Third-party certifications
	<i>F test</i>	<i>F test</i>	<i>F test</i>
CPE_2 (pre second stimulus)	145.38***	.60	1.64
CPE_3 (post second stimulus)	63.74***	15.97***	7.05**
Δ CPE_2	31.13***	17.74***	6.25*
Trust_2 (pre second stimulus)	91.27***	.48	1.20
Trust_3 (post second stimulus)	55.21***	6.39*	3.70 ⁺
Δ Trust_2	28.15***	2.78 ⁺	.56
Brand_Loyalty_2 (pre second stimulus)	60.94***	0.39	2.42
Brand_Loyalty_3 (post second stimulus)	35.06***	5.40*	4.04*
Δ Brand_Loyalty_2	26.17***	1.44	1.52
Perceived_Qual_2 (pre second stimulus)	26.00***	1.12	5.49*
Perceived_Qual_3 (post second stimulus)	21.84***	3.68 ⁺	7.85**
Δ Perceived_Quality_2	13.29***	.08	.03
Purchase_Int_2 (pre second stimulus)	36.06***	.04	2.21
Purchase_Int_3 (post second stimulus)	23.76***	.80	4.92*
Δ Purchase_Int_2	5.57*	8.27**	.39
WTP_2 (pre second stimulus)	8.87**	.00	1.48
WTP_3 (post second stimulus)	6.36*	.14	1.71
Δ WTP_2	.33	1.75	.56

Note: *** $p < .001$, ** $p < .01$, * $p < .05$, + $p \leq .1$

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