The Role of Sustainable Labels in the Fashion Industry

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Abstract (EN)

Title: The Role of Sustainable Labels in the Fashion Industry
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The fast-paced growth in the fashion industry, over recent years, has brought about consumer concerns and societal pressure for change in the sector's global environmental footprint.

Accordingly, businesses have incorporated more sustainable products into their offerings, strategically adopting uncertified SLs to reduce information asymmetries between the brand and the end consumer and facilitate purchasing decisions. Nonetheless, the lack of clear regulation on sustainable garment production, gives rise to greenwashing practices ultimately leading to reduced customer trust in uncertified SLs. Consequently, corporations have recently adopted TPC labels, such as the EU Ecolabel, to restore stronger product associations with the label's sustainable claims.

The experimental study aims to understand the impact of uncertified and TPC SLs on consumers. It further focuses on the Heuristic-Systematic Model, proposing individuals process SLs systematically or superficially determined by the level of cognitive load available to them at the time of purchase. Through cognitive manipulation, the study attempts to comprehend how the two SLs are processed under the different levels of cognition.

The findings revealed the presence of SLs results in stronger inferences on sustainable product attributes whilst simultaneously being used as Heuristics on WTP, Purchase Intention, Brand Environmental Friendliness and Guilt. Moreover, consumers superficially make stronger inferences on the previously mentioned product attributes in the presence of a certified label in comparison to an uncertified label.

This dissertation provides theoretical and managerial implications, highlighting the role of SLs under different processing approaches, whilst allowing marketeers to gain a deeper understanding of which strategic tactics to reinforce.

Keywords: Fashion Industry, Sustainable Labels, Greenwashing, EU Ecolabel, Heuristics, Dual-Process Theories, Guilt

Abstrato (PT)

Título: O Papel de Símbolos Sustentáveis no Setor da Moda
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O recente crescimento acelerado no setor da moda, introduziu novas preocupações de consumidores exigindo alterações na sua pegada ambiental.

Consequentemente, várias marcas passaram a oferecer produtos sustentáveis, recorrendo a símbolos sustentáveis não-certificados para diminuir assimetrias de informação entre marca e consumidor, e facilitar a decisão de compra.

Contudo, a falta de regulamentos sobre produção de roupa sustentável, promove práticas de *greenwashing* resultando numa redução de confiança em símbolos sustentáveis não-certificados, levando empresas a adotar símbolos sustentáveis certificados-por-terceiros, tais como o EU *Ecolabel*, com o intuito de fortalecer a associação do produto às alegações de sustentabilidade da marca.

O presente estudo visa compreender o impacto de símbolos sustentáveis nos consumidores**,** recorrendo ao modelo Heurístico-Sistemático. Deste modo, o processamento de símbolos sustentáveis deve ocorrer de forma sistemática ou superficial, dependendo do nível cognitivo disponível. Através de manipulações cognitivas, o atual estudo pretende entender como os dois tipos de símbolos sustentáveis são processados sob diferentes níveis de capacidade cognitiva.

De acordo com as observações, a presença de símbolos sustentáveis resulta em inferências fortes relativamente a atributos sustentáveis do produto, sendo simultaneamente usado de modo heurístico para julgamentos de Disponibilidade de pagamento, Intenção de compra, Imagem ambiental da marca e Culpa. Adicionalmente, um processamento superficial provoca inferências mais acentuadas de atributos do produto, na presença de símbolos sustentáveis certificados.

Esta dissertação expõe implicações teóricas e práticas de gestão, realçando o papel de símbolos sustentáveis sob diferentes modos de processamento e proporcionando um conhecimento mais profundo a *marketers* para decidir que táticas estratégicas devem reforçar.

Palavras-Chave: Indústria de Moda, Símbolos Sustentáveis, Símbolos, *Greenwashing,* EU Ecolabel, Heurísticas, Teoria de Processo Duplo de Raciocínio, Culpa

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List of Abbreviations:

CPE: Consumer Perceived Ethicality
H: Hypothesis
HCL: High Cognitive Load
LCL: Low Cognitive Load
RQ: Research Question
SL: Sustainable Label
SLs: Sustainable Labels
TPC: Third-Party Certified
WTP: Willingness to Pay

Chapter 1: Introduction

1.1 Research Topic

The fashion industry represents a worldwide economic force facing a prolific growth in product demand, projected to grow from 1.5 trillion U.S. dollars in 2020 to 2.25 trillion U.S. dollars in 2025 (Statista Research Department, 2021).
Additionally, literature devoted to sustainable fashion has also increased significantly over the past decade (Clarke & Clegg, 2000).

The industry's environmental footprint makes it the world's second-largest polluting sector (UNCTAD, 2019). This labor-intensive industry is driven by unethical and unsustainable practices, including child labor, safety concerns, high levels of carbon emission, and consumption of raw materials (Brewer, 2019). Consequently, consumers are shifting their purchase behavior to reflect growing concerns over the environment, shedding a light on the previously mentioned harmful practices.

In an attempt to address stakeholder interests, corporations have accommodated their strategy to incorporate a greater offering of sustainable products and reflect ethical practices. Nonetheless, the manifold definitions regarding sustainable production raise a vast concern over the type of sustainable measures adopted and how they benefit the environment.

In favor of reducing information asymmetries to consumers and influencing the purchase behavior of green products (Di Martino, 2019), businesses often rely on the strategic use of eco-labels. Notwithstanding, by incorporating sustainability at the business core, corporations can capture competitive advantage consequently giving rise to greenwashing strategies with the sole focus on driving sales, i.e., providing incomplete or false information to the public to reflect a favorable environmental brand image (Furlow, 2010).
As consumers realize they are being deceived, they increasingly place less trust on company-generated eco-friendly labels (Peattie and Crane, 2005) compelling corporations to adopt externally certified labels in an attempt to increase the level of trust regarding their sustainable claims.

The level of trust consumers place on sustainable labels is of paramount importance, since higher trust leads to a belief that the information provided is credible. Thus, consumers are able to reduce their cognitive energy when making product judgments regarding sustainability. Additionally, an initial level of trust in label claims regarding sustainability can often result in higher confidence in the label as a heuristic cue to make inferences about relevant product attributes (Kahneman and Frederick, 2002). Corporations use SLs intending consumers will use them to make stronger inferences regarding sustainability. However, they can be heuristically used to make inferences regarding relevant product attributes such as having higher quality resulting in a higher willingness to pay, benefiting not only the consumer but the organization.

The present study aims to understand the role of certified and uncertified SLs when making inferences regarding product and brand attributes and whether the different types of labels are being used as heuristics. It further analyzes whether differences in inferences are influenced by the level of cognition available to individuals.

1.2 Research Problem

Research Questions

The first two research questions aim to understand the impact that certified and uncertified labels can have on hedonic products, regarding purchase intention, WTP, guilt, environmental friendliness, ethicality, social responsibility of the product, and environmental friendliness of the brand.

RQ1: Do sustainable labels work as heuristics to infer higher purchase intention, WTP, brand environmental friendliness and reduced guilt?

RQ2: Do sustainable labels reflect environmental friendliness, ethicality, and social responsibility of the product?

The third question aims to understand whether there is a difference in inferences depending on the cognitive load level and under which cognitive load conditions the inferences are stronger.

RQ3: Does cognitive load impact judgments concerning product attributes?

Lastly, the fourth research question intends to understand under which type of SL the inferences are stronger.

RQ4: Are inferences under a certified label stronger than under an uncertified label?

1.3 Dissertation Structure

The dissertation is composed of five chapters, beginning with an outline of the research problem and research questions. The second chapter provides an overview of previous literature, addressing key topics for the study in question and delineates the hypothesis.
Furthermore, chapter three provides a description of the methodology and analysis of the data collection procedure. Subsequently, the fourth chapter offers an in-depth analysis of the results. Lastly, chapter five presents a conclusion and implications of the findings in conjunction with limitations and suggestions for future investigation.

Chapter 2: Literature Review

2.1 Sustainability in the fashion industry

According to Baumgartner (2009), the most extensively used definition of sustainability encompasses "meeting the needs of the present without compromising the ability of future generations to meet their own needs" (Imperatives, 1987, p.6). A further formulation of the concept incorporates the notion of an ecologically sustainable (Munasinghe, 2007) and socially responsible (Defra, 2009) business.

The fashion industry in particular raises concerns over environmental (Brewer, 2019) and social sustainability (Jones et al., 2005) "due to its inherent characteristics" (de Brito et al., 2008, p.538). Fashion companies consume large quantities of raw materials, generate high levels of carbon footprint, waste, and pollution (Brewer, 2019). This multi-billion-euro industry relies on excessively fast cycles of production (Niinimäki, 2015), resulting in rapid garment disposal on consumer behalf (Brewer, 2019). On average, each European consumes 26 kg of textiles every year (Textiles in Europe's Circular Economy, 2019).

Over the past decades, buyers are deciding to become more informed, understanding the harmful environmental impacts of the fashion industry culture. The increase in sustainable consumption has led to a joint societal pressure on companies to alter their unsustainable business practices (Grappi et al., 2017). In response, the fashion industry has seen an increase in its sustainable product offer (McNeill & Moore, 2015). For example, companies such as The North Face and New Balance have integrated sustainability into their supply chain (Shen, 2014), whilst companies including H&M have developed unique sustainable product lines (H&M Conscious Actions Sustainability Report, 2015).

The prevailing issue, nonetheless, regards a lack of clear guidelines for sustainable garment production (Watson and Yan, 2013). Sustainable fashion is a term often used in an interchangeable way with ethical, ecological, green, or slow fashion. It encompasses themes of worker empowerment, upcycling, recycling, traditional production techniques, and the use of raw materials (Johnston, 2012). Overall, it seeks to ensure ethicality throughout the whole product lifecycle from suppliers, labor manufacturing, transport, and disposal (Beard, 2008).

Consumers often rely on companies to source and label sustainable products (Ritch & Schröder, 2012). As such, marketers need to provide the best option to ensure they gain consumer trust and attention (Yan et. al., 2012) when evaluating sustainable purchases.

In light of the previously mentioned argument, marketeers need to overcome the common lack of trust among other potential negative perceptions that consumers may have relating to sustainable products. A common practice is mitigating those perceptions through the use of sustainable labels.

The main aim of this study is to understand consumer perceptions regarding sustainable products and how these differ depending on the presence and type of label presented.

2.2 Sustainable labels: EU Ecolabel and Greenwashing labels

A sustainable, green or eco-label serves as a means to convey information to consumers on the environmental implications of buying a product (Rex and Baumann, 2007; Sønderskov and Daugbjerg, 2011) and is seen as an important marketing tool (Sammer and Wüstenhagen, 2006) to diminish information asymmetries between sellers and buyers (Kong et al., 2014). A recent study conducted at EU level concluded that 80% of participants look for environmental aspects when purchasing, with nearly 50% paying attention to ecological labeling (Eurobarometer, 2009).

However, the growing presence of greenwashing as a marketing strategy (Iyer and Banarjee, 1993) is diminishing consumers' level of confidence (Peattie & Crane, 2005). Further research evidence among European consumers, suggests that 48% of respondents do not trust green claims provided by businesses. Greenwashing can be understood as "the dissemination of false or incomplete information by an organization to present an environmentally responsible public image" (Furlow, 2010, p.1).
This phenomenon results in negative consumer perceptions due to unclear or vague claims (Carlson et al., 1993) such as "recycled materials" and "sustainably sourced materials" (Segran, 2019). These claims are often present in sustainability labels, making consumers confused as to what the information or the label itself means and making it difficult to understand their environmental impact, either before or after purchase ((Kangun & Polonsky, 1995), leading to reduced trust (Thogersen, 2002).

Kärnä et al. (2001) proposed an alternative for companies to overcome this issue by providing correct and coherent information on their product's environmental performance throughout their whole life cycle in a time-saving way, resulting in increased green purchasing. As supporting evidence, 31% of Europeans, stated in a recent poll, that the most efficient green product promotion should include providing better information to consumers (Eurobarometer, 2009).

Nonetheless, in many cases despite being able to provide more correct and coherent information, consumers still lack confidence in company-generated labels. Given the need for strict legislation to protect consumers, companies can still get away with concealing unpleasant information and build a fabricated green identity (Lyon & Maxwell, 2011).

In an alternative to fighting consumer confusion and increased mistrust, several brands are adhering to externally certified sustainable labels which provide higher credibility. Credibility consists of brand expertise (the extent to which consumers feel the brand is knowledgeable to fulfill their claims), customer trustworthiness, and customer likability (Newell & Goldsmith, 2001). Source credibility should not be overlooked, given that it plays a major role in consumer persuasion (Hovland et al., 1953) and purchase intention (Lafferty & Goldsmith, 1999).

Following Darnall et al. (2012), consumers place higher trust in eco-labels from government or NGOs than those sponsored by business associations, since by including third-party certifications, the likelihood of a company engaging in greenwashing is decreased (Strähle & Sfameni, 2016).

The EU Ecolabel is often adopted by companies voluntarily as a label of environmental excellence attributed by the European Union. The label is highly familiar amongst EU citizens (Eurobarometer, 2009), making it an appropriate choice for this study.
To be awarded the label, products must meet a set of criteria that ensure high environmental standards throughout their whole lifecycle from raw material extraction to production, distribution, and disposal (European Commission, n.d.-a.). According to the most recent data, as of September 2021 over 2000 licenses have been awarded to around 83500 products and services. The textile group represents 9% of this number and has been one of the fastest-growing categories over the last 6 months with a 28% increase.

The EU Eco-label provides a straightforward way to “enhance transparency and consumer trust in environmental claims" (Thogersen, 2010, p.1787), reduce information asymmetry in judgment formation before purchasing (Žurga & Forte, 2014), and influence consumers to replace conventional products with similar eco-labeled ones (European Comission, n.d.-b.).

Following the work of Leire & Thidell (2005), there is a growing importance for a clearer understanding of consumer decision-making concerning eco-labeled products. The regard to

which different labels are adopted (i.e., consumers are aware they exist and understand what they mean) is unclear (Leire & Thidell, 2005; Thogersen, 2002).
Besides, consumers are constantly exposed to multiple external stimuli making it cognitively demanding when making purchasing decisions, as such consumers often rely on simpler superficial ways of processing information.

This study intends to understand if sustainability labels are used and processed superficially to summarize an environmental excellence product as well as how processing differs depending on being a certified or uncertified label.

2.3 Dual-Process Theories

Dual Process theories relate to how people process information, form its validity and later build decision outcomes (Eagly & Chaiken, 1993). Several authors have studied dual-process theories in the past (Wason et al.,1974; Petty & Cacioppo,1986; Epstein, 1994; Sloman, 1996; Kahneman, 2003; Strack et al., 2004), with the underlying assumption that the level of thoughtful cognition impacts the construction of social judgments (Chen & Chaiken, 1999). According to Moskowitz et al. (1999), the dual nature of such theories relies on either a high or low cognitive effort, with the latter commonly relying on heuristics.

Heuristics can be understood as "knowledge structures, presumably learned and stored in memory" (Chen et al., 1999, p.44). For example, conventional heuristics concerning sustainable labels include "If the label is green, it must be environmentally friendly" or "If the label says it is eco-friendly it must be environmentally friendly" (Redondo et al., 2015).
The model comprises a dual-process framework asserting that individuals process information regarding persuasive messages in a systematic or heuristic way (Chaiken, 1980).

Under a systematic processing approach, individuals "actively attempt to comprehend and evaluate the message's arguments as well as assess their validity in relation to the messages conclusion" (Chaiken,1980, p.752). The primary focus lies on the message content, therefore message characteristics namely the amount of information provided, or message comprehensibility may have a stronger influence on persuasion than source characteristics in particular likability and credibility (Chaiken, 1980). As such, providing reasoned arguments has a positive impact on decision making (Sussman & Siegal, 2003)

For this type of processing to occur, the model's sufficiency principle must hold. The principle insinuates individuals present sufficient levels of cognitive capacity and sufficient levels of motivation (Chen et al., 1999).

As mentioned previously, motivation alone is not sufficient to ensure systematic thinking, meaning individuals may be willing but not able to process information. They may have a naturally limited ability to process information (Zuckerman & Chaiken, 1998) or be imposed a limitation on their cognitive resources such as time constraints, knowledge constraints, or the presence of simultaneously processing tasks which leads to confusion (Ratneshwar & Chaiken, 1991).

The increasing number of sustainable labels in the fashion industry, often leaves consumers feeling overwhelmed and confused regarding the label criteria. For this reason, they are likely to resort to heuristic thinking (Redondo et al., 2015). Additionally, according to the least effort principle present in the model, people are "economy-minded processors", only choosing to process information systematically when necessary (Bohner et al.,1995, p.38).

When applying a heuristical view, limited effort is placed on assessing the message's validity, and there is greater concern regarding superficial information namely the source's identity or non-content cues (e.g., backgrounds of natural landscapes, pictures of endangered animals, or renewable sources of energy) (Parguel et al., 2015) in accepting the information provided (Chaiken, 1980).

Consequently, less importance is placed on content characteristics, and instead, source characteristics (e.g., source expertise) or structural characteristics (e.g., information length), exert a stronger impact on their decision-making validity of the message (Chaiken, 1980; Chaiken et al., 1999).

Despite requiring less motivation and cognitive capacity, there are three principles of knowledge activation that must be met. Heuristics must have been previously learned and stored in memory (availability), they must be conveniently accessible for use through the process of retrieval (accessibility) be relevant to the task (applicable) (Higgins, 1996).

This study aims to understand the role of sustainable labels in judgments regarding label related attributes (ethicality, social responsibility, environmental friendliness), and non-label related attributes (WTP, Purchase Intention, guilt, and brand environmental friendliness) using the Heuristic- Systematic model framework. In this sense, the purpose is to understand if sustainable labels are interpreted correctly regarding sustainable attributes as well as used in a superficial manner (i.e., as heuristics) to make inferences on the before mentioned attributes.

In a previous experiment, researchers manipulated participants' level of motivation to understand whether brand names were used as heuristics to make judgments regarding a product. Findings from the study concluded that this is true for participants under low motivation (Maheswaran et al., 1992).
Following a similar line to this research, the present study focuses on understanding whether sustainable labels serve as heuristic cues in the same manner as brand names did in the study mentioned previously. For this study, cognitive load will be manipulated rather than motivation, given the underlying assumption that cognitive resources are necessary for systematic processing but not for heuristical processing. Thus, higher levels of cognitive load should constrain systematic thinking and lead to the use of heuristics.

Cognitive load is understood as “a multidimensional construct representing the load that a particular task imposes on the performer” (Haapalainen et al., 2010, p.301). It comprises three dimensions: mental load, mental effort, and performance (Jahns, 1973).

Due to its multidimensional character, assessing cognitive load can become challenging for researchers. Despite being uncommon, task performance-based methods serve cognitive load manipulation by altering the task difficulty given to participants (Haapalainen et al., 2010). Backs and Seljos (1994) demonstrated that by altering the length of a digit sequence to be memorized, participants' performance was affected. The authors demonstrated that when participants were under high cognitive load (recalling three items instead of one), the mean error rate saw an increase of 3,91%.

This study aims to understand under which conditions people process information in a heuristic way and if third-party sustainable labels are used as a heuristic to make inferences of different product attributes.

2.4 Guilt

Guilt stems "from the belief that one thinks that he or she is doing something undesirable" (Hur & Jang, 2015, p.144) and can be defined as acknowledging that one's behavior contradicts their ethical standards (Freedman et al., 1967).

Modern society is characterized by a consumerist culture where individuals use objects and experiences to construct a sense of self and community (Arnould and Price, 2000). Thus, to satisfy their self-interest, individuals occasionally violate the moral code of conduct, which leads to self-guilt (Bandura, 1996, 2001; Burnett& Lunsford (1994). Guilt can be segmented into anticipatory guilt (pre-purchase) and reactive guilt (post-purchase).

In this study, the main focus will be on anticipatory guilt, which is experienced as one contemplates a potential act of transgression (Huhmann and Brotherton, 1997) Due to its innate satisfying nature, hedonic consumption often evokes guilt (Botti and McGill, 2011). Previous studies have even concluded that an accentuated feeling of anticipatory guilt can result in consumers opting not to purchase a product they were contemplating (Zemack-Rugar et al., 2016) since individuals look for ways to rationalize their hedonic purchase decisions and make an effort to diminish unpleasant feelings such as guilt. (Okada, 2005). Thus, guilt has become relevant when studying hedonic purchase decisions.

To combat such feelings, marketers have resorted to green marketing appeals. For several decades, authors have studied effective ways to promote sustainable consumption behavior (Prothero et al., 2011) and the relationship it has with emotions including guilt (Kaiser, 2006).

Amodio et al. (2007) reported that individuals are willing to engage in potential guilt-reducing acts (e.g., prosocial actions) when possible. By including charitable donations when purchasing a product (Basil et al. 2008) or informing consumers that they are being responsible in their consumption choices (Kabaday et al., 2015; Antonetti and Maklan, 2014), the consumer level of guilt is reduced. According to Xu et al. (2011), one possible explanation derives from peoples concern with morality and ethicality which makes them feel obligated to purchase sustainably (Sharma and Lal, 2020).

By decreasing guilt through marketing efforts, brands intend to influence consumer behavior (Cotte and Ritchie, 2005).

Building on these arguments, this study aims to understand whether the presence of sustainable labels decreases anticipatory guilt.

2.5 Ethicality

Ethics denotes “a set of moral norms, principles or values that guide people's behavior" (Creyer, 1997, p. 422), including values of honesty, integrity, respect, responsibility, and accountability (Fan, 2005).

Consumers' perceptions are relevant for marketers since they have an influence on consumer attitude and purchase behavior towards the brand, i.e., unfavorable perceptions generate unfavorable attitudes and purchase behaviors (Brunk & Bluemelhuber, 2010).

Conforming to Brunk & Bluemelhuber (2010), three main factors help enhance Consumer Perceived Ethicality.
First, companies should abide by the legal and moral laws (e.g., labor, country, or environmental rules), followed by seeking to balance business profits with stakeholder needs (weighing the consequences of their actions to all stakeholders) and lastly be altruistic (e.g., engaging in prosocial or philanthropic activities).

Furthermore, consumer ethical perception may be enhanced by information generated by external sources in comparison to company generated communication, due to a belief that companies are focused on enhancing their positive behaviors, resulting in decreased credibility (Berry and McEachern, 2005; Mohr and Webb, 2005; Brunk, 2010b). Common behaviors, such as choosing to conceal relevant product information on labels (e.g., product weaknesses or side-effects), lead to reduced credibility, and thus consumers form an unethical perception of the brand (Brunk, 2010a).

The study has the purpose of understanding if SLs increase ethical perceptions of the product.

2.6 Purchase Intention: the role of consumer trust

Whitlark, Geurts, and Swenson (1993) have described purchase intention as the intention of purchasing a product after evaluating it. Focusing on sustainable consumption, the definition of the concept can be extended to assessing the likelihood that individuals prefer green products (valuing sustainable product attributes) over conventional products (Lasuin et al., 2014).

In this study, label source and information content are manipulated through the use of certified and uncertified labels. These two items have a direct impact on two predictors of green purchase intention: consumer knowledge and consumer trust (Doszhanov and Ahmad (2015).

Consumer knowledge is a combination of product familiarity and product knowledge (the amount of information the consumer has stored in memory) (Philippe & Ngobo, 1999). Given the limited amount of information available to the public regarding sustainable products, consumers become confused regarding which products best meet their needs Mitchell et al., (2005). By granting additional information regarding the impact of clothing and sustainability, thus increasing consumer knowledge, consumers' purchase intention for sustainable garments is enhanced (Kang et al. (2013).

Green trust can be understood as an individual's voluntary reliance on a product or brand, with the underlying assumption that expectations of environmental performance are met (Chen, 2010). Consumer trust is an essential step for consumers to appraise a company's sustainable claims (Chen et al., 2013) and positively influences green product purchase intention (Chen, 2010). Consumers have learned that many companies fail to deliver on their sustainable claims (Chen et al., 2013), making them suspicious of greenwashing practices (Chen et al., 2013).

Despite focusing on the influence of the factors mentioned above, additional factors may influence the extent to which consumers purchase green products. For instance, purchase intentions are more likely if individuals feel that the product meets their environmental needs (Netemeyer et al., 2005), this is their personal set of criteria that make up a sustainable product. According to (Weiner, 2017), subjective norms may also impact purchase intentions since consumers use brands to express their identity and often choose to purchase from ethical brands (Niinimäki, 2010). Additionally, consumers who are more environmentally conscious are more likely to purchase green clothing (Umberson, 2008).

Interestingly, although consumers feel sustainability is relevant, 95% of EU citizens are concerned with protecting the environment (Eurobarometer, 2011), sustainability itself is not a deciding factor in the decision-making process. Considering the previous study (Eurobarometer, 2011), only 17% of respondents stated they purchase sustainable products (e.g. Blazquez et al., 2015). Several studies have demonstrated that consumers' ethical perceptions are not always translated into purchase intentions, forming what is known as a "value-action gap" (Markkula and Moisander, 2012).

This study intends to understand if SLs increase product Purchase Intention.

2.7 Willingness-to-Pay

Willingness to pay is understood as the highest price a buyer is willing to pay for a certain good or service (Kalish and Nelson, 1991). Given the growing concern regarding sustainable consumption behavior (Costa Pinto et al., 2014), it has become interesting for marketers to understand if a higher price for sustainable fashion is appealing to consumers. Previous literature has concluded that environmentally conscious consumers are willing to pay higher prices for sustainable products (Kim and Damhorst, 1998).

Additionally, previous studies have demonstrated that the presence of sustainable labels can have a positive influence that is transferred to the product (e.g., Schwarz & Clore, 1996). However, literature linking sustainable labels and willingness to pay regarding textiles is limited. Nonetheless, Hiscox et al. (2011) found that an average premium of 23% was paid for a Fairtrade-labelled (sustainable label) coffee in an online auction.

This study intends to understand if SLs increase willingness to pay for the product.

2.8 Corporate Social Responsibility

Corporate Social Responsibility is closely linked to ethical principles in nature and objectives. Nevertheless, they are distinct (Epstein, 1987), with ethics being a part of CSR (Caroll, 1991). Ethics can be understood as the notion of what constitutes right and wrong towards a company and its workers, whilst Social Responsibility regards the consideration of business practices' impact on society as beneficial or harmful (Ferrell et al., 2019).

Several authors argue that ethical considerations must be at the heart of CSR (Brunk, 2010a). For instance, Petkus and Woodruff (1992) trust companies have a commitment to maximizing positive societal effects whilst looking to eradicate potentially harmful ones. Thus, it considers the company's consequences on all stakeholders, emphasizing that they should be guided by ethical norms.

On one hand, bad CSR practices such as cheap labor, child labor, overlooking human rights, and not providing a minimum living wage to workers (Maitland et al.,1997) have negative effects on publicity and brand value (Perry, 2012).

On the other hand, good CSR practices including environmental protection, good relations with local communities, good working conditions and donations to charities (Berens et al., 2007) help generate more consumer purchases (Sprinkle, & Maines, 2010) and motivate employees (Sprinkle & Maines, 2010). Thus, there is a win-win outcome for customers, who become satisfied with their purchase and for companies who generate sales and profits Brown & Dacin, 1997; Porter & van der Linde, 1995).

In relation to sustainable labels, one study concluded that when firms commit to their ethical claims, CSR perceptions are positively influenced (Stanaland et al., 2011).

As sustainable fashion gives rise to new consumer demands, it has become relevant to understand consumers' perceptions regarding CSR (Dirnbach, 2008). This study intends to understand if SLs increase perceptions of a socially responsible product.

2.9 Summary

The literature review first highlighted the importance of sustainability in the fashion industry and the joint societal pressure for changes in the industry's practices.

A new section referenced the strategic adoption of sustainable labels by corporations, which are intended to serve as superficial cues to summarize a sustainable product.
The review continued by outlining the importance in the rise of greenwashing strategies which have recently led to customer mistrust in uncertified labels (company-generated) and the adoption of externally certified labels, such as the EU Ecolabel by several organizations.

The main goal of this research is to understand how different SLs are processed.

H1: When a SL is present, it will influence the inferences individuals make regarding the products compared to when no-label is present.

> **H1a:** The inferences will result in higher ethicality, environmental friendliness, and social responsibility perceptions of the product.

> **H1b:** If the label is used as a heuristic, it will result in inferences of higher purchase intention, willingness to pay, brand environmental friendliness, and lower guilt.

Besides, it draws on the Heuristic-Systematic dual-process theory, differentiating between a systematic and a heuristic processing of information. In this study the level of cognitive load will be manipulated, reducing the participant's cognition ability under HCL to make them think in a heuristically way. Afterward, respondents will be asked to make inferences on several relevant product attributes.

By comparing the judgments made under different cognitive load conditions, the study aims to understand the impact of cognitive load on perceptions of relevant product attributes under different SL types.

H2: Only participants under LCL will be able to make distinguished inferences based on label type.

> **H2a:** If the differences across SLs are significant, they will be higher for the certified label compared to the uncertified label.

Chapter 3: Methodology

3.1 Pilot Study

Before conducting the main study, a pilot study was performed to access any potential interpretation doubts, verify manipulations, and understand whether the choice of label represented a moderate level of familiarity.

A total of 12 participants responded to the pilot study's online survey and provided feedback on the clarity and understandability of the questions and stimuli. Participant's feedback was considered to make necessary changes and all respondents were excluded from the main study.

3.2 Main Study

3.2.1 Research Method

To achieve the objectives of the research in question, primary data was collected upon a first consideration of the secondary data provided in the Literature Review.

One experimental study was performed through an online survey. This method facilitates geographical reach (Garton & Wellman, 1999), allows for lower costs (Bachmann & Elfrink, 1996) and data collection in a shorter period (Andrews,2003).

The survey was developed in English using Qualtrics Survey Software, which allows for prompt data collection and benefits from functions including randomizing questions and direct conversion of data into SPSS format. A Qualtrics generated link redirecting respondents to the survey, was distributed through both messaging (WhatsApp and Phone messages) and social media platforms (Instagram and Facebook).

The self-administration nature of surveys can often lead to negative effects, for instance, lower response rates due to unclear instructions Ray and Tabor (2003). However, this effect is often counterbalanced by the level of convenience it provides for participants. By allowing respondents to answer at any time and place, they become more prone to answering the survey (Hogg, 2003).

3.2.2 Sampling

The convenience sampling method was selected given its affordability, efficiency, and convenience (Jager et al., 2017). The method's criteria are based on randomization and easiness of access (Jawale, 2012), making it a favored method amongst non-probability sampling methods Bornstein et al. (2013).

3.2.3 Research Participants

A total of 138 participants responded to the survey, all of which were volunteers. The survey sample consisted primarily of family, friends, and colleagues. Nonetheless, only 104 completed the survey in its entirety. In line with Galeisc (2006), respondents are initially influenced by incentives of the survey (e.g., interest in the topic, monetary incentives, or survey length announcement), however after a certain time, several feel boredom either in the survey content, length, or question format, and therefore give up on answering. Upon cleaning the data, all 104 responses were valid and considered for data analysis.

3.2.4 Research Materials

Independent Variables

Presence and type of Sustainable Label

Sustainable Labels were manipulated by creating three different scenarios:

1. No label (product display)
2. Uncertified label (product, superficial label, and general label information display)
3. Certified label (product, EU Ecolabel, and detailed label information display)

All participants were presented with the same three scenarios following the same order. The product displayed was always the same (a T-Shirt), varying only in color for each of the scenarios. This measure was adopted to avoid any color bias (e.g., if participants did not like a certain T-shirt color and this color was used in all three scenarios, it could result in lower ratings given on product judgments, solely due to color).

Cognitive Load Level

Cognitive Load was manipulated through task difficulty based on Galy et al.'s (2012) study, in which task difficulty was manipulated by asking participants to recall either a 2-digit number (LCL) or 3-digit number (HCL). In this study, under a High Cognitive Load Manipulation condition, 6-digit and letter sequences were presented, whereas in a Low Cognitive Load Manipulation Condition 3-digit and letter sequences were presented.

The Cognitive Load Conditioning was assigned using the Qualtrics randomizer function.
In total each participant was asked to memorize 3 sequences. The sequences were different across cognitive load manipulation conditions and within each of the three scenarios presented. The table below summarizes the different sequences presented:

	No-Label	**Uncertified Label**	**Certified Label**
Low Cognitive Load	4gs	6Ms	5gM
High Cognitive Load	4gs8K9	6MsT7i	5gMu83

Table 1. Sequence Display

Dependent Variables

Purchase Intention

Participants were requested to state their willingness to purchase the product for themselves using a seven-point scale (1=Not at all and 7=Extremely). The previous scale was grounded on Johnson's (1979) existing five-point purchase intention scale (1= *Definitely will not* and 5= *Definitely will buy*).

Willingness-to-Pay

After seeing the product, respondents were asked to state their willingness to pay. Accordingly, the open question "What price would you be willing to pay for this product? (in €)?" was asked, ranging from 0-100€, adapted from (Völckner, 2006b).

Guilt

Guilt perceptions were appraised directly by asking the question "To what extent would you feel guilty about your purchase decision?" considering the statement "Thinking about your feelings in the situation described, how intensely would you feel guilt?" (Antonetti et al., 2014). The level of guilt was assessed using a seven-point scale (1= *Not at all* and 7= *Extremely*).

Product attributes

To measure perceptions concerning different product attributes, the following question was asked "Please indicate the extent to which you believe the product is: ..." regarding ethicality and environmental friendliness attributes. The level of agreement was measured using a seven-point scale (1= *Not at all* and 7= *Extremely*).

- **Ethicality**
  Ethicality was measured using an all-inclusive statement "[It is] ethical"

- **Social Responsibility**
  Ethicality was measured using a statement adapted from Brunk's (2012) CPE scale "[It is] socially responsible"

- **Environmental Friendliness**
  To evaluate environmental friendliness, the statement "[It is] environmentally friendly" was adapted from Chen et al.'s (2015) measure of environmental friendliness "You believe that this product is environmentally friendly".

Brand Environmental Friendliness

Brand Environmental Friendliness was measured using four statements: "[It is concerned with] Product Durability", "[It is concerned with] Product Safety", "[It is concerned with] Emissions to Air", "[It is concerned with] Emissions to Water" and "[It is concerned with] Careful use of Resources"

Sequence Recall

Participants were solicited to write down the sequence they were previously asked to memorize in an open question format, to control for the cognitive load manipulation conditioning (Backs & Seljos, 1994). This was done for each of the three sequences each respondent was tasked with memorizing.

Cognitive Load Control

Respondents were asked to state their level of agreement with the following statements: "I kept continually rehearsing the sequences in my mind" and "I did not use any additional aids for the sequence memorization task" using a seven-point scale (1= *Not at all* and 7= *Extremely*).

The manipulation was performed as an added measure to verify potential biases in the success rate of the memorization task, due to the lack of control over the environment under which the participants responded to the survey.

Label Characteristics

An overall assessment of the labels presented was made by asking respondents for their level of agreement with the label information regarding sufficiency, comprehensibility, trustworthiness, and credibility, using a seven-point scale (1= *Not at all* and 7= *Extremely*).

Label Familiarity

This variable was measured by asking participants to state their level of agreement with the following statements: "I am familiar with the label", "I understand what the label means", "The label represents an environmental excellence product" and "I have purchased products with this label in the past". The statements were created considering the direct measure of third-party eco-labels provided by Barbulescu et al. (2019), using a seven-point scale (1= *Not at all* and 7= *Extremely*) to indicate the level of familiarity.

Label Familiarity was measured as a control variable to understand if participants under different cognitive load conditions indicated the same level of familiarity with the EU Ecolabel.

Guilt-Proneness

Four scenarios corresponding to Guilt-Negative-Behavior-Evaluation, present in the Guilt and Shame Proneness Scale (Cohen et al., 2011) were considered. By this means, a five-point scale (1= *Very Unlikely* and 5= *Very Likely*) was used to indicate the likelihood that respondents

would act in the way described, namely “feeling terrible”, “feeling pathetic”, “feeling remorse” and “feeling uncomfortable”.

Guilt-Proneness was measured as a control variable to understand if participants under different cognitive load conditions are equally prone to feeling guilt.

Shopping factors relevance (in a purchase decision)

Respondents' level of concern over ethicality, environmental friendliness, brand, price, and compliance with social norms was assessed using a seven-point scale (1= *Not at all* and 7= *Extremely*).

3.2.5 Research Design

The study followed a 2 (Cognitive Load: High, Low) x 3 (Labelling Condition: no label, uncertified label, certified label) mixed-subjects design**.**

The research design is summarized in the table below:

Cognitive Load Condition	**Label Scenario**		
High Cognitive Load	No label	Uncertified Label	Certified Label
Low Cognitive Load	No Label	Uncertified Label	Certified Label

Table 2. 2x3 Mixed-Subjects Design

Respondents were randomly assigned into a high or low cognitive load condition and were presented with the same three label scenarios.

3.2.6 Research Procedure

The survey layout consists of the following structure: consent form, introduction, section one (product judgments), section two (control variables), and demographics.

Participants were first shown a consent form assuring confidentiality and anonymity in the data collection and handling. Respondents were also reminded that there were no right or wrong answers as well as the expected duration of the survey.

After giving their consent by moving forward, an introductory section was displayed explaining the survey instructions. Respondents were mainly tasked with memorizing several sequences and informed that after each sequence, they would need to make judgments on relevant product attributes. A highlighted text emphasized the importance placed on the mental rehearsal task.

From there the main study took place by first randomly assigning participants to one of two survey layouts (High Cognitive Load or Low Cognitive Load), using Qualtrics Randomizing function. The surveys were identical except for the length and digits to be memorized. Under High Cognitive Load, six-digit and letter sequences were displayed whereas under Low Cognitive Load three-digit and letter sequences were displayed.

The first section invited participants to imagine they would be shopping for a self-indulgent product (a simple colored T-shirt). All participants were presented with three scenarios each with one of the following labeling conditions (regardless of the cognitive load manipulation conditions):

1. No label (product display)
2. Uncertified label (product, superficial label, and general label information display)
3. Certified label (product, EU Ecolabel, and detailed label information display)

The product displayed was always the same (a T-Shirt), varying only in color depending on the scenario (white, grey, or black).

Each scenario started with a distinct sequence to be memorized, followed by the display of one of the labeling conditions stated above (1, 2 or 3). Both the sequence and the labeling conditions were displayed only once.

Afterwards, for each scenario, respondents were tasked with making judgments regarding purchase intention, WTP, guilt, ethicality, social responsibility, and environmental friendliness of the product. A further set of additional environmental issues regarding the brand was also

evaluated including careful use of natural resources, emissions to water and air, Product Safety, and durability. Lastly, they were asked to recall the sequence they had been shown before.

In total for the first section, each participant saw three scenarios (as mentioned above) and three different sequences, making product and brand judgments for each one. The sequences were different across cognitive load manipulation conditions and within each of the three scenarios presented (Table 1).

In the second section, a few control variables were assessed. These included: EU Ecolabel familiarity, guilt-proneness measurements, the relevance of shopping factors, and cognitive load control measures.

In the end, participants were asked to provide demographic data (gender, country of origin, and occupation). Lastly, a "Thank You" message was displayed confirming the survey was completed fully and correctly.

Chapter 4: Analysis of Results

4.1 Data Reliability

The consistency of the multi-item scales used in the survey was measured using the Cronbach alpha test to ensure they are reliable (Raykov, 1997).

Brand Environmental Friendliness

	Initial number of items	Cronbach's alpha	Cronbach's alpha if item deleted	Items deleted	Final number of items
Brand Environmental Friendliness (No label)	5	0.915	0.915	1	4
Brand Environmental Friendliness (Uncertified label)	5	0.887	0.897	1	4
Brand Environmental Friendliness (Certified label)	5	0.942	0.946	1	4

Table 3. Brand Environmental Friendliness Cronbach Alpha

Since the alpha values, for all three scenarios, were above 0.7, the analysis reflects a high level of internal consistency for all items measured. However, the brand environmental friendliness of Cronbach's alpha can be optimized in the case of the uncertified and certified label by excluding the variable "Product Durability". To keep consistency, the variable was also removed from the no-label scenario since the value of the Cronbach alpha remains the same.

Given the high level of consistency, three new composite variables were created to evaluate brand environmental friendliness by computing the mean score for the four variables (product safety, use of natural resources, emissions to water and emissions to air) for each of the within-subject factors (no label, uncertified label, and certified label).

Guilt-Proneness

The overall guilt-proneness scale revealed a high level of internal consistency with α=.832. Thus, a new composite variable for guilt-proneness was computed by averaging the mean score attributed to all four variables (Feel Terrible, Feel Pathetic, Feel Remorse and Feel Uncomfortable).

Moreover, a bivariate correlation test was performed to assess the correlation between two statements "It is trustworthy" and "It is credible" (for both the uncertified and certified label scenarios) used to measure trust in the labels presented. An additional test was also performed to measure the strength of the correlation between two statements "I understand what the label means" and "The label represents an environmental excellence product" used to assess the level of understanding regarding the EU Ecolabel.

Variable	**Pearson Correlation (r)**	**Sig (2-tailed)**
Label Trust (uncertified label)	.825	.000
Label Trust (certified label)	.877	.000
Label understanding	-.110	.268

Table 4. Guilt-Proneness Cronbach Alpha

Both correlations for label trust are significant and have an r > .5 indicating a strong positive correlation between items according to Cohen (1998). The correlation for label understanding

is not significant, possibly indicating a high difference between participants perceived and actual understanding of the label.

As such, the scales for label trust are highly reliable and two new composite variables (one for the uncertified label and another for the certified label scenario) were created to indicate the level of label trust by computing an equally weighted mean of the scores attributed to the statements "It is trustworthy" and "It is credible", for all participants.

4.2 Sample Characterization

The main study sample included 104 participants, nearly half were female (49%). Twenty of the participants preferred not disclosing their gender.
Regarding nationality, 65,4% of the participants were Portuguese. The remaining nationalities by decreasing order included Germany (19,2%), Italy (5,8%), the United Kingdom (1,9%), and France (1,9%). The other four participants were from Belgium, Canada, Denmark, and the United States.

Lastly, most of the respondents were employed (46,2%). The rest indicated their current occupation as students (32,7%), working students (18,3%), retired (1,9%), or others (1%).

4.3 Manipulation Check
Task Recall

The validity of the recall task was first categorized into valid or invalid according to a strict (criteria A) and after a lenient (criteria B) set of criteria. This allows for a more exhaustive validity assessment (i.e., comprehending whether the cognitive load manipulation is deemed valid under looser criteria).

Criteria A considered as valid (i.e., as a perfect recall), participants who recalled all three sequences 100% correctly. Criteria B considered as valid, participants who recalled at least 50% of each sequence correctly. Respondents recalled either 3 (HCL) or 2 (LCL) consecutive digits/letters of each sequence, regardless of correctly recalling capital or lowercase letters.

Considering the criteria mentioned previously, the variables were first re-coded as dummy variables with perfect recall/valid = 1 and imperfect recall/invalid = 0.

Subsequently, two independent sample t-tests were performed in support of the cognitive load manipulation. For the manipulation to work, the mean recall score for participants under low cognitive load (LCL) should be statistically significant and higher than the mean recall score of respondents under a high cognitive load (HCL) condition.

The t-test results were statistically significant under criteria A, implying a difference in ability to recall between LCL and HCL participants (M_{LCL} = .5417, SD_{LCL} = .50353; M_{HCL} = .2679, SD_{HCL} = .44685; t (102) = -2.938, p = .004).

Interestingly, even when allowing more tolerant criteria**,** a statistically significant contrast in ability to recall between LCL and HCL respondents was also verified (M_{LCL} = .8958, SD_{LCL} = .30871; M_{HCL} = .6607, SD_{HCL} = .47775; t (102) = -2.925, p = .004).
On average participants under LCL recalled the sequences more perfectly than participants under HCL, thus confirming that the manipulation worked following either criterion.

4.4 Control Variables

Guilt-Proneness

An independent sample t-test revealed a statistically insignificant difference in guilt-proneness among different cognitive load conditions (M_{LCL} = 5.0260, SD_{LCL}= 1.74828; M_{HCL} = 5.3527, SD_{HCL} = 1.29314; t (102) = 1,093, p = .277). Nonetheless, it is pertinent to observe how, on average, participants' level of guilt was above 4,5, indicating an overall slight tendency to feel guilty within the sample.

The lack of statistical significance suggests that participants' tendency to feel guilty should not affect potential differences in the dependent variable “guilt score” between different cognitive load conditions.

Sequence Recall

To control for compliance with recommendations regarding the memorization task, two independent sample t-tests were performed. One for the level of effort in rehearsing and another for the extent to which participants did not use additional aids in the memorization task.

There were no statistically significant differences among cognitive load manipulation groups for the level of effort put into the memorization task (M_{LCL} = 4.83, SD_{LCL} = 1.872; M_{HCL} = 4.25, SD_{HCL} = 1.729; t (102) = -1.651, p = .102) nor the degree to which participants cheated (M_{LCL} = 6.13, SD_{LCL} = 2.028; M_{HCL} = 5.32, SD_{HCL} = 2.241; t (102) = -1.904, p = .060).

Considering the findings above, potential differences across cognitive load conditions should not be explained by a difference in participants' effort or use of aids.

Label Familiarity

Four independent sample t-tests were conducted to verify whether differences in familiarity, understanding of the label, agreement of label meaning, and prior purchase of products with the label, across the two cognitive load groups existed.

The t-test regarding prior purchases with the EU Ecolabel registered a statistically significant difference in mean value across HCL and LCL respondents (M_{LCL} = 2.56, SD_{LCL} = 2.728; M_{HCL} = 4.00, SD_{HCL} = 3.464; t (102) = 2.323, p = .022). There is a clear indication of low previous purchasing experiences with the Eu Ecolabel among all respondents, with participants under HCL having more experience in purchasing with the label than participants under LCL.

For the remaining measures of familiarity, there was no statistical significance in the mean difference between cognitive load manipulation conditioning, with all *p-values* > .05.

Participants seem to be consistent in their perceived level of the EU Ecolabel understanding (M_{LCL} = 4.90, SD_{LCL} = 1.960; M_{HCL} = 5.00, SD_{HCL} = 2.027) and actual correct understanding (M_{LCL} = 5.65, SD_{LCL} = 2.068; M_{HCL} = 5.36, SD_{HCL} = 1.742) of the label. Moreover, respondents were highly unfamiliar with the EU Ecolabel (M_{LCL} = 2.94, SD_{LCL} = 2.427; M_{HCL} = 2.86, SD_{HCL} = 2.526).

Shopping factors relevance (in a purchase decision)

An independent sample t-test was conducted for each of the five attributes. The results showed no statistical significance, with all *p-values* > .05. Thus, indicating no difference between HCL and LCL participants.

The level of importance placed on each attribute was proportional, indicating a slight moderate concern in respect to ethicality (M_{LCL} = 4.94, *SDLCL* = 1.343; M_{HCL} = 5.04, *SDHCL* = 1.361), social responsibility (M_{LCL} = 5.13, *SDLCL* = 1.315; M_{HCL} =5.0, *SDHCL* = 1.375) and environmental friendliness (M_{LCL} = 5.0, *SDLCL* = 1.272; M_{HCL} = 5.05, *SDHCL* =1.634). The most relevant attribute for both participants was price with (M_{LCL} = 5.73, *SDLCL* =1.380; M_{HCL} = 5.86, *SDHCL* = 1.069) and the least relevant attribute was Brand (M_{LCL} = 4.65, *SDLCL* = 1.451; M_{HCL} = 4.16, *SDHCL* = 2.025).

Given the lack of statistically significant differences between groups, it is expected that differences on evaluations on ethicality, environmental friendliness and social responsibility are not explained by a different level of importance placed for these attributes between HCL and LCL groups.

Label Characteristics:
Label Sufficiency

The t-test regarding perceptions of label sufficiency, indicated a statistically significant difference in mean value across uncertified and certified labels for respondents under HCL (*Muncertified* = 4.14, *SDuncertified* = 1.600; *Mcertified* = 4.57, *SDcertified* = 1.399; *t* (55) = -2.292, *p* = .026) but not for respondents under LCL (*Muncertified* = 4.63, *SDuncertified* = 1.378; *Mcertified* = 4.90, *SDcertified* = 1.171; *t* (47) = -1.375, *p* = .176).

Therefore, respondents under HCL perceived the information on the certified label to be more sufficient to make judgments on relevant product attributes, whilst participants under LCL perceived them equally.

Regarding the difference in perceptions for each label type under different cognitive loads, the t-test result indicated no statistical significance (*p-value* > .05), with lower values than desired.

Label Comprehensibility

The t-test regarding perceptions of label comprehensibility, indicated a statistically significant difference in mean value across uncertified and certified labels for respondents under HCL (*Muncertified*= 4.57, *SDuncertified* = 1.412; *Mcertified* = 4.96, *SDcertified* = 1.206; *t* (55) = -

2.360, p = .022) but not for respondents under LCL (*Muncertified*= 5.00, *SDuncertified* = 1.130; *Mcertified* = 5.23, *SDcertified* = 1.134; t (47) = -1.563, p = .125).

Therefore, respondents under HCL perceived the information on the certified label to be more comprehensible to make judgments on relevant product attributes, whilst participants under LCL perceived them equally. Regarding the difference in perceptions for each label type under different cognitive loads, the t-test result indicated no statistical significance (*p-value* > .05), with lower values than desired.

Label Trust

The t-test regarding perceptions of label trust, indicated a statistically significant difference in mean value across uncertified and certified labels for respondents under HCL (*Muncertified* = 4.1875, *SDuncertified* = 1.47883; *Mcertified* = 4.9911, *SDcertified* = 1.31250; t (55) = -4.275, p = .000) and for respondents under LCL (*Muncertified* = 4.5313, *SDuncertified* = 1.19576; *Mcertified* = 5.2292, *SDcertified* = .97827; t (47) = -4.249, p = .00).

As such, respondents under both cognitive loads perceived the information on the certified label to be more trustworthy to make judgments on relevant product attributes.
Regarding the difference in perceptions for each label type under different cognitive loads, the t-test result indicated no statistical significance (*p-value* > .05), with lower values than desired.

4.5 In-depth Analysis

The in-depth analysis consists of Repeated measures ANOVAS at 95% confidence level, to verify the existence of main effects of the independent variables on the dependent variables. The analysis was further decomposed using paired-sample T-tests, to understand the differences between each of the conditions.

Purchase Intention

The ANOVA revealed a main effect of *Label* (F (2, 204) = 63.938, p < .001, $\eta 2$ = .385). A paired samples t- test revealed that differences between no label and label conditions are statistically significant (*Mnolabel* = 3.13, *SDnolabel* = 1.595 ; *Muncertifiedlabel* = 4.58,

SDuncertifiedlabel = 1.550 ; *t* (103) = -9.024 , *p* < .001) and (*Mnolabel* = 3.13, *SDnolabel* = 1.595 *Mcertifiedlabel*= 4.55, *SDcertifiedlabel* = 1.400 ; *t* (103) = -8.573 , *p* < .001), suggesting participants are willing to purchase more when a label is present compared to when it is absent. However, the type of label does not significantly influence their Purchase Intention.

Considering *Cognitive Load,* no main effect was found (F (1, 102) = .931, *p* = .337, η2 = .009).

Lastly, the interaction *Label-Cognitive Load* is not statistically significant (F (2, 204) = .046, *p* = .955 η2 = .00).

Cognitive Load	**Label Condition**	**Mean (SD)**	**Statistical Values**
High Cognitive Load	No Label	3.27 (1.689)	t (55) = -6.627, *p* < .001
	Uncertified Label	4.68 (1.642)	
	No Label	3.27 (1.689)	t (55) = -6.167, *p* < .001
	Certified Label	4.64 (1.566)	
	Uncertified Label	4.68 (1.642)	t (55) = .281, *p* = .780
	Certified Label	4.64 (1.566)	
Low Cognitive Load	No Label	2.98 (1.480)	t (47) = -6.070, *p* < .001
	Uncertified Label	4.46 (1.443)	
	No Label	2.98 (1.480)	t (47) = -5.898, *p* < .001
	Certified Label	4.44 (1.183)	
	Uncertified Label	4.46 (1.443)	t (47) = .127, *p* = .900
	Certified Label	4.44 (1.183)	

Table 5. Valence, Standard Deviation (SD) and Test's Results of Purchase Intention

Guilt

The ANOVA revealed a main effect for Label (F (2, 204) = 12.250, $p < .001$, $\eta 2 = .107$). A paired samples t- test revealed that all differences between no label and label conditions are statistically significant (*Mnolabel* = 3.02, *SDnolabel* = 1.735 ; *Muncertifiedlabel* = 2.32, *SDuncertifiedlabel* = 1.248 ; *t* (103) = 5.246 , $p < .001$) and (*Mnolabel* = 3.02, *SDnolabel* = 1.735 ; *Mcertifiedlabel* = 2.53, *SDcertifiedlabel* = 1.494 ; *t* (103) = 2.786 , $p = .006$). However the difference between the certified and uncertified label is not statistically significant (*Mcertifiedlabel* = 2.53, *SDcertifiedlabel* = 1.494; *Muncertifiedlabel* = 2.32, *SDuncertifiedlabel* = 1.248 ; *t* (103) = -1.626, $p = .107$).

The findings suggest participants level of guilt is significantly reduced when SLs are present. However, the reduction in guilt is not significantly different across the types of SLs.

Regarding *Cognitive Load,* no main effect was found (F (1,102) = 1.446, $p = .232$, $\eta 2 = .014$).

The interaction *Label-Cognitive Load* is not statistically significant (F (2,204) = .215, $p = 0.337$ $\eta 2 = .015$).

However, the difference between no label and certified label is significant under LCL (*t* (47) = 3.392, $p = .001$) but not under HCL (*t* (55) = .961, $p = .341$). This indicates that participants are more sensitive to certified label presence under LCL than HCL. Unlike expected under HCL the presence of a certified label does not influence the level of guilt felt compared to when no label is present, indicating that the certified label is not being used as a heuristic to reduce guilt under HCL.

Moreover, the difference between certified and uncertified labels is only significant for HCL (*t* (55) = -2.181, $p = .033$), suggesting that participants are more sensitive to label type under HCL than LCL.

Interestingly, participants under HCL feel significantly less guilt under an uncertified label (*Muncertifiedlabel* = 2.18, *SDuncertifiedlabel* = 1.130) than a certified label (*Mcertifiedlabel* = 2.52, *SDcertifiedlabel* = 1.537), whilst participants under LCL process both labels similarly.

Cognitive Load	Label Condition	Mean (SD)	Statistical Values
High Cognitive Load	No Label	2.77 (1.651)	t (55) = 2.942, p = .005
	Uncertified Label	2.18 (1.130)	
	No Label	2.77 (1.651)	t (55) = .961, p = .341
	Certified Label	2.52 (1.537)	
	Uncertified Label	2.18 (1.130)	t (55) = -2.181, p = .033
	Certified Label	2.52 (1.537)	
Low Cognitive Load	No Label	3.31 (1.800)	t (47) = 4.848, p < .001
	Uncertified Label	2.48 (1.368)	
	No Label	3.31 (1.800)	t (47) = 3.392, p = .001
	Certified Label	2.54 (1.458)	
	Uncertified Label	2.48 (1.368)	t (47) = -0.290, p = .773
	Certified Label	2.54 (1.458)	

Table 6. Valence, Standard Deviation (SD) and Test's Results of Guilt

Willingness-To-Pay

The ANOVA revealed a main effect for Label (F (2, 204) = 105.503, p < .001, η2 = .508). A paired samples t- test revealed that differences between no label and uncertified label (*Mnolabel* = 19.9712, *SDnolabel* = 14.44941 ; *Muncertifiedlabel* = 26.1827, *SDuncertifiedlabel* = 15.92566 ; t (103) = -10.880, p < .001) , no label and certified label (*Mnolabel* = 19.9712, *SDnolabel* = 14.44941 ; *Mcertifiedlabel* = 27.2404, *SDcertifiedlabel* = 15.44831 ; t (103) = -11.449, p < .001), and certified and uncertified label (*Mcertifiedlabel* = 27.2404, *SDcertifiedlabel* = 15.44831 ; *Muncertifiedlabel* = 26.1827, *SDuncertifiedlabel* = 15.92566 ; t (103) = -2.871, p = .005) are statistically significant. Participants are willing to pay more when a label is present compared to when it is not and the WTP is highest for the certified label.

Regarding *Cognitive Load*, no main effect was found (F (1,102) = 0.000, p = .983, η2 = .000).

The interaction *Label-Cognitive Load* is not statistically significant (F (2,204) = .334, p = 716, η2 = .003).

However, the difference between certified and uncertified labels is only significant for HCL (t (55) = -3.280, p = .002), suggesting that participants are more sensitive to label type under HCL than LCL. Under HCL participants are willing to pay a premium for the product when the label is certified, whilst under LCL they process the labels in the same manner.

Cognitive Load	**Label Condition**	**Mean (SD)**	**Statistical Values**
High Cognitive Load	No Label	19.9821 (15.90368)	t (55) = -7.324, p < .001
	Uncertified Label	26.0179 (17.15331)	
	No Label	19.9821 (15.90368)	t (55) = -8.055, p < .001
	Certified Label	27.4821 (16.67659)	
	Uncertified Label	26.0179 (17.15331)	t (55) = -3.280, p = .002
	Certified Label	27.4821 (16.67659)	
Low Cognitive Load	No Label	19.9583 (12.71112)	t (47) = -8.158, p < .001
	Uncertified Label	26.3750 (14.54066)	
	No Label	19.9583 (12.71112)	t (47) = -8.205, p < .001
	Certified Label	26.9583 (14.05000)	
	Uncertified Label	26.3750 (14.54066)	t (47) = -0.968, p = .338
	Certified Label	26.9583 (14.05000)	

Table 7. Valence, Standard Deviation (SD) and Test's Results of Willingness-To-Pay

Ethicality

The ANOVA revealed a main effect for Label (F (2, 204) = 90.405, $p < .001$, $\eta 2 = .470$). Following the effect with a paired t-test, differences between no label and uncertified label (*Mnolabel* = 3.53, *SDnolabel* = 1.246 ; *Muncertifiedlabel* = 4.80, *SDuncertifiedlabel* = 1.265 ; t (103) = -9.725, $p < .001$) , no label and certified label (*Mnolabel* = 3.53, *SDnolabel* = 1.246 ; *Mcertifiedlabel* = 5.13, *SDcertifiedlabel* = 1.282 ; t (103) = -11.062, $p < .001$), and certified and uncertified label (*Mcertifiedlabel* = 5.13, *SDcertifiedlabel* = 1.282 ; *Muncertifiedlabel* = 4.80, *SDuncertifiedlabel* = 1.265 ; t (103) = -3.304, $p = .001$) are statistically significant. Thus, participants perceive the product as more ethical when a label is present compared to when it is not, and perceptions of ethicality are strongest under a certified label.

Regarding *Cognitive Load*, no main effect was found (F (1,102) = .522, $p = .472$, $\eta 2 = .05$).

The interaction *Label-Cognitive Load* is not statistically significant (F (2, 204) = 1.193, $p = .305$, $\eta 2 = .012$).

However, the difference between certified and uncertified labels is only significant under HCL (t (55) = -3.238, $p = .002$), suggesting that participants are more sensitive to label type under HCL than LCL. Under HCL participants perceive the product as more ethical when the label is certified, whilst under LCL the type of label is being processed in the same manner.

Cognitive Load	**Label Condition**	**Mean (SD)**	**Statistical Values**
High Cognitive Load	No Label	3.55 (1.249)	t (55) =-5.802, $p < .001$
	Uncertified Label	4.64 (1.381)	
	No Label	3.55 (1.249)	t (55) = -7.476, $p < .001$
	Certified Label	5.05 (1.354)	
	Uncertified Label	4.64 (1.381)	t (55) = -3.238, $p = .002$
	Certified Label	5.05 (1.354)	
	No Label	3.50 (1.255)	t (47) = -8.399, $p < .001$
	Uncertified Label	4.98 (1.101)	

Low Cognitive Load	No Label	3.50 (1.255)	t (47) = -8.200, p < .001
	Certified Label	5.21 (1.202)	
	Uncertified Label	4.98 (1.101)	t (47) = -1.475, p = .147
	Certified Label	5.21 (1.202)	

Table 8. Valence, Standard Deviation (SD) and Test's Results of Ethicality

Social Responsibility

The ANOVA revealed a main effect for Label (F (2, 204) = 73.598, p < .001, η2 = .419). Following the effect with a paired t-test, differences between no label and uncertified label (*Mnolabel* = 3.63, *SDnolabel* = 1.308 ; *Muncertifiedlabel* = 4.82, *SDuncertifiedlabel* = 1.392 ; t (103) = -8.538, p < .001) , no label and certified label (*Mnolabel* = 3.63, *SDnolabel* = 1.308 ; *Mcertifiedlabel* = 5.17, *SDcertifiedlabel* = 1.280 ; t (103) = -9.994, p < .001) and certified and uncertified label (*Mcertifiedlabel* = 5.17, *SDcertifiedlabel* = 1.280 ; *Muncertifiedlabel* = 4.82, *SDuncertifiedlabel* = 1.392 ; t (103) = -3.232, p = .002) are statistically significant.

The presence of a label results in a perception of a more socially responsible product compared to when the label is absent. Moreover, this perception is strongest under a certified label.

Regarding *Cognitive Load*, no main effect was found (F (1, 102) = .095, p = .759, η2 = .001).

The Interaction *Label-Cognitive Load* is statistically significant (F (2, 204) = 3.578, p = 0.030, η2 = .034).

The difference between no label and uncertified label is significant for LCL t (47) = -8.413, p < .001 and HCL t (55) = -4.174, p < .001. Likewise, the difference between no label and certified label is also significant for LCL (t (47) = -7.970, p < .001) and HCL (t (55) = -6.395, p < .001). Thus, the presence of a label influences perceptions of a socially responsible product.

Nonetheless, the difference between certified and uncertified labels is only significant for HCL (t (55) = -4.174, p < .001), suggesting that participants are more sensitive to label type under HCL than LCL. Under HCL participants perceive the product as more socially responsible

when the label is certified, whilst under LCL the type of label is being processed in the same manner.

Cognitive Load	Label Condition	Mean (SD)	Statistical Values
High Cognitive Load	No Label	3.75 (1.338)	t (55) = -4.439, p < .001
	Uncertified Label	4.61 (1.534)	
	No Label	3.75 (1.338)	t (55) = -6.395, p < .001
	Certified Label	5.18 (1.441)	
	Uncertified Label	4.61 (1.534)	t (55) = -4.174, p < .001
	Certified Label	5.18 (1.441)	
Low Cognitive Load	No Label	3.50 (1.272)	t (47) = -8.413, p < .001
	Uncertified Label	5.06 (1.174)	
	No Label	3.50 (1.272)	t (47) = -7.970, p < .001
	Certified Label	5.17 (1.078)	
	Uncertified Label	5.06 (1.174)	t (47) = -0.6007, p = .547
	Certified Label	5.17 (1.078)	

Table 9. Valence, Standard Deviation (SD) and Test's Results of Social Responsibility

Product Environmental Friendliness

The ANOVA revealed a main effect for Label (F (2, 204) = 92.136, p < .001, η2 = .475). Following the effect with a paired t-test, the difference between no label and uncertified label (*Mnolabel* = 3.59, *SDnolabel* = 1.418 ; *Muncertifiedlabel* = 5.04, *SDuncertifiedlabel* = 1.358 ; t (103) = -10.278, p < .001) , no label and certified label (*Mnolabel* = 3.59, *SDnolabel* = 1.418 ; *Mcertifiedlabel* = 5.34, *SDcertifiedlabel* = 1.274 ; t (103) = -10.992, p < .001) and certified and uncertified label (*Mcertifiedlabel* = 5.34, *SDcertifiedlabel* = 1.274 ; *Muncertifiedlabel* = 5.04, *SDuncertifiedlabel* = 1.358 ; t (103) = -2.751, p = .007) are statistically significant.

The presence of a label results in a perception of a more environmentally friendly product compared to when the label is absent. Moreover, perceptions regarding Product Environmental Friendliness are strongest under a certified label.

Regarding *Cognitive Load*, no main effect was found (F (1, 102) =.355, p = .553, η2 = .003)

The Interaction *Label-Cognitive Load* is not statistically significant (F (2, 204) = 1.751, p = .176, η2 = .017).

Nonetheless, the difference between certified and uncertified labels is only significant for HCL (t (55) = -4.126, p < .001), suggesting that participants are more sensitive to label type under HCL than LCL. Under HCL participants perceive the product as more environmentally friendly when the label is certified, whilst under LCL the type of label is being processed in the same manner.

Cognitive Load	**Label Condition**	**Mean (SD)**	**Statistical Values**
High Cognitive Load	No Label	3.54 (1.321)	t (55) = -6.923, p < .001
	Uncertified Label	4.86 (1.407)	
	No Label	3.54 (1.321)	t (55) = -9.080, p < .001
	Certified Label	5.39 (1.371)	
	Uncertified Label	4.86 (1.407)	t (55) = -4.126, p < .001
	Certified Label	5.39 (1.371)	
Low Cognitive Load	No Label	3.65 (1.537)	t (47) = -7.639, p < .001
	Uncertified Label	5.25 (1.280)	
	No Label	3.65 (1.537)	t (47) = -6.494, p < .001
	Certified Label	5.27 (1.162)	
	Uncertified Label	5.25 (1.280)	t (47) = -.121, p = .904
	Certified Label	5.27 (1.162)	

Table 10. Valence, Standard Deviation (SD) and Test's Results of Product Environmental Friendliness

Brand Environmental Friendliness

The ANOVA revealed a main effect for Label (F (2, 204) = 122.016, p < .001, η2 = .545). Following the effect with a paired t-test, the difference between no label and uncertified label (*Mnolabel* = 3.3534, *SDnolabel* = 1.24908 ; *Muncertifiedlabel* = 4.6755, *SDuncertifiedlabel* =

1.23455 ; t (103) = -10.634, p < .001) , no label and certified label (*Mnolabel* = 3.3534, *SDnolabel* = 1.24908 ; *Mcertifiedlabel* = 5.0529, *SDcertifiedlabel* = 1.25541 ; t (103) = -13.604, p < .001) and certified and uncertified label (*Mcertifiedlabel* = 5.0529, *SDcertifiedlabel* = 1.25541 ; *Muncertifiedlabel* = 4.6755, *SDuncertifiedlabel* = 1.23455 ; t (103) = -4.310, p < .001) are statistically significant.

The brand is perceived as more environmentally friendly when a SL is present. Besides, the findings suggest a significantly stronger perception under a certified label.

Regarding *Cognitive Load*, no main effect was found (F (1, 102) = 1.025, p = .314, η2 = .010)

The interaction *Label-Cognitive Load* is not statistically significant (F (2, 204) = 1.692 p = .196, η2 = .016).

Cognitive Load	**Label Condition**	**Mean (SD)**	**Statistical Values**
High Cognitive Load	No Label	3.4330 (1.16628)	t (55) = -8.528, p < .001
	Uncertified Label	4.8348 (1.27856)	
	No Label	3.4330 (1.16628)	t (55) = -10.580, p < .001
	Certified Label	5.1071 (1.27908)	
	Uncertified Label	4.8348 (1.27856)	t (55) = -2.042, p = .046
	Certified Label	5.1071 (1.27908)	
	No Label	3.2604 (1.34576)	t (47) = -6.463, p < .001
	Uncertified Label	4.4896 (1.16687)	
	No Label	3.2604 (1.34576)	t (47) = -8.658, p < .001

Low Cognitive Load	Certified Label	4.9896 (1.23766)	
	Uncertified Label	4.4896 (1.16687)	t (47) = -4.658, p < .001
	Certified Label	4.9896 (1.23766)	

Table 11. Valence, Standard Deviation (SD) and Test's Results of Brand Environmental Friendliness

Chapter 5: Main Conclusions and Future Research

5.1 Findings and Discussion

WTP, Ethicality, Environmental Friendliness, Social Responsibility

The same pattern of results was found for perceptions of WTP, Ethicality, Environmental Friendliness, and Social Responsibility.

As expected, the presence of SLs influenced WTP (Kim and Damhorst, 1998), reflecting a "sustainable product-high WTP" heuristic and an association of SLs with higher prices. Sustainable products commonly bear higher prices in comparison to unsustainable alternatives, due to higher production costs. As such, consumers' willingness to compensate for the higher initial costs may help explain an underlying reason to pay a premium for a sustainable product.

Likewise, perceptions of Ethically, Environmental Friendliness and Social Responsibility were all enhanced when SLs were present, possibly considering the concepts are all directly linked with sustainability. Thus, H1, along with H1a and H1b are accepted for the variables in question.

Surprisingly, differences in inferences between the two sustainable labels displayed were only differentiated under HCL, failing to accept H2 and H2a.

First, findings suggest that when participants exert more effort in processing, both labels are perceived similarly, therefore failing to achieve their goal. Consumers under LCL may be confused regarding the information provided on both labels, i.e., the information is not sufficient, clear or the arguments are too weak to make distinguished inferences on the

previously mentioned variables. In line with Chaicken (1980), under LCL the focus lies primarily on message content (i.e., message comprehensibility and amount of information), suggesting that in the current study, even if participants desired to discriminate their judgments based on label type, they may feel limited in understanding the differences regarding the information provided.

Secondly, when processing the labels more superficially, the results indicate that a certified label allows for stronger inferences than an uncertified label. Under HCL, as mentioned in the Literature Review, higher importance is placed on source characteristics, i.e., source expertise is more relevant than message content. Therefore, if respondents superficially associated the EU Ecolabel as a more expertise source than the uncertified label, regarding the extent to which the label reflects sustainable claims, it is likely they will be able to make differentiated judgments based on label type.

Brand Environmental Friendliness

The presence of a SL influenced the brand's Environmental Friendliness perception, indicating that SLs labels work as heuristics to associate the brand with increased environmentally friendly practices in comparison to a no-label scenario and accepting H1 and H1b.

Moreover, participants under both cognitive loads were able to distinguish between the two types of labels, inferring higher brand Environmental Friendliness when a certified label was present. Thus, we fail to accept H2 and H2a.

Accordingly, under deep cognitive processing, the information under the EU Ecolabel was possibly clearer and more convincing than the information provided on the uncertified label, when making inferences regarding the brand's Environmental Friendliness. Similarly, the EU Ecolabel reflects a higher environmental friendliness of the brand than the uncertified label, when superficially assessed.

Purchase Intention

The presence of a SL had a strong effect on Purchase Intention possibly given the growing demand for sustainable products, leading us to accept H1 and H1b.

Participants under LCL were unable to distinguish between the types of labels to make inferences on Purchase Intention, once again possibly signaling the use of weak arguments or unclear information on the label to drive Purchase Intention or the criteria under the EU Ecolabel does not match the respondents set of personal criteria that makes up a sustainable garment. Similarly, under a superficial appraisal of both labels, participants inferred the same level of Purchase Intention as expected. Once again, H2 and H2a are failed to be accepted for Purchase Intention.

Guilt

The presence of a SL reduced feelings of guilt significantly contrasted to a no-label condition, only when processing the information exhaustively, failing to accept H1 and H1b. Therefore, respondents under LCL were more sensitive to the presence of SLs than respondents under HCL. Additionally, the results indicate that under a no-label condition, the level of guilt experienced increases with a deeper processing of the information, possibly considering feelings of guilt arise with time and a deep consideration of the purchase decision, which does not happen when participants are under HCL.

Furthermore, when carefully processing both labels, participants interpret them in the same manner unlike expected, possibly indicating they are confused regarding the information provided. In contrast, when superficially assessing them, respondents expect more guilt from the consumption of an uncertified label than a certified label. Possibly given that the information on the uncertified label is easier to assess superficially whilst the EU Ecolabel is mistaken for a mandatory requirement when assessed superficially. Thus, we fail to accept H2 and H2a for the variable in question.

5.2 Academic and Managerial Implications

The growing adoption of sustainable labels raises relevant concerns for marketers to deepen their knowledge on whether the labels are acknowledged by consumers and possibly how they are processed.

Aside from allowing for higher perceptions of Ethicality, Environmental Friendliness and Social Responsibility of the product, the adoption of SLs enables a higher Purchase Intention and higher WTP. Participation in eco-labeling schemes provides a dual benefit, allowing brands to record more sales and place their sustainable products at higher price points. Therefore, companies should invest in communication strategies to promote their sustainable products, for instance taking advantage of social media platforms by creating sponsorships with celebrities (Gokirmakl et al., 2017). Further implications for organizations that carry a single sustainable product line include gaining deeper knowledge of in-store product placement, for example. As such, given the higher Purchase Intention, sustainable products should be placed at the store entrance.

However, it seems that a certified label under HCL does not help reduce feelings of guilt, which have an important role in hedonic purchases. As such, corporations should look for complementary ways to assist in guilt reduction such as using compensatory actions, for example donating a portion of the profits to a social cause (Varadarajan & Menon,1988).

Moreover, the findings provide a deeper understanding regarding the type of label corporations should invest in.

On one hand, when customers have limited cognition, despite understanding that a certified label leads to a more environmentally friendly, socially responsible, and ethical product, the purchase intention is the same as for an uncertified label. Still, when choosing a certified label, companies can benefit from a price premium and a higher brand image, making it a preferable investment. Nonetheless, the companies should consider that this label brings a higher level of guilt than an uncertified label, which may increase purchase regret and consequently a higher level of returns.

On the other hand, when customers recur to systematic thinking, perceptions under both labels do not differ apart from Environmental Brand Image, which has a smaller increase in perceptions than under a certified label (when compared to a no-label scenario). Hence, unless an organization's brand image needs a rapid repair regarding its sustainable commitment, they should resort to an uncertified label, since it is a more affordable investment.

Furthermore, the findings provide supporting evidence concerning lack of familiarity with the EU Ecolabel. Participants displayed a general lack of familiarity and understanding of the label despite having purchased products with it in the past. Therefore, it reinforces the necessity to educate consumers on what the label means and build positive associations regarding the label's attributes.

Lastly, the study adds to previous literature on the Heuristic-Systematic model, incorporating findings on perceptions of anticipatory guilt using SLs. The findings suggest that uncertified labels are more effective at reducing feelings of guilt than certified labels.

5.3 Limitations and Future Research

Despite providing relevant insights about the use of SLs in hedonic purchases, the previous study presents some limitations.

The first limitation regards the restricted sample size and the predominance of Portuguese nationality amongst respondents, which compromises assumptions made at EU level. Therefore, further research should include a more robust sample size and even distribution of European nationalities amongst participants.

Moreover, the use of self-administered surveys may have led to hypothetical bias inferences. Under a hypothetical context, participants are not directly impacted by their decisions, giving rise to an attitude-behavior gap (Carrington et al., 2010) under which individuals' pro-environmental attitude does not reflect their green consumption behavior. Prior studies provide supporting evidence, such as, indicating that hypothetical WTP is significantly higher than actual WTP (Völckner, 2006a). Besides, given the social sensitivity of the topic in question, participants may provide inaccurate responses to reflect a better portrayal of themselves, generating a social desirability bias. Accordingly, an in-person study may bring about more valid results.

In relation to the previous topic, cognitive manipulation efficiency may have been biased given the lack of control over the environment under which participants responded to the survey, and the lack of measures to establish participant motivation. Further studies should be performed in a controlled setting, establishing clear measures of participants' motivation. Additional

methods in particular task importance, used to manipulate systematic or heuristically processing of the labels, may serve as an interesting study.

Furthermore, due to time constraints, only one TPC label was considered in the study. Given the lack of familiarity with the EU Ecolabel, it may be interesting to explore the effects of other TPC labels on consumer perceptions. In addition, a possible color bias may have influenced results. For instance, a participant who has a strong like/dislike towards the T-shirt colors displayed (white, black, or grey), may have made more positive/negative judgments solely based on their level of likeness for the color. Thus, assessment of color preference should be considered in subsequent investigation.

Lastly, in this study, despite having retrieved information present in the EU Ecolabel, the lack of clarity or relevance in the label description and the role of label trust may have compromised responses as was evidenced in respondents' evaluation of Label Characteristics.

Chapter 6: Appendices

Appendix 1: Main Study Survey

Block 1: Consent Form

Dear Participant,

The following survey was developed in the context of research for the Master Thesis in Management with Specialization in Strategic Marketing at CLSBE.

In total, it should take around **7-10 minutes** to complete this study.

The data collected in this study is **strictly confidential and anonymous** and will be used for the purpose of this research only. **Please answer truthfully as there are no right or wrong answers**.

Thank you once again for your collaboration.
If you have any further questions, please contact me at **s-smcribeiro@ucp.pt.**

By moving forward, you voluntarily agree to take part in this study.

Block 2: Introduction

Instructions:

You will be presented with several **digit and letter sequences** that you must memorize and recall further on.

After the presentation of each sequence, you will be shown a product and asked to make judgements about it. Upon completion of these tasks, you will be asked to recall the sequence you were memorizing.

Research has shown that one way to help memory is through mental rehearsal. **As such, it is recommended that you keep rehearsing the number in your mind until you are asked to recall it.**

It is important that you memorize each sequence without using any additional aids in order for the study to not lose purpose.

Please move forward to the next section.

Block 3: Product Judgments

In this section you will be shown several products upon which you will be asked to make some judgements.
For each scenario, please imagine that you are shopping for a **self-indulgent product**.

All the products presented have the same price.

Please take a few seconds to memorize the following sequence:

4gs

Below you will be shown a **luxurious branded T-Shirt** that will be introduced in the market:

Q1: How likely are you to purchase this product (for yourself)?

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
No at all	○	○	○	○	○	○	○	Extremely

Q2: To what extent would you feel guilty about your purchase decision?

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
Not at all	○	○	○	○	○	○	○	Extremely

Q3: What price would you be willing to pay for this product? (in €)?

	0 10 20 30 40 50 60 70 80 90 100
Price (€) ()	

Q4: Please indicate the extent to which you believe the product is:

	Not at all 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Extremely 7 (7)
Ethical (1)	○	○	○	○	○	○	○
Socially Responsible (2)	○	○	○	○	○	○	○
Environmentally Friendly (3)	○	○	○	○	○	○	○

Q5: Please indicate the extent to which you believe the brand is concerned with:

	Not at all 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Extremely 7 (7)
Careful use of natural resources (1)	○	○	○	○	○	○	○
Emissions to water (2)	○	○	○	○	○	○	○
Emissions to air (6)	○	○	○	○	○	○	○
Product Safety (8)	○	○	○	○	○	○	○
Product Durability (9)	○	○	○	○	○	○	○

Q6: Please write below the sequence you were asked to memorize previously:

_____

Please take a few seconds to memorize the following sequence:

6Ms

Below you will be shown a **luxurious branded T-Shirt** that will be introduced in the market along with a label:

About the label:

Eco-friendly Certified by internal entities (made from more sustainable materials with care and consideration for the environment)

Made with organic Cotton (at least 15% ecologically grown cotton)

REACH Compliant (ensure safety and quality of products regarding hazardous materials)
Increased Product Durability (higher resistance lasting longer than a regular model)
Limitations on emissions to air and water (reduced Carbon footprint during manufacturing)

Q7: How likely are you to purchase this product (for yourself)?

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
No at all	○	○	○	○	○	○	○	Extremely

Q8: To what extent would you feel guilty about your purchase decision?

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
Not at all	○	○	○	○	○	○	○	Extremely

Q9: What price would you be willing to pay for this product? (in €)?

0 10 20 30 40 50 60 70 80 90 100

Price (€) ()	

Q10: Please indicate the extent to which you believe the information on the label is:

	Not at all 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Extremely 7 (7)
Sufficient (1)	○	○	○	○	○	○	○
Comprehensible (2)	○	○	○	○	○	○	○
Trustworthy (3)	○	○	○	○	○	○	○
Credible (4)	○	○	○	○	○	○	○

Q11: Please indicate the extent to which you believe the product is:

	Not at all 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Extremely 7 (7)
Ethical (1)	○	○	○	○	○	○	○
Socially Responsible (2)	○	○	○	○	○	○	○
Environmentally Friendly (3)	○	○	○	○	○	○	○

Q12: Please indicate the extent to which you believe the brand is concerned with:

	Not at all 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Extremely 7 (7)
Careful use of natural resources (1)	○	○	○	○	○	○	○
Emissions to water (2)	○	○	○	○	○	○	○
Emissions to air (6)	○	○	○	○	○	○	○
Product Safety (8)	○	○	○	○	○	○	○
Product Durability (9)	○	○	○	○	○	○	○

Q13: Please write below the sequence you were asked to memorize previously:

_____

Below you will be shown a **luxurious branded T-Shirt** that will be introduced in the market along with a label:

About the label:

Eco Label Certified by the European Union (label of environmental excellence)

Made with organic Cotton (at least 95% ecologically grown cotton)

REACH Compliant (required by European Law to ensure safety and quality of products regarding hazardous materials)

Increased Product Durability (complies with criteria tested for dimensional changes and color fastness)

Limitations on emissions to air and water (limitations on wastewater discharges and emissions to air)

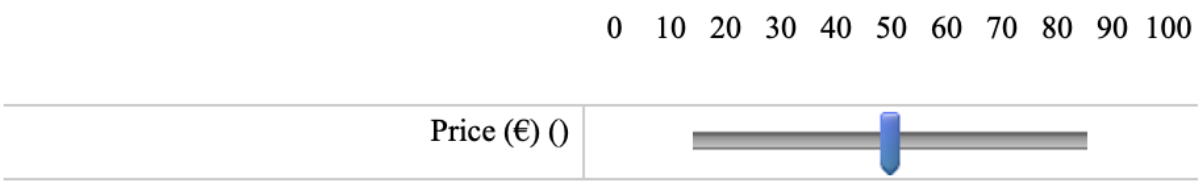
Q14: How likely are you to purchase this product (for yourself)?

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
No at all	○	○	○	○	○	○	○	Extremely

Q15: To what extent would you feel guilty about your purchase decision?

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
Not at all	○	○	○	○	○	○	○	Extremely

Q16: What price would you be willing to pay for this product? (in €)?



Q17: Please indicate the extent to which you believe the information on the label is:

	Not at all 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Extremely 7 (7)
Sufficient (1)	○	○	○	○	○	○	○
Comprehensible (2)	○	○	○	○	○	○	○
Trustworthy (3)	○	○	○	○	○	○	○
Credible (4)	○	○	○	○	○	○	○

Q18: Please indicate the extent to which you believe the product is:

	Not at all 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Extremely 7 (7)
Ethical (1)	○	○	○	○	○	○	○
Socially Responsible (2)	○	○	○	○	○	○	○
Environmentally Friendly (3)	○	○	○	○	○	○	○

Q19: Please indicate the extent to which you believe the brand is concerned with:

	Not at all 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Extremely 7 (7)
Careful use of natural resources (1)	○	○	○	○	○	○	○
Emissions to water (2)	○	○	○	○	○	○	○
Emissions to air (6)	○	○	○	○	○	○	○
Product Safety (8)	○	○	○	○	○	○	○
Product Durability (10)	○	○	○	○	○	○	○

Q20: Please write below the sequence you were asked to memorize previously:

_____

Block 3: Product Judgements (HCL)

Please take a few se Please take a few seconds to memorize the following sequence:

4gs8K9

Below you will be shown a **luxurious branded T-Shirt** that will be introduced in the market:

Q1: How likely are you to purchase this product (for yourself)?

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
No at all	○	○	○	○	○	○	○	Extremely

Q2: To what extent would you feel guilty about your purchase decision?

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
Not at all	○	○	○	○	○	○	○	Extremely

Q3: What price would you be willing to pay for this product? (in €)?

0 10 20 30 40 50 60 70 80 90 100

Price (€) ()	

Q4: Please indicate the extent to which you believe the product is:

	Not at all 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Extremely 7 (7)
Ethical (1)	○	○	○	○	○	○	○
Socially Responsible (2)	○	○	○	○	○	○	○
Environmentally Friendly (3)	○	○	○	○	○	○	○

Q5: Please indicate the extent to which you believe the brand is concerned with:

	Not at all 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Extremely 7 (7)
Careful use of natural resources (1)	○	○	○	○	○	○	○
Emissions to water (2)	○	○	○	○	○	○	○
Emissions to air (6)	○	○	○	○	○	○	○
Product Safety (8)	○	○	○	○	○	○	○
Product Durability (9)	○	○	○	○	○	○	○

Q6: Please write below the sequence you were asked to memorize previously:

_____

Please take a few seconds to memorize the following sequence:

6MsT7i

Below you will be shown a **luxurious branded T-Shirt** that will be introduced in the market along with a label:

About the label:

Eco-friendly Certified by internal entities (made from more sustainable materials with care and consideration for the environment)

Made with organic Cotton (at least 15% ecologically grown cotton)

REACH Compliant (ensure safety and quality of products regarding hazardous materials)
Increased Product Durability (higher resistance lasting longer than a regular model)
Limitations on emissions to air and water (reduced Carbon footprint during manufacturing)

Q7: How likely are you to purchase this product (for yourself)?

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
No at all	○	○	○	○	○	○	○	Extremely

Q8: To what extent would you feel guilty about your purchase decision?

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
Not at all	○	○	○	○	○	○	○	Extremely

Q9: What price would you be willing to pay for this product? (in €)?

	0 10 20 30 40 50 60 70 80 90 100
Price (€) ()	

Q10: Please indicate the extent to which you believe the information on the label is:

	Not at all 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Extremely 7 (7)
Sufficient (1)	○	○	○	○	○	○	○
Comprehensible (2)	○	○	○	○	○	○	○
Trustworthy (3)	○	○	○	○	○	○	○
Credible (4)	○	○	○	○	○	○	○

Q11: Please indicate the extent to which you believe the product is:

	Not at all 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Extremely 7 (7)
Ethical (1)	○	○	○	○	○	○	○
Socially Responsible (2)	○	○	○	○	○	○	○
Environmentally Friendly (3)	○	○	○	○	○	○	○

Q12: Please indicate the extent to which you believe the brand is concerned with:

	Not at all 1 (1)	2 (9)	3 (10)	4 (2)	5 (3)	6 (4)	Extremely 7 (11)
Careful use of natural resources (1)	○	○	○	○	○	○	○
Emissions to water (2)	○	○	○	○	○	○	○
Emissions to air (6)	○	○	○	○	○	○	○
Product Safety (8)	○	○	○	○	○	○	○
Product Durability (9)	○	○	○	○	○	○	○

Q13: Please write below the sequence you were asked to memorize previously:

_____

Please take a few seconds to memorize the following sequence:

5gMu83

Below you will be shown a **luxurious branded T-Shirt** that will be introduced in the market along with a label:

About the label:

Eco Label Certified by the European Union (label of environmental excellence)

Made with organic Cotton (at least 95% ecologically grown cotton)

REACH Compliant (required by European Law to ensure safety and quality of products regarding hazardous materials)

Increased Product Durability (complies with criteria tested for dimensional changes and color fastness)

Limitations on emissions to air and water (limitations on wastewater discharges and emissions to air)

Q14: How likely are you to purchase this product (for yourself)?

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
No at all	○	○	○	○	○	○	○	Extremely

Q15: To what extent would you feel guilty about your purchase decision?

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
Not at all	○	○	○	○	○	○	○	Extremely

Q16: What price would you be willing to pay for this product? (in €)?

	0 10 20 30 40 50 60 70 80 90 100
Price (€) ()	

Q17: Please indicate the extent to which you believe the information on the label is:

	Not at all 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Extremely 7 (7)
Sufficient (1)	○	○	○	○	○	○	○
Comprehensible (2)	○	○	○	○	○	○	○
Trustworthy (3)	○	○	○	○	○	○	○
Credible (4)	○	○	○	○	○	○	○

Q18: Please indicate the extent to which you believe the product is:

	Not at all 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Extremely 7 (7)
Ethical (1)	○	○	○	○	○	○	○
Socially Responsible (2)	○	○	○	○	○	○	○
Environmentally Friendly (3)	○	○	○	○	○	○	○

Q19: Please indicate the extent to which you believe the brand is concerned with:

	Not at all 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Extremely 7 (7)
Careful use of natural resources (1)	○	○	○	○	○	○	○
Emissions to water (2)	○	○	○	○	○	○	○
Emissions to air (6)	○	○	○	○	○	○	○
Product Safety (8)	○	○	○	○	○	○	○
Product Durability (10)	○	○	○	○	○	○	○

Q20: Please write below the sequence you were asked to memorize previously:

_____

Block 4: Control Variables

Below you can see a **sustainability label** that was presented with one of the products you were considering before:

Q21: Please indicate the extent to which you agree with the following statements **regarding the label** provided above:

	Not at all 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Extremely 7 (7)
I am familiar with the label (1)	○	○	○	○	○	○	○
I understand what the label means (2)	○	○	○	○	○	○	○
The label represents an environmental excellence product (3)	○	○	○	○	○	○	○
I have purchased products with this label in the past (5)	○	○	○	○	○	○	○

In this section you will **read about four daily life scenarios**, followed by reactions to those situations. Please imagine yourself in each scenario and **indicate the likelihood that you would react in the way described**.

Q22: You lie to people, but they never find out about it.
What is the likelihood that you **would feel terrible** about the lies you told?

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
1-Very Unlikely	○	○	○	○	○	○	○	7- Very Likely

Q23: At a coworker's housewarming party, you spill red wine on their new cream- colored carpet. You cover the stain with a chair so that nobody notices your mess.
What is the likelihood that you **would feel that the way you acted was pathetic**?

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
1-Very Unlikely	○	○	○	○	○	○	○	7- Very Likely

Q24: You secretly commit a felony.
What is the likelihood that you **would feel remorse** about breaking the law?

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
1-Very Unlikely	○	○	○	○	○	○	○	7- Very Likely

Q25: After realizing you have received too much change at a store, you decide to keep it because the salesclerk doesn't notice.
What is the likelihood that you **would feel uncomfortable** about keeping the money?

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	
1-Very Unlikely	○	○	○	○	○	○	○	7- Very Likely

(New section within the same block)

Q26: As a consumer, how concerned are you with the following attributes of a product:

	Not at all 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Extremely 7 (7)
Ethicality (1)	○	○	○	○	○	○	○
Socially Responsibility (2)	○	○	○	○	○	○	○
Environmental Friendliness (3)	○	○	○	○	○	○	○
Price (6)	○	○	○	○	○	○	○
Brand (7)	○	○	○	○	○	○	○

Q27: To what extent do you agree with the following statements regarding **your behavior during this survey:**

	Not at all 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Extremely 7 (7)
I kept continually rehearsing the sequences in my mind (1)	○	○	○	○	○	○	○
I did not use any additional aids for the sequence memorization task (4)	○	○	○	○	○	○	○

Block 4: Demographics

Q28: Please select your gender:

- ○ Male (1)
- ○ Female (2)
- ○ Other (3)
- ○ Prefer not to say (4)

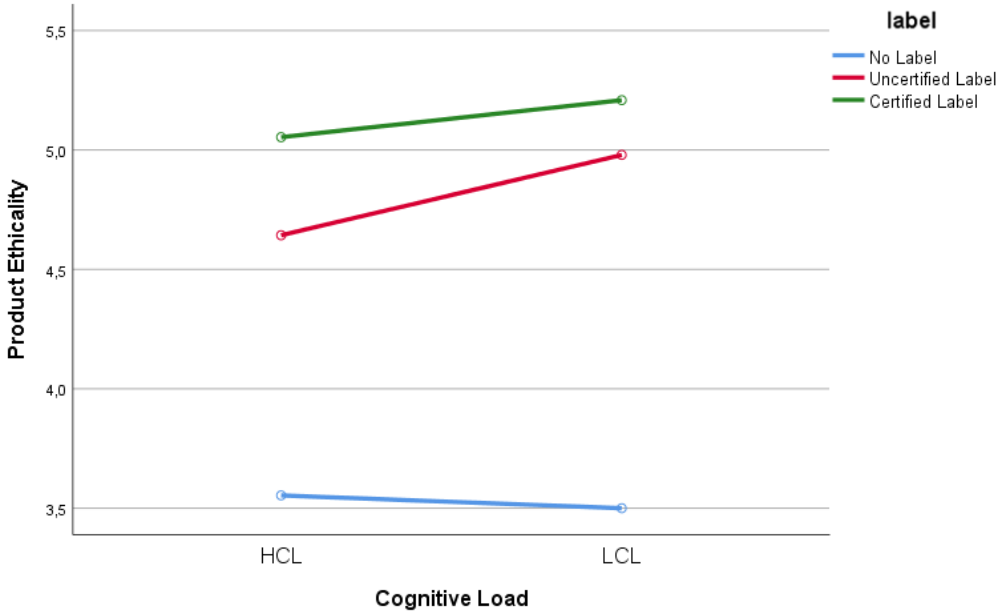
Q29: Please select your country of origin:

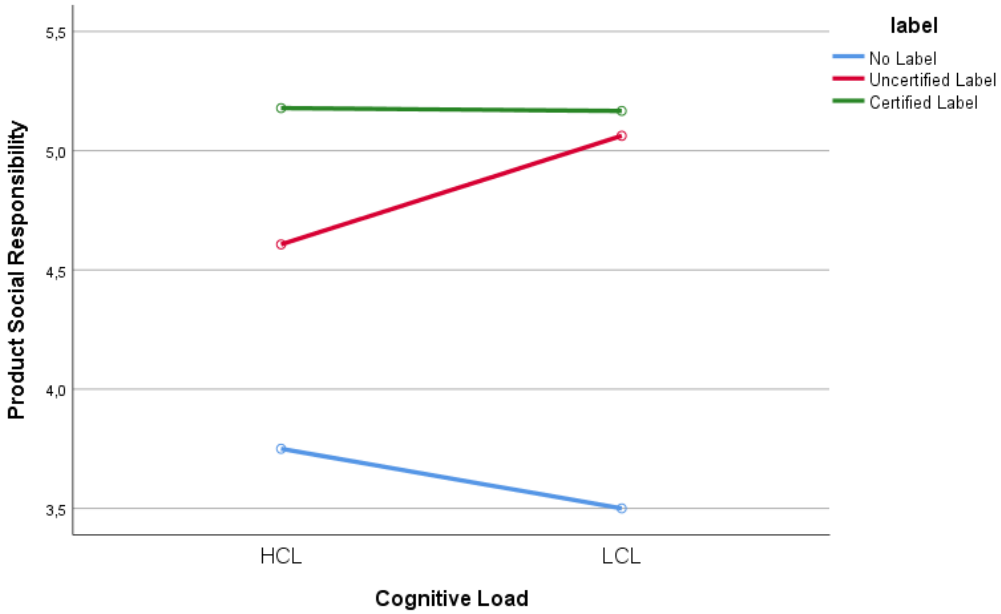
▼ Afghanistan (1) ... Zimbabwe (1357)

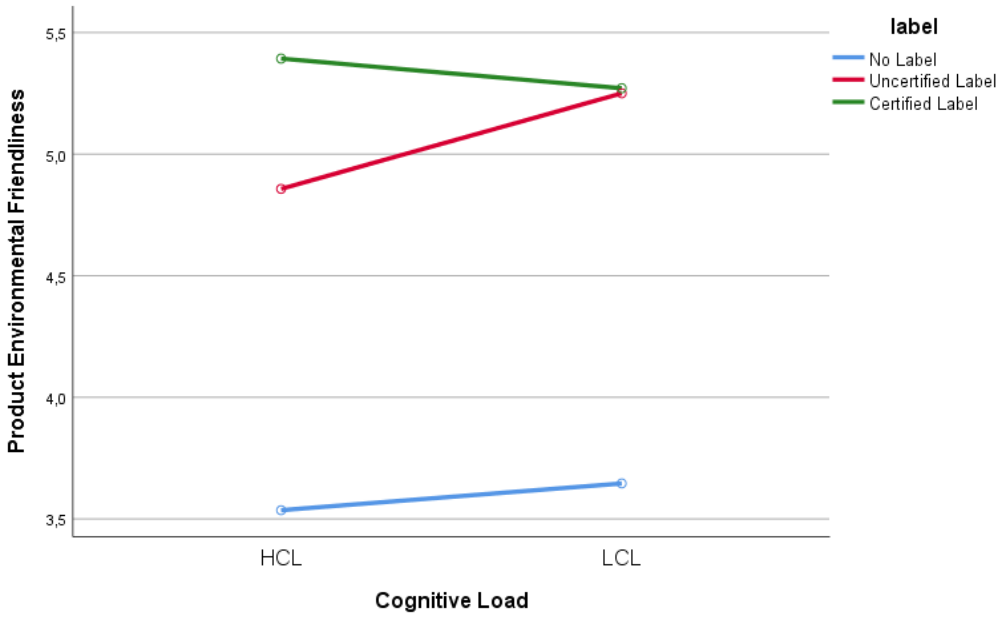
Q30: Please select your current occupation:

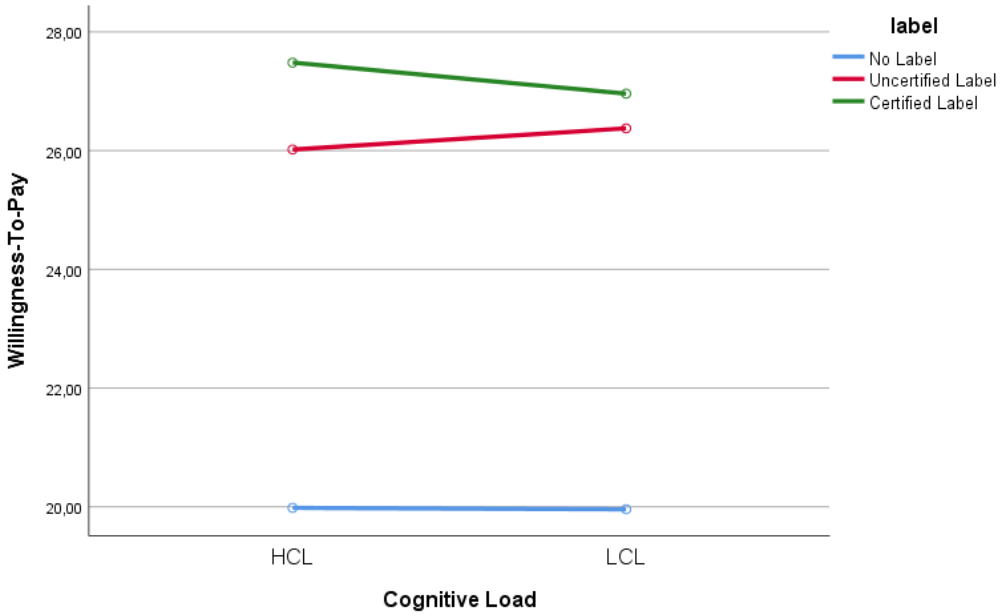
- ○ Employed (1)
- ○ Unemployed (2)
- ○ Student (3)
- ○ Working Student (4)
- ○ Retired (5)
- ○ Other (6)

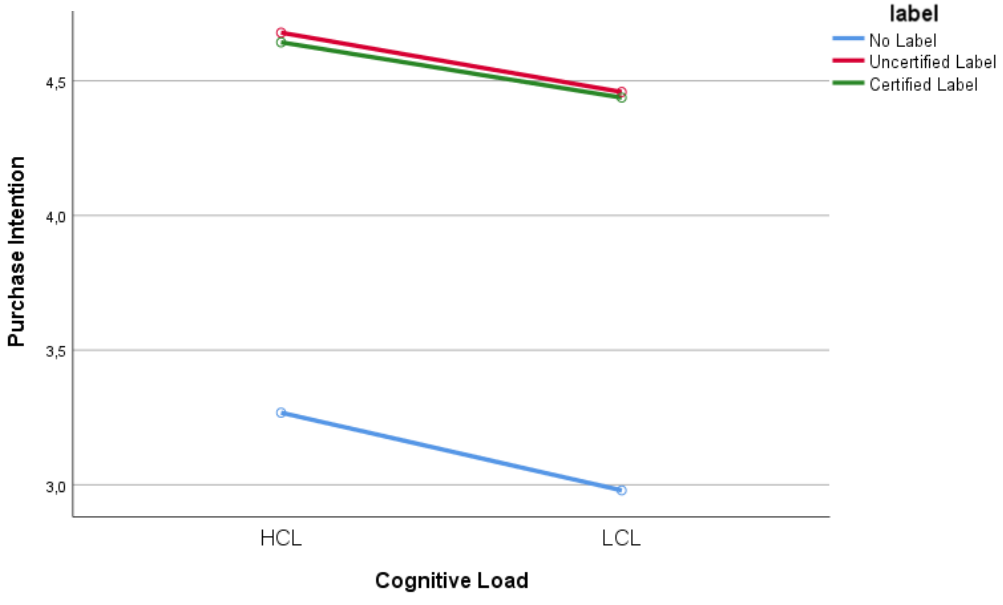
Appendix 2: Profile Plots- 2 (Low Cognitive Load, High Cognitive Load) x 3 (no label, uncertified label, certified label) ANOVAs

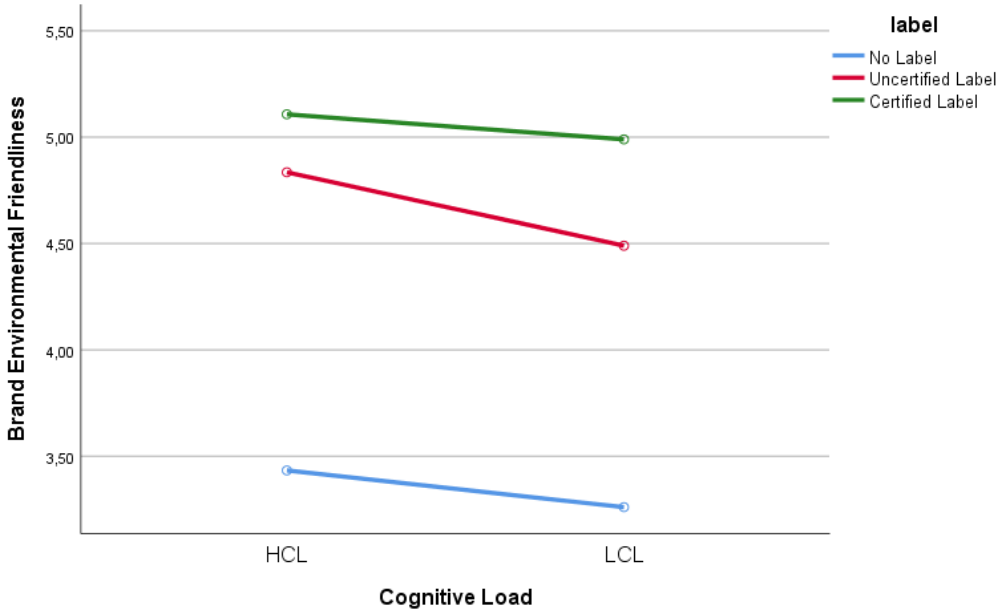


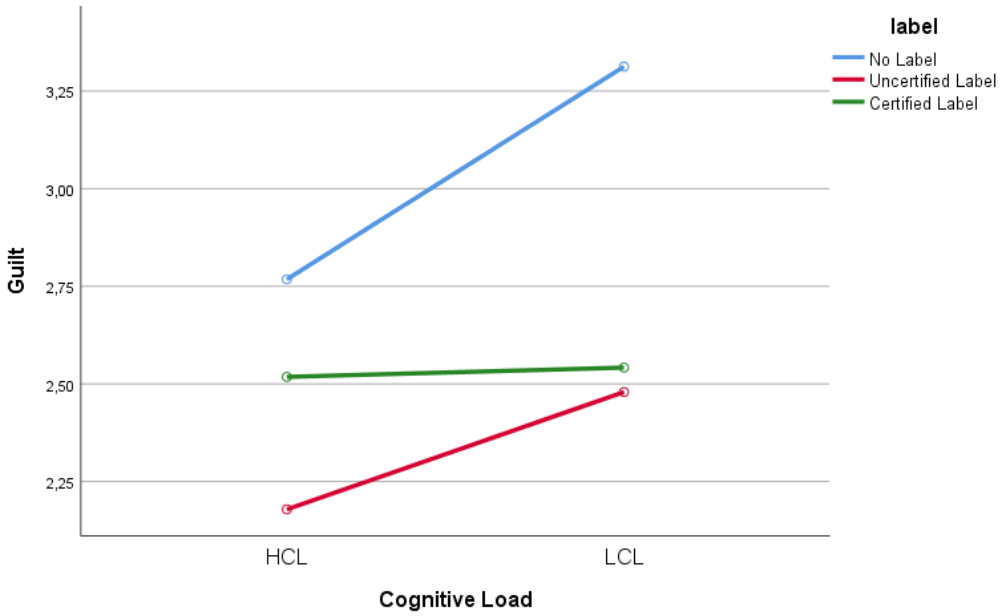



label
No Label
Uncertified Label
Certified Label
Product Environmental Friendliness
5,5
5,0
4,5
4,0
3,5
HCL
LCL
Cognitive Load


label
No Label
Uncertified Label
Certified Label
Willingness-To-Pay
28,00
26,00
24,00
22,00
20,00
HCL
LCL
Cognitive Load


label
No Label
Uncertified Label
Certified Label
Purchase Intention
4,5
4,0
3,5
3,0
HCL
LCL
Cognitive Load


label
No Label
Uncertified Label
Certified Label
Brand Environmental Friendliness
5,50
5,00
4,50
4,00
3,50
HCL
LCL
Cognitive Load


label
No Label
Uncertified Label
Certified Label
Guilt
3,25
3,00
2,75
2,50
2,25
HCL
LCL
Cognitive Load

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