Nudging Toward Sustainable Fashion Purchases: The Case of the Greek Market

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ABSTRACT

The fashion industry is one of the largest worldwide polluters responsible for significant environmental damage. The current shift to overconsumption and the emergence of the fast-fashion paradigm has further accelerated the negative environmental impact of the sector. To change the cause of events and lead the path toward a more sustainable future green nudges, appear to be an effective mechanism able to steer individuals' behavior toward more favorable choices. The effectiveness of eco-label and social nudge on elevating Greek consumers' purchase intention toward sustainable apparel was examined. Moreover, based on the theory of reasoned action (TRA) consumers' purchase intention is influenced by their sustainable attitudes and subjective norms, hence both factors were taken into consideration while their predictive role was examined.

To measure the effectiveness of the social and eco-label nudge moderated by consumer sustainable attitudes and subjective norms an online experiment was conducted. A total of (N=225) Greek consumers were recruited and randomly distributed into four experimental groups i.e. control, social nudge, eco-label nudge and combined nudges groups. Initially, the participants were asked to fill a short questionnaire indicating their purchase intention, sustainable attitudes and subjective norms. The finding showed a significantly positive effect of the eco-label nudge on respondents' purchase intention, however, social nudge appeared to have no significant effect. Moreover, no significant effect was found for the combined nudges on purchase intention compared to the no nudge, eco-label or social nudge manipulations. Both the sustainable attitudes and subjective norms appeared to be influential factors, however, none of them acted as a significant moderator in the relationship between the nudges and participants' purchase intention.

Keywords: social nudge, eco-label nudge, purchase intention, subjective norms, sustainable attitudes

Contents

1. Introduction

1.1. Fashion Industry: The current paradigm

The fashion industry, being responsible for up to 10% of worldwide carbon emissions while reaching second place among the largest water-consuming industries (McFall, 2020), significantly contributes to environmental pollution throughout the different stages of apparel production and distribution. The integration of fashion retail in the online sphere is significant, consisting of the largest B2C e-commerce segment of the market, while it is expected to reach a total size of $1.164, 7 billion by 2025 (Shaulova & Biagi, 2021). Hence, the fashion industry appears to be a growing industry of unsustainable practices and notable power, within both the online and offline spheres.

The rising environmental impact of the fashion industry is explicitly linked to the high levels of global consumption when it comes to fashion products. Brands have been producing double the amount of clothing items compared to the year 2000 (Remy et al., 2016) while this trend has been consistently growing as global textile production reached 62 million tons in 2020 and is expected to increase to 102 million by 2030 (GFA, 2017).

The social need for overconsumption and constant renewal of fashion items has led to the emergence of the fast-fashion paradigm, relying on fast production, an efficient supply chain, poor product quality and significant waste generation (Long & Nasiry, 2019). Fast-fashion retailers address consumers' needs for over-consumption through the constant renewal of their fashion products that rely on contemporary fashion trends. The fast-fashion market has been growing significantly and it is estimated to reach $39.84 billion in revenue by 2025 (Bhardwaj & Fairhurst, 2010).

On the other hand, the increasing awareness of the environmental crisis is accompanied by accelerating stakeholders' demands for a more sustainable business model (Henninger et al., 2016) and ethical product alternatives (Hogg et al., 2007). Sustainable fashion emerged within this context, as a fashion market opposed to the fast-fashion one, emphasizing on the social and environmental benefit of the present and future generations (Beekman, 2004). However, it remains a rather vague concept entailing a variety of different aspects toward the social good. Specifically, certain brands focus on the environmental pillar of sustainability relying on the eco-friendly production of clothing, by espousing the use of organic fibers (Kedron, 2019) or by introducing recyclable materials in their production chain such as H&M (Roozen et al., 2021). On the contrary, other brands such as Levis, emphasize the human aspect of sustainable development, engaging in gender inclusivity and fair labor practices.

Overall, distinctive fashion brands' initiatives act as drivers of a broader industry change, while the sustainable fashion market is expected to grow up to $9.81 billion by 2025 (TBRC, 2020). More and more companies seem willing to incorporate sustainable development into their agenda, reflecting on the social demands for more socially responsible, accountable, and transparent corporations (Chandler, 2020).

However, the corporate shift toward a more sustainable paradigm seems to be rather slow within the Greek context, with the majority of brands lacking significant knowledge regarding their environmental impact. Against the dominant corporate trend, the majority of Greek consumers appear to have a rather sustainable mindset which is evident in the research of o Abeliotis et al. (2010) with 4 out of 5 participants being willing to spend a higher amount of money for sustainable products.

1.2. Literature contradiction

Consumers tend to prefer purchasing from sustainable brands, as according to O'Connell's (2020) research, 37% of participants were willing to pay 10% more for sustainable products. Moreover, consumers who acknowledge the socially responsible actions of a company as credible, are more likely to have the intention to purchase from that company (Kang & Hustvedt, 2015). Hence, corporations that fail to reflect on their stakeholders' demands become oftentimes targets of consumer boycotts that may irreparably damage the corporate reputation (Asfaw et al., 2017).

Despite the growing consumer awareness regarding the social and environmental impact of the fashion industry and the numerous attempts of fashion brands toward sustainable production, the fast-fashion paradigm remains dominant. Specifically, the expected growth of the fast-fashion market is almost four times the size of the sustainable one for the year 2025. Hence, it is evident that even if sustainable fashion has been significantly growing, the fast-fashion industry continues - and will probably continue during the next years – to reproduce the harmful practices of the fashion industry and jeopardize consumers' sustainable future.

Inconsistency has been identified as consumers' high levels of awareness and positive overview regarding socially responsible corporations are evident in their behavioral intentions, but notino their actual behaviors (Nguyen et al., 2018). To find the roots of this inconsistency the drivers of human behaviors should be identified and further investigated. According to the Theory of Reasoned Action (TRA), humans' intention to act in a certain way is the most significant predictor of their actual behaviors (Song et al., 2021). The significant relationship between the two concepts has been verified by several studies and within various domains (Albarracin et al., 1992; Reychav & Weisberg, 2010).

Based on TRA individuals' intentions toward engaging in certain behaviors derive from the combined effect of their attitudes and subjective norms. The former entails an evaluative response toward a certain behavior (Verplanken & Orbell, 2022), while the latter refers to normative beliefs and the motivation to comply with the perceived social pressure (Ajzen, 1991 p.188). The correlations between both individuals' attitudes and subjective norms toward behavioral intentions have been extensively researched and verified (Nguye et al., 2018; Vermeir & Verbreke, 2006). Moreover, significant literature insights are available regarding the combined effect of the two concepts on individuals' intentions, strengthening the validity of the theory of Reasoned Action (Karnowski et al., 2018; Buabeng- Andoh, 2018).

To change the course of events a change in consumers' mindset is a prerequisite, given their central role in the process of both shaping and reproducing, but also criticizing and canceling existing and upcoming trends. Although there are several sustainable fashion brand initiatives being implemented and growing public awareness regarding the impact of the fashion industry on both the social and environmental future, a push in the right direction would be desirable. This push or minor environmental intervention, toward sustainable consumption, could be succeeded with the help of nudges. Nudges are cheap environmental interventions able to alter individuals' behaviors in a favorable direction (Thaler & Sunstein, 2008), acting as a promising tool for the promotion of sustainable consumption (Lehner et al., 2016).

Green nudges, a category of nudging elements focusing on the promotion of sustainable behaviors, include salient sustainable characteristics, such as eco-labels, default green choices and social norm notices, guiding individuals toward sustainable choices. Among the three subcategories, default nudges and their effects have been consistently analyzed revealing an overall positive effect of such nudging elements (Van Gestel et al., 2021; Wachner et al., 2021) and their ability to positively effect individuals' choices (de Ridder, et al., 2021)

1.3. Bridging the gap

Concerning the Greek market limited literature is available regarding the key trends and consumers' purchase intentions, while sustainable fashion initiatives are still on their infancy. According to of Abeliotis et al. (2010) research, overall Greek consumers appear to value highly the importance of environmental issues, however, only one out of five appear willing to alter their lifestyle in order to limit the negative environmental impact of their daily activities.

Moreover, limited research is available regarding the effect of the nudges' context of implementation on individuals' responsiveness to such mechanisms (de Ridder et al., 2021). Compared to other forms of regulating mechanisms, nudges appear to be a non-coercive, but still effective tool in steering individuals toward favorable decisions (Meske & Amojo, 2020), with favorable choices constituting all the decisions that lead individuals' toward a healthier and more sustainable lifestyle (Karlsen et al., 2019). According to Thaler and Sunstein (2008) nudges are becoming a key instrument for corporations enabling them to engage in a deeper understanding of customers' perspective while contributing toward their healthier and more sustainable lifestyle. On this basis, *Nudging for Good Awards* were introduced in 2019 as an initiative to encourage companies to engage in such initiatives, rewarding the most exceptional of their attempts (AIM, 2017).

The rise of e-commerce has increased the researchers' interest in the use of appropriate nudges for the online environments. Only a few studies have been oriented toward the effects of social and eco-label nudges for the encouragement of sustainable behavioral intentions, which leads to the need for further investigation regarding their effects.

Overall, both social (Schubert, 2017) and eco-label nudges (Costa & Kahn, 2013) appear to have a significant influence on encouraging sustainable purchase behavior. However, further exploration is required given that the effectiveness of such elements highly depends on both the context within which they are implemented and on the framing used, regarding their design (Schubert, 2017). With this in mind the following research question was formulated, placing explicit emphasis on the effectiveness of the two nudges within the Greek context:

To what extent do green nudges (social and eco-label) influence online sustainable fashion purchase intentions of Greek consumers and to what extent are these effects moderated by sustainable attitudes and subjective norms?

1.4. Academic Relevance

Providing an answer to the research question of the study would significantly contribute to the current academic literature elaborating further on the role and effectiveness of nudging elements, especially in the context of the Greek market. First, the impact of nudges on individuals' purchase intention is measured in the context of sustainable fashion purchases; where according to Michalek et al. (2015) limited academic research is available, providing room for further investigation. The effectiveness of nudges, as a non-coercive tool toward behavioral change has been analyzed and verified within several domains ranging from healthcare (Marteau et al. 2011), to organ donation (McKenzie et al. 2006) insurance decisions (Gajewski et al., 2021) and nutritional choices (Bogers, 2004). According to Bao

and Ho (2015), depending on the context within which they are implemented nudges are expected to have different levels of effectiveness, hence it could be assumed that in the context of sustainable fashion purchases different levels of effectiveness could be uncovered providing significant academic insights.

In regards to sustainably responsible consumption further exploration is required into how nudges can be utilized to promote such behaviours (Chern, 2017). Moreover, the research could fill the current academic gap regarding the effects of digital nudging elements, for which limited studies are available (Berger et al., 2020). Given the increasing growth of online apparel purchases and e-commerce (Loureiro & Breazeale, 2016), this study could investigate the effect of nudges as tools for sustainable purchase in the online retail where according to Johnstone and Lindh (2022) there is room for further investigation..

The academic relevance of this study could be also established by shedding light on the combined effect of different types of nudges, with most studies limiting their scope on the impact of exclusively one nudge (Michalek et al., 2015) and its comparison to a no nudge condition (Van der Heijden et al., 2015). Moreover, the explicit focus of the study on the social and eco-label nudge derives from the conflicting research insights regarding their effect. Even if both nudges appear to have an overall positive effect on sustainable purchases certain studies do not elaborate on the dominant insights with both Berger et al. (2020) and Mes-Harris et al. (2021), uncovering a rather insignificant effect of social and eco-label nudges respectively. Hence, diving deeper into the effects of social and eco-label nudges both separately and combined could result in useful academic insights regarding their overall effect on sustainable purchases. The effectiveness of nudges has been explicitly examined on regards to their domain of implementations such as nutritional food choices (Bogers, 2004) or electricity consumption (Schultz et al., 2007). However, limited studies focus on a specific social context, such as the Greek market to uncover possible alterations regarding the nudges effectiveness. Hence, this study could contribute to the current literature by providing a different perspective and influential aspect to consider.

1.5. Social Relevance

Socially, this research contributes to the exploration and development of new ways of promoting sustainable growth. It could set the foundations for a more sustainable future, aiming to uncover the significant role of nudges, as an instrument able to alter consumers' behavioral intentions and in the long run their actual behaviors toward more sustainable fashion purchases. Specifically, uncovering effective methods to steer individuals toward sustainable consumption could lead to a positive alteration of the fashion industry toward a more sustainable paradigm, resulting in a reduced environmental impact of the domain.

Hence, starting with a change in consumers' behavior, a significant social change could be initiated for both the fashion industry and society as a whole.

Moreover, overcoming inconsistencies and uncovering the aspects able to define individuals' purchase intentions could lead to more personalized production in accordance with consumers' demands. Fashion brands could benefit from such insights while diving deeper into their stakeholders' needs and increasing their profitability. Apart from the immediate financial outcomes fashion brands will be able to come up with ways to combine such financial revenue while engaging in socially responsible practices. According to Barauskaite and Streimikiene (2020), corporations that are being perceived as socially responsible are linked with higher levels of corporate reputation which also associates with increased financial revenue for the brand.

1.6. Chapter Outline

The research is divided into six distinctive chapters each one of which aims to describe comprehensively and in detail, the steps undertaken to reach the intended objective of providing an answer to the research question. Chapter 2 includes an in-depth presentation of the theoretical rationale behind this study and an introduction of the research concepts and hypotheses. Initially, the current state of the fashion industry is presented with an explicit orientation toward the Greek context. The Nudge theory and the theory of Reasoned Action are being introduced and analyzed in detail leading to the formulation of the research hypotheses.

The methodological approach of the study is presented in Chapter 3 incorporating the justification of the choice of the research and sampling methods used, followed by the operationalization of the different variables, the experimental design and a section regarding the validity and reliability of the research. A description of the collected data is briefly presented in Chapter 4, along with the statistical analysis resulting either to the acceptance or rejection of the hypotheses introduced in chapter 2. In Chapter 5, the results of the analysis are discussed in-depth leading to the extraction of the research's key findings. In this chapter, the experimental results are presented in the context of the research question and in accordance with the available literature, while based on the insights the limitations of the study are outlined and directions for future research are provided. Finally chapter 5 provides a conclusion regarding the findings of the research and an answer to the research question.

2. Theoretical Framework

2.1. Fashion Industry

This section provides an overview of the current trends in the fashion industry and their impact on the environmental and social context. The most prominent and conflicting paradigms of Fast and Sustainable fashion are being presented while explicit emphasis is placed on the Greek context. The presence of sustainable fashion within the Greek context is being investigated while Greek consumers' perceptions regarding sustainable fashion is being examined based on illustrative studies.

2.1.1 Sustainable Development and Stakeholder Theory

Sustainable development aims to meet the current social needs without jeopardizing those of the future generations (Visser & Brundtland, 1987) while relying on innovative practices to promote sustainability and equal distribution of resources (Silvestre et al., 2019). It consists of a multidimensional concept with social, environmental, and economic pillars (Neumann et al., 2020), significantly linked with Corporate Social Responsibility (CSR), a growing trend embedded within the organizational strategy of several corporations (Abdelhalim & Eldin, 2019). CSR entails corporate policies and practices oriented toward the social good (Matten & Moon, 2008), emphasizing in accelerating both the environmental and social corporate performance, without engaging in a merely profit-focused scheme (Nguyen et al., 2020).

Stakeholders' value toward sustainability is prevalent, with 77% of consumers stating that they would be more willing to purchase from a company committed to social, economic, or environmental issues (Mitchel, 2022). Especially among the younger generation of Millennial and Gen Z, CSR appears to have a significant effect on influencing their overall evaluation of a brand (Vătămănescu et al., 2021). They tend to engage in ethical consumerism, referring to the conscious consumption choices, derives from personal and moral beliefs (Carrigan et al., 2004, p. 401).

The shift of social demands toward a more sustainable paradigm is also reflected in the strategy of several organizations, a phenomenon significantly linked with the Stakeholder theory (Nguyen et al., 2020). In particular, stakeholder theory lies in the perception of stakeholders as the defining force of the social demands and key trends while corporations take up a secondary role, aiming to satisfy the diverse expectations and needs of the different stakeholder groups. Overall, the latter function as reflectors of the oftentimes conflicting stakeholders' demands (Chandler, 2020). Given the current social demands toward corporate responsibility, organizations, among which several from the fashion industry, tend to incorporate such initiatives within their strategy (Colucci et al., 2020).

2.1.2 Fashion Industry Environmental Impact and Sustainable Paradigm

The fashion industry is constantly criticized for its unsustainable practices which has been the reason why the sector has been frequently placed at the center of consumers' criticism (Kapferer & Michaut, 2015). Sustainable, ethical, or green fashion (Shen et al., 2010) refers to clothing brands that incorporate aspects of social and environmental sustainability, throughout their supply chain, while ensuring their financial feasibility (Henninger et al., 2016). Against the current business model toward fast-fashion or mass-market brands (Joy et al., 2012), the sustainable paradigm, initiated around 1960 (Jung & Jin, 2014) remains a fluid and constantly evolving concept embedding - but not limited to environmental, social, slow fashion, reuse, recycling, cruelty-free production practices (Mukendi et al., 2020). Overall, sustainable fashion practices could be incorporated within the broader pillars of environmental and social sustainability.

Social sustainability refers to the corporate commitment to fair trade ethics addressing employees' rights and providing adequate working conditions while ensuring individual, communal and societal well-being (Niinimäki, 2013). Transparency of the supply chain and publication of the lowest wage adopted by brands such as Nisolo (Nisolo, n.d.) and ABLE (Lucas, 2022) are examples of effective initiatives toward sustainable development. Other ethical fashion initiatives are oriented toward the social good of certain marginalized groups, including the Bombas initiative, with the brand donating one pair of socks to the homeless for every pair of socks purchased (Pankrat, 2013).

Environmental sustainability is oriented toward the reduction of environmental risk, encouraging the use of renewable and eco-friendly materials throughout the process of production and distribution of the product, the reduction of waste, and the shift toward recycling (Niinimäki, 2013). Several fashion brands have incorporated environmental sustainability in their practices, uncovering multiple opportunities for sustainable innovation with a shift toward circular, slow, cruelty-free, and conscious fashion.

Circular fashion, referring to recycling and upcycling practices has been adopted by Prada and Burberry in the form of secondhand initiatives (Ridzwan, 2022), while several luxury brands such as Chanel, Miu Miu, and Dior are jumping into the trend of slow fashion engaging in a shared culture and providing items available to loan for up to 28 days (Alexander, 2020). Cruelty-free fashion stands up against product testing on nonhuman animals and the use of such ingredients or byproducts for the production of fashion items (Springirth, 2016). Several brands shift to vegan alternatives, committed to a leather-free production plan, such as the Danish fashion brand Ganni (Cornejo, 2021), or moved toward fur-free production as in the case of Kering, the parent company of several luxury brands including Gucci and Balenciaga, banning the use of animal fur starting from the collections of fall 2022 (Cernansky, 2021). Moreover, conscious fashion, based on the eco-friendly fashion

paradigm, relies on renewable material and reduced waste for the production of clothing with an example being Levi's 2019 denim collection produced with up to 96% less water (CBS, 2022).

2.1.3 Greek context and sustainable development

The current corporate trends toward a more sustainable paradigm are also apparent within the Greek context with several companies engaging in more sustainable practices, in accordance with their stakeholders' demands. However, according to early field studies, this shift appears to be relatively slow with companies lacking significant knowledge regarding their environmental impact (Tilikidou, 2007), while a limited segment of 20% of Greek consumers are being characterized as frequent pro-environmental purchasers (Karakosta, 2015). Hence, it could be assumed that the lack of stakeholders' demands regarding sustainable goods initiated limited corporate engagement in sustainable development in Greece. However, according to the study by Kokkali (2007), the majority of small and medium Greek enterprises emphasize on the role of sustainability as a significant instrument toward future development and improvement of the corporate image. According to the study by Chrysos-Anestis et al. (2021), all the companies under research indicate their commitment to at least one of the sustainable development initiatives.

Abeliotis et al. (2010) revealed that climate change is the most crucial current issue among Greek consumers while 4 out of 5 appear to be willing to pay a higher price for sustainable products. However, the majority of Greek studies focuses mainly on the relation of demographic characteristics with sustainable consumption, revealing the influential role of consumers' educational level (Tilikidou &Delistavrou, 2008) and gender (Abeliotis et al., 2010). Overall, a research gap has been identified regarding the sustainable purchase intention of Greek consumers, with most studies being focused on either consumers' sustainable behaviors or the sustainable development of Greek corporations.

The shift toward sustainability is apparent also within the fashion industry with the emergence of several sustainable fashion brands such as Ergon Mykonos and Heels, dedicated to environmentally friendly production and slow fashion accordingly (Björk Kapsalis, 2021). Due to the significant shift toward the sustainable paradigm within the Greek context, further exploration is required regarding the sustainable purchase intention among fashion consumers in Greece.

2.2. The Nudge theory

This section consists of a brief introduction to Behavioral Economics and the Nudge theory. The main elements of the theory are being discussed with the emphasis placed on the concept of nudges, their role, and effectiveness as intervention mechanisms. The

categorization of nudging elements follows with an explicit focus on the green nudges and the specific categories of social and eco-label nudges.

2.2.1. Nudge Design

The perception of human beings as rational decision-makers, capable of making decisions in accordance with their best interests is summarized in the notion of Homo Economicus. In Traditional Economics, Homo Economicus, represents a theoretical construct emphasizing the rationality of human thinking and its centrality in decision making (Chandler, 2020). However, against this early perception of absolute rationality of humankind, Behavioral Economics provides a highly differentiated approach emphasizing the presence of cognitive biases throughout the process of decision making. In particular, humans, relying highly on the short term rather than long term outcomes, are prone to err (Smith, 1759), as they prioritize their current interests, even if that equates with future harm to oneself (Kahneman, 2011). On this basis, Behavioral Economics seeks to explain such behaviours by relying on insights from the fields of psychology, neuroscience, and cognitive sciences, while exploring possible behavioral interventions, able to target and alter behavioral irrationality (Soofi et al., 2020).

The nudge theory, relying on the principles of Behavioral Economics, aims to identify the way people are thinking, to come up with ways to guide them toward the most favorable decisions (Buheji, 2019). The concept of nudge, introduced by Thaler and Sunstein (2009) refers to "any environmental modification able to alter individuals' behavior in a predictable way without excluding any option or significantly changing their economic incentives". In particular, identifying individuals' decision biases could act as a starting point toward the implementation of preventative interventions regarding irrational decision-making.

The role of nudge could be summarized in the concept of Libertarian Paternalism, consisting of two seemingly contradictory concepts, which are combined summarizing the non-coercive nature of nudges, as elements of soft governance (Schweizer, 2016). Freedom of choice and individuals' autonomy, against state regulation, is central to the concept of Libertarianism, with humans being perceived as rational decisions makers able to act toward their best interests. On the contrary, the Paternalistic model consists of a more authoritative approach that disputes individualism and freedom of choice and considers regulatory mechanisms responsible for making decisions for others (Thaler, 2016), implying a lack of individuals' ability to act toward their best interests. The combined notion of the two concepts, summarized in the idea of Libertarian Paternalism, refers to the role of both private and public sectors to steer people toward choices fostering their welfare, without them losing their freedom of choice (Thaler & Sunstein, 2009).

2.2.2. System of Thinking and Cognitive bias

According to Kahneman (2011), there are two systems of thinking namely; System 1 and System 2, with the former being responsible for intuitive, effortless, and automatic decisions and the latter for more complex and analytical ones requiring more time and effort. The rationality accompanying System 2 decisions, is not evident in System 1, riddled with cognitive biases and mental shortcuts, System 1 processes appear to be primarily responsible for poor life choices (Sunstein, 2015). Moreover, humans rely more on cognitive, rather than rational thoughts, a tendency deriving from the biological human orientation toward energy-saving practices, in particular, automatic, routine and habitual decisions comprise 45% of individuals' daily decisions (Verplanken & Wood, 2006). Hence, according to Thaler and Sunstein (2009), most nudging interventions are oriented toward System 1 choices.

Apart from the internal aspects of individuals' dominant thinking processes, the effect of the external environment or context, referring to the way the available choices are being framed, is crucial in the process of decision making. Framing refers to the process of making aspects of the environment more salient to promote a particular definition, interpretation, or evaluation of a certain problem (Entman, 1993, p.5). The significance of the established frame is outlined in the judgments and decision-making theory, with choices being perceived as context-sensitive. Therefore, choices cannot be considered independent from the environment they are situated in, leading to the assumption that there is no such thing as unbiased choices (Schweizer, 2016).

Overall, the conceptualization of nudges uncovers the significance of both internal and external aspects, while emphasizing the perseverance of individuals' freedom of choice, throughout decision-making. Nudging elements, compared to other forms of environmental interventions are non-coercive, relying on the selection of adequate environmental design, rather than on the use of strong incentives and disincentives during the process of behavioral influence (Saghai, 2013). Apart from their non-coercive nature, nudges can be identified as persuasive techniques which are simple and easy to avoid with an orientation toward the social good, benefiting both individuals and society as a whole.

2.2.3. Choice Architecture

According to Thaler and Sunstein (2009), those responsible for the design of such persuasive mechanisms are being termed choice architects, while the final product of the environmental design is choice architecture. Choice architects, while being responsible for the environmental design and selection of the most adequate nudging element, can effectively address the corresponding group of recipients or nudgees, who occupy a significant role throughout the nudging process (Schweizer, 2016). Overall, engaging in an in-depth

understanding of the nudgees could lead to more personalized choice architecture, thus more effective and influential.

2.2.4. Categorization of Nudges

Nudges, as a persuasive instrument, apply to both the offline and online context, with the widespread technological evolution leading to the emergence of digital nudges, evident within the online sphere. Digital nudges, through the utilization of technological instruments, aim to alter individuals' behaviors within the digital space (Purohit & Holzer, 2019). Limited research is available regarding the effects of digital nudges compared to offline ones, however, their influential role in individuals' behaviors has been tested and verified. According to Purohit and Holzer (2019), digital nudges manage to diminish social media addiction among users, encouraging a more reflective usage while elaborating on a more pleasant online experience. Moreover, Mols et al. (2019) indicate that nudges significantly influence online purchase behaviors, while according to Berger et al. (2020) they have a positive influence on sustainable food selection.

Hansen and Jespersen (2013) identified nudges based on the system of thinking they rely on, such as Type 1 and Type 2. In particular, while Type 1 nudges target automatic, habitual and routine choices embedded in System 1, Type 2 nudges rely on the arousal of reflective thinking. Type 2 nudges influence individuals' behaviors while engaging them in a process of de-biasing, thus leading them to active thinking. On the contrary, Type 1 nudges rely on mental shortcuts targeting the arousal of automatic and unconscious thinking processes, influencing individuals while re-biasing them toward certain choices (Evans et al., 2017).

Another categorization of nudges introduced by Hansen and Jespersen (2013) identified nudges based on their degree of transparency, as transparent and non-transparent in accordance with the level of salience of the intended behavioral alteration. Transparent nudges are easily identified, being presented within a context where both the mean and intentions of the behavioral alterations being pursued are apparent to the recipient. However, for the non-transparent ones both the mean and intentions of behavioral alterations are not evident to the recipients. In this paper emphasis will be placed in the former nudging elements, as the effectiveness of certain types of transparent nudging elements will be examined.

2.3. Green Nudges

Apart from the context within which nudges are being portrayed, a further categorization lies in the type of behaviors they promote, their field of focus, or the social issue they address. According to Dolan (2010), the nudging mechanisms are significantly

effective when applied in the environmental context and toward the promotion of sustainable behaviors. Green nudges, introduced by Thaler and Sunstein (2009), refer to nudging elements relying on environmental alterations to steer individuals toward environmentally responsible behaviors. They consist of environmental alterations aiming to encourage pro-environmental behaviors and to guide individuals toward environmental protection. This type of nudging element has been utilized for multiple objectives, including the promotion of in-campus sustainable behaviors (Team, Behavioral Insights, 2020) and as a replacement mechanism for sustainable policy (Evans et al., 2017). Overall, green nudges manage to accelerate social demands regarding green and sustainable products (Shubert, 2017; Venkatachalam, 2008), while they tend to successfully encourage pro-environmental behaviors (Sunstein, 2016).

According to Schubert (2017), three broad categories of green nudges have been identified in accordance with their format and way of promoting pro-environmental behaviors. The first category consists of less transparent nudges, such as the default nudge, steering individuals toward preselected choices (Thaler & Sunstein, 2009). The second category consists of the nudging elements that enable information simplification while making certain product features more salient, such as the eco-label nudge. Finally, the third category lies in the individual's need for social comparison, using others as a source of knowledge, including nudges that convey a social norm or tendency.

Both the second and the third groups of green nudges rely on the perception of individuals' need for an attractive self-image, to retain a positive assessment regarding their abilities and behaviors. Given this, eco-label nudges rely both on the morality associated with environmental issues and on the individuals' need for a positive self-assessment to steer them toward pro-environmental behaviors. In the case of social norms, individuals are encouraged to engage in social comparison, evaluating their behaviors based on what is defined as socially acceptable. Social norm nudges rely on the theory of social conformity, indicating a human tendency toward socially approved norms, or behavioral patterns that align with what is perceived by most people as socially acceptable (Asch, 1955). Overall, both social and eco-label nudges consist of influential mechanisms able to encourage sustainable behaviors, while their effects have been examined both separately (Demarque et al., 2015) and combined (Lee et al., 2020).

2.3.1. Social Norm nudge and purchase intention

Social influence, referring to the influential role of the social context toward the modification of individuals' behaviors, attitudes and feelings, has been central among several studies verifying its significant effect (Köbis et. al., 2019). The effect of nudges on consumers' purchase intention has been repeatedly addressed in several studies, assuming an overall positive effect of such mechanisms. Specifically, purchase intention refers to one's

desire to purchase a particular product or service, deriving from the desire to satisfy a particular present or future need (Wei et al., 2020), while it acts as a significant instrument able to estimate the effectiveness of a marketing strategy, predictive of both sales and market share (Morwitz, 2014).

Social norm nudges defined as information notices with short or long-term effects, depending on the time of exposure (Sunstein, 2016), while relying on the effects of social pressure and conformity to steer individuals toward favorable decisions (Aldrovandi et al. 2015). Social norm nudges aim to provoke behavioral alterations via communicating social information and expectations (Bicchieri & Dimant, 2019, p.2).

According to Köbis et al. (2019), social norms nudges could be categorized within two broad categories, based on their orientation identified as descriptive and injunctive. Descriptive social norm nudges focus on what people frequently do, acting as a tool for social information provision and social comparison. An example of such nudging elements is presented in the experimental research of Schultz et al. (2007), incorporating a social norm nudge in the form of information provision regarding the levels of electricity consumption within different households. However, steering individuals toward social comparison did not always lead to reduced energy consumption by the different households providing contradictory results. In particular, as opposed to the orientation of high consumption households toward a reducing consumption, those below average increased their consumption uncovering a boomerang effect of social nudges (Schultz et al., 2007).

On the contrary, injunctive social norms rely on the communication of what is morally acceptable embedding the dimension of social approval or disapproval linked with a specific behavior (Bhanot, 2021). The positive effect of such nudging elements was outlined by Schultz et al. (2007) through the utilization of emoticons as indicators of high or low levels of energy consumption, leading to reduced household electricity demand. Overall social norms, can significantly alter individuals' behaviors, given the social nature of human beings and their tendency to be influenced by what others do. The implementation of social nudges within several contexts elaborates on the positive effect of such manipulations, as in both cases of anti-Covid-19 vaccination incentive (Lazić & Zezelj., 2021) and of enforcement of disposable cups utilization (Loschelder, et al., 2019).

Within the context of fashion, similar trends have been revealed (Ingendahl et al., 2020), while Demarque et al. (2015), elaborated on the influential role of social nudges on individuals' intentions, regarding sustainable fashion purchases. A recent study by Hassan et al. (2022) further contributed to the current views outlining the significant effect of both social norms and environmental awareness on sustainable fashion consumption.

Social nudges being explicitly linked with the highly influential theory of social comparison while being examined within several contexts and during a broad time frame, they have been linked with an overall influential role when it comes to consumers' purchase intention (Mols et al., 2014). To further examine the effects of social norm nudges on sustainable fashion purchases the following hypothesis was formulated:

H1: Social nudges lead to more positive consumers' purchase intention for green apparel compared to no nudge.

2.3.2. Eco-label nudge and purchase intention

Eco-label refers to visual indicators providing information regarding the environmental impact of a product throughout the different stages of its production, distribution, consumption, and waste management. Yet, eco-labeling addresses a dual purpose being either a source of social information and influence regarding sustainable products or a corporate initiative toward the adaptation of more sustainable practices (Galarraga Gallastegui, 2002). Included within the broader concept of green nudges, eco-labels consist of a low-cost intervention relying on information simplification to encourage sustainable consumption (Slapø & Karevold, 2019). Eco-labelling may function both as a salient mechanism of information provision, such as the Global organic textile standard GOTS certification, and as an implicit one targeting individuals' need for belongingness within the ecologically conscious social fragment, such as fuel rating stickers on cars (Schubert, 2016).

Eco-label nudges appear to be a promising tool for the promotion of pro-environmental behaviors applicable within multiple contexts. Vlaeminck et al. (2014), uncovered a positive relationship between the incorporation of eco-label and eco-friendly choices, while similar findings were revealed in the field of sustainable tourism with eco-labeling positively influencing sustainable mobility (Weber, 2018). Several studies have been focused on the effect of eco-labels on sustainable food selections (Vlaeminck et al., 2014), exposing a positive relationship between the two (Berger et al., 2020; Meyerding et al., 2019).

Moreover, Lee et al. (2020) strengthened the current views by verifying the significant effect of eco-labels on sustainable fashion purchases, while they outlined the influential role of the reputational value and trust associated with the eco-label as a moderating factor. Indeed, according to Huitink et al. (2020), 463 eco-labels have been reported within 25 industry sectors, with at least 8 being identified as commonly used within the apparel and textile industry, emphasizing the need for reputational value and consumer awareness when examining eco-labels' effect.

According to the research of Parker (2022), regarding the effect of digital label nudge and descriptive social norms on sustainable grocery consumption, the effect of the label nudge was found to be significant, while that was not the case for the social norm one. Hence, it could be assumed that the eco-label nudge could lead to a stronger effect on one's purchase intention compared to the social nudge.

H2: Eco-label nudges lead to more positive consumers' purchase intention for green apparel compared to no nudge.

2.3.3. Combined effect of eco-label and social nudge

In line with the dominant literature insights regarding the influential role of green nudges, it could be assumed that their combined implementation could generate stronger effects. Indeed, it is evident that the combination of two (Zimmermann & Renaud, 2021) or even three nudging elements leads to more significant effects (Chapman et al., 2019). In contrast, Mirbabaie et al. (2022) were led to the assumption that a combined application of nudges could backfire, leading to opposing results.

However, most of the current literature insights regarding the significantly positive effect of combined nudging elements, compared to their separate effect, derives from the context of sustainable and healthy nutrition and its promotion (Valérie et al., 2017; Ohlhausen & Langen 2020; Huitink et al., 2020). Further exploration is required regarding the effects of combined nudges within the context of sustainable fashion, hence, in accordance with the dominant literature insights the following hypothesis was formulated:

H3: The combination of social and eco-label nudge leads to more positive consumers' purchase intention for green apparel compared to each of the two nudges individually.

2.4. The Theory of Reasoned Action (TRA)

In this section, the Theory of Reasoned Action (TRA) is introduced referring to the effect of attitudes and subjective norms on individuals' purchase intention. The main pillars of the theory are being conceptualized and discussed in detail while each one of the cause-effect relations, is being presented with the incorporation of elaborative literature insights.

2.4.1 The Theory of Reasoned Action (TRA)

According to the Theory of Reasoned Action (TRA), introduced by Ajzen and Fishbein (1980), individuals' purchase intention results from the combined effect of both their attitudes and perceived social norms regarding the behavior. Several studies have explicitly

tested the relation between the two components and their effect on behavioral intention within several contexts ranging from healthy nutritional choices (Bogers, 2004) to academic integrity (Cronan et al., 2015), Islamic banking (Lujja et al., 2016) and green product selection (Welsch & Kühling, 2009), outlining the significant effect of both subjective norms and attitudes on one's behavioral intention. Moreover, Zhang et al. (2014), elaborated further on this relation, while they uncovered the moderating effect of gender, with subjective norms and individuals' attitudes consisting of significant predictors of one's behavioral intentions, especially among male participants.

2.4.2. Sustainable attitudes and purchase intention

Attitudes refer to positive or negative assessments of cognitive beliefs (Maio et al., 2019), guiding individuals in certain behavior, in accordance with the cost and derived benefit associated with it (Khan & Hameed, 2019). Sustainable attitudes, consisting of personal evaluative reactions regarding sustainability issues, are significantly associated with individuals' values, beliefs (Hurst et al., 2013) personal traits (Kaiser et al., 2014), and social pressure (Neumann et al., 2020), while they act as internal forces, initiators of more specific attitudes or behaviors (Huffman et al., 2014).

Sustainable attitudes' significant rise is apparent in several studies, in particular, according to Jaganmohan (2022), more than 80% of respondents emphasized on the importance of corporate sustainability and the need for corporate prioritization of both the people and the planet over profit. According to the Sustainability Study of 2021, a remarkable acceleration of the sustainably concerned consumers was revealed, valuing sustainability as a crucial criterion when purchasing a product, while according to the same study one third of consumers are willing to pay a premium price for sustainable products (Kucher, 2021).

Moreover, based on (Granskog et al., 2021), fashion purchases are no exception with 66% of the participants considering sustainability when purchasing a luxury product, while according to the same study 67% of consumers consider sustainable materials when selecting a fashion product and 63% value highly sustainably concerned brands. The trend toward sustainability and sustainable consumption has been growing significantly, especially among younger generations (Gazzola et al., 2017; Deloitte, 2021).

According to Hoque and Alam (2018), purchase intention is considerably defined by one's attitudes, while several studies elaborate on the strong predictive role of attitudes on one's intentions (Kumar et al., 2021; Passafaro, 2019; Singh and Banerjee, 2018). Moreover, a co-dependent relation between one's attitudes and socio-cultural characteristics has been identified, with such relation being more evident within individualistic societies (Morrren & Grinstein, 2016). According to Jung et al. (2020), sustainable attitudes are a positive predictor of sustainable apparel purchase intention, however, further exploration is required given the

limited approach of the research within the Chinese context. Considering this and with a focus on the Greek context the following hypothesis was formulated:

H4: Consumers' sustainable attitudes positively influence consumers' purchase intention for green apparel.

Green nudges, address individuals' need toward retaining a positive self-assessment regarding their abilities and behaviors (Schubert, 2017). Hence, nudges rely on the morality associated with environmental issues to steer them toward pro-environmental behaviors. According to Bovens (2009) steering individuals' toward certain behaviors is rational only if such behaviors align with the agent's overall preference structure. Informative nudges like social nudge and eco-label, could be effective when guiding individuals toward a direction which is considered to be in line with their overall preferences and values. Therefore, nudging works better if it helps individuals to make choices that are beneficiary to them (Lehner, et al 2016) or in align with their value system (White, 2008) and pre-existing attitudes or beliefs (Lehner et al., 2016). On the other hand, individuals may opt out of the nudge if they consider it contradictory to their interests and beliefs (Cooper & Kovacic, 2012). Hence, it could be assumed that individuals' sustainable attitudes could moderate the relationship between the social and eco-label nudge and consumers' purchase intention, leading to the formulation of the following hypothesis:

H5: The green nudges (eco-label and social nudge) positively influence consumers' purchase intention for green apparel, moderated by sustainable attitudes.

2.4.3. Subjective norms and purchase intention

Subjective norms are defined as the individuals' perceptions of social pressure to engage or not in a certain behavior or action deriving from identifiable opinions or judgments of their significant others (Ajzen, 1991 p.188). Significant others consist of family members, friends and important figures in one's life, but also communities to which they belong, shaping one's subjective norms based on their judgments and behaviors. The social pressure perceived can influence individuals' decision-making guiding them toward social compliance (Lujja et al., 2016). According to Rivis and Sheeran (2003), subjective norms incorporate both injunctive and descriptive norms, with the former referring to others' opinions or definitions of acceptable behaviors and the latter to what kind of behaviors and activities they engage in. Both injunctive and descriptive norms are accompanied by a consequent social pressure on the individual toward complying with such views (Askew et al., 2014).

According to the current literature, a significant effect has been uncovered between subjective norms and behavioral intention, with subjective norms positively influencing one's intention to engage in a sustainable behavior, (Judge et al., 2019, Zhang et al., 2019) organic food selection (Pandey et al., 2019, Basha & Lal, 2019) or ethical consumption (De Leeuw et al., 2015). Individuals' subjective norms appear to be explicitly linked with their intention to consume green (Kalafatis, et al., 1999; Yeon & Chung, 2011) and luxury products (Jain, 2020), while an equally strong correlation was found between subjective norms and purchase intention for fashion products (Kim & Karpova, 2010; Jin & Kang, 2011). Based on this the following hypothesis was formulated, with an explicit focus on the Greek market.

H6: Consumers' subjective norms regarding sustainability positively influences consumers' purchase intention for green apparel.

Overall, both social and eco-label nudges align with the concept of subjective norms. Specifically, eco-label nudges rely on the individuals' need for an attractive self-image, while, social norm ones are linked with the theory of social conformity, indicating a human tendency toward socially approved norms, or behavioral patterns that align with what is perceived by most people as socially acceptable (Asch, 1955). Hence, green nudges' are significantly linked with the individuals' need for a positive self-assessment, to steer them toward pro-environmental behaviors. According to Milford et al. (2015), providing feedback to households regarding their recycling performance and in comparison to their neighbors can significantly increase their social norms toward recycling and their consequent recycling habits. Moreover, according to Aceti (2002), individuals significant others play a substantial role in the recycling habits they will engage in. Therefore, it could be argued that social norm and eco-label nudges would be more influential to purchase intentions for the participants who significantly value their significant others' opinions. Hence, the following hypothesis was formulated.

H7: The green nudges (eco-label and social nudge) positively influence consumers' purchase intention for green apparel, moderated by subjective norms.

Figure 2.1. Conceptual model
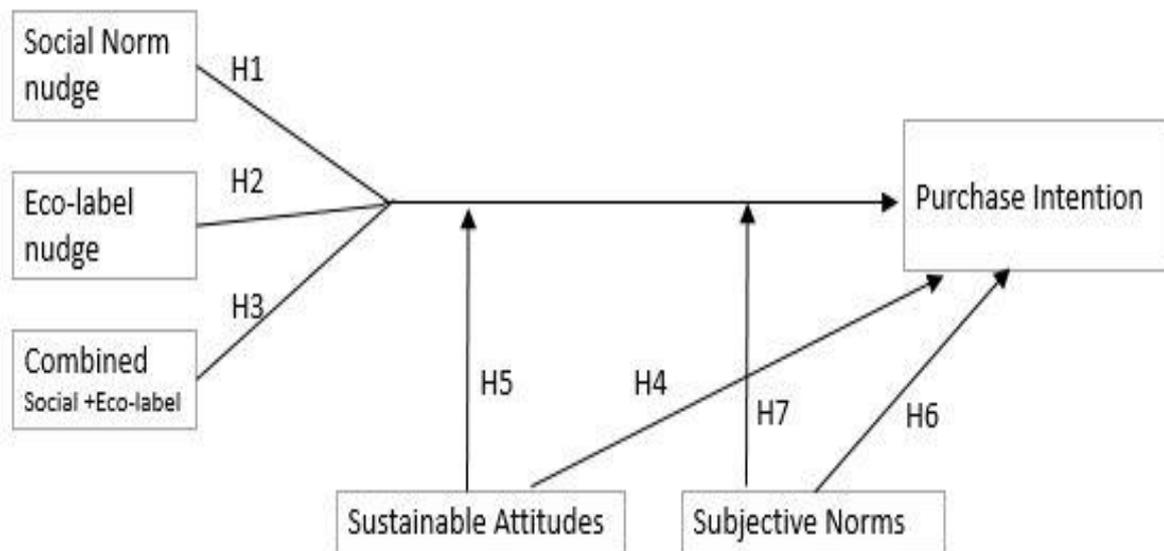
3. Methodology

3.1. Selection and Justification of the research method

To address the research question and hypotheses, a quantitative approach was adopted, incorporating research methods that aim to explain a phenomenon by collecting and analyzing numeric data with the use of statistical tools and methods (Creswell, 1999). Quantitative research is deductive and confirmatory relying on pre-existing theories to form specific hypotheses which are either accepted or rejected during the analysis. Such methods enable a systematic and in-depth analysis of large data sets which can be easily interpreted with the use of statistical tools to draw general conclusions regarding a population (Babbie, 2017). In quantitative research, a deeper understanding of the social reality is accomplished, through the quantification of individuals' opinions, attitudes and behaviors regarding social issues (Watson, 2015), hence, such methods were deemed suitable for uncovering consumers' sustainable attitudes and subjective norms. Moreover, compared to qualitative, quantitative methods enable the comparison between different groups, uncovering correlations and cause-effect relations among the variables under research (Holt, 2009).

The most effective quantitative method of analysis in terms of uncovering causal relations between different variables is the experiment (Neuman, 2013). Hence, given the research orientation toward measuring and comparing the effect of green nudges on consumers' purchase intention, this particular method was selected. The method of experiment enables the formulation of an artificial environment significantly controlled by the researcher, within which the variables under research can be incorporated and analyzed. Based on Creswell (2014), the generalizability of results is not central in the experimental design, with the main objective being to test the impact of a certain manipulation on an outcome or the effect of the independent variable on the dependent one.

According to Vargas et al. (2017) for every causal relationship to be valid, the causes and effects should correlate, which should be empirically established through relevant theoretical insights, while the causes are required to precede the effects in time. Finally, the effects should not be explained by other possible causes or external variables, this criterion is met within the highly controlled experimental environment, where the effect of external factors can be eliminated by the researcher, enabling the exclusive focus on the relationship between the variables under research (Holt, 2009). For the purpose of the study, the experiment was incorporated into a questionnaire, a suitable method for measuring behaviors and attitudes, while being a fast and relatively cheap method of data gathering (Matthews & Ross, 2010).

This study aims to investigate the effect of social and eco-label nudges on consumers' purchase intention, moderated by the effect of one's sustainable attitudes and subjective

norms. According to Baron and Kenny (1986), the moderating variables influence the direction and strengthen the correlation between the independent and dependent variables. For this purpose, an experiment was designed in the form of a questionnaire. To examine the effect of green nudges, consisting of social and eco-label nudges on consumers' purchase intention, a 2 (eco-label: included vs. excluded) x 2 (social nudge: included vs. excluded) between-subject factorial design was considered the most appropriate method. This method enables the comparison among the different manipulation groups, the exclusive and combined effect of an eco-label and social nudge on the purchase intention (Neuman, 2014). Compared to single-treatment design, factorial designs are adequate when more than one treatment is applied, enabling the examination of both their exclusive and interaction effects on the dependent variable (Neuman, 2014).

3.2. Sampling

3.2.1. Sampling Strategy

Sampling refers to the process of selecting and examining a relatively small number of representative units from a pre-defined population under research to extract knowledge and insights regarding that population (Otzen & Manterola, 2017). In order to gather the intended sample, the non-probability sampling methods of convenience and snowball sampling were selected.

Non-probability sampling methods rely on the researcher's subjective judgment for the selection of research units, hence, unlike probability methods the different units of a given population do not have an equal chance of being included in the sample. Overall, these methods consist of cost-efficient and less time-consuming alternatives to the random sampling methods, relying on the accessibility of sample units (Taherdoost, 2016). Even if random sampling methods enable greater generalizability of results, non-probability ones appear to be more adequate for the research, oriented toward the generation of new ideas that will be further tested in future research (Mohsin, 2016). These methods rely on pragmatic criteria for the selection of participants ranging from their accessibility, availability and preparedness to participate (Etikan et al., 2016). Hence, given the specific research requirements toward exclusively Greek consumers, the non-probability sampling method appeared to be more adequate.

The selected sampling method of convenience sampling is an affordable and less time-consuming method enabling the recruitment of a significantly large number of participants who meet the research criteria and within a limited amount of time (Ackoff, 1953). This method appears to be preferable wherever the target population is broad; however, a possible limitation of these methods derives from the high levels of researcher's

intervention in the process of sample selection, with certain segments of the population being excluded from the sample which could result in a lack of sample representativeness, generating biased results (Sarstedt et al., 2017).

To generate the intended amount of participants the non-probability sampling method of snowball sampling was also used. Snowball sampling, refers to the process of encouraging participants to identify other participants who meet the research criteria and belong to the target population, while the latter are also requested to do the same and so on (Thompson, 2002). Through snowball sampling, different networks of individuals are created including possible participants aligning with the characteristics of the target population leading to the significant growth of the final sample (Taherdoost, 2016). However, such networks may lead to biased results due to the consequent uniformity of participants (Etikan et al., 2016).

The participants were recruited online based on their accessibility and the researcher's judgment regarding their suitability for the research purposes. Initially, participants were reached personally through the social media platforms of Facebook, Instagram and LinkedIn, platforms with different orientations and target groups, which ensured a diverse sample. A post was created and shared through the researcher's personal profile on the aforementioned social media platforms containing information regarding the purpose of the research, its requirements and a link directing the participants to the survey. Both the personal message and the social media post were encouraging participants to invite acquaintances and network, who met the research criteria, to fill the survey. To ensure a highly representative sample, the researcher made an effort to reach as demographically diverse participants as possible.

3.2.2. Sampling Criteria

The target population consisted of Greek consumers over eighteen years old and familiar with conducting online purchases. Overall, the Greek-centric nature of the research increases the relevance of the sample; however, it reduces the generalizability of insights exclusively within the Greek context (Babbie, 2017). To effectively address the target population and in accordance with the aforementioned criteria, a Qualtrics questionnaire was created and distributed online. Compared to an offline questionnaire, the online one facilitated the process of targeting participants familiar with digital technologies and online shopping.

3.2.3. Sample

The sample included 261 participants of those 35 who did not complete the questionnaire and 1 was below 18 years old, hence they were excluded. The analyses were conducted on a sample of 225 participants between the age of 18 to 65+ years old with the majority (71 participants, 32%) being from the age group of 18-24. The sample was composed of 157 (69.8%) females and 66 (29.3%) males while two participants, 0.9% of the

total sample, chose to answer "rather not say". Regarding respondents' education 2 (0.9%) completed the compulsory education, 27 (12%) obtained a high school degree, 20 (8.9%) technical training, 98 (43.6%) had a Bachelor's degree, 72 (32%) had a Master's/PhD while 6 participants (2.7%) chose the answer "other". Participants were randomly assigned to 1 of the 4 conditions, using the randomizer function available in Qualtrics. The respondents were mostly full-time employed 105 (46.7%) or students 47 (20.9%), while 22 (9.8%) were working part-time, 15 (6.7%) self-employed, 15 (6.7%) unemployed and 21 (9.3%) retired. The total sample ($N = 225$) was divided into groups of approximately equal size across the 4 conditions with 55 (24.4%) participants in the control group, 57 (25.3%) in the experimental group exposed to the social nudge, 57 (25.3%) in the experimental group exposed to the eco-label nudge and 56 (24.9%) in the group exposed to the combined nudges treatment. Detailed information regarding the participants is provided in Appendix D.

3.3. Description of the Research Method

To examine the effect of different nudges to purchase intention, an experiment was designed and implemented by the Qualtrics survey platform. Initially, the moderating factors of individuals' sustainable attitudes and subjective norms were examined with the use of two short scales, followed by the experiment. Regarding the experimental design, each participant was exposed exclusively to one of four conditions. The participants of the control group were presented an advertisement without any nudges, while in the three experimental groups participants were exposed to a social, an eco-label or a combination of both nudges. Manipulation checks were incorporated in the questionnaire, accompanying each one of the different conditions and enabling the exclusion of confounding responses. Consumers' purchase intention was measured with the use of a short scale. Finally, demographic questions were included at the end of the questionnaire.

After the creation of the questionnaire a pre-test was conducted on ten participants, so that at least two of them were exposed to each one of the different conditions, hence, feedback could be provided regarding the whole questionnaire. In particular, four participants indicated that they would prefer to fill the questionnaire in Greek as they could not fully understand a few items and the manipulation checks. Three of the participants found the advertisement quite big, on their phone screen which made it difficult to carefully read it. However, all of them agreed that the questionnaire was pleasant and easy to follow with the questions and consent form *being clear and to the point*. Based on the feedback provided, the questionnaire was translated into Greek to further facilitate the participants' understanding and to enable a broader reach of prospective participants. The advertisement image was also conveyed in Greek, while it was reformatted to fit on both PC and mobile screens.

3.3.1 Experimental Design

The experiment was designed to measure the effect of the different nudges on participants' purchase intention. Each group was shown the same picture of a black unisex hoodie, displayed in a way to look like an item found on the page of an online clothing store. Specific information regarding its price, the material of production, available sizes and colors were incorporated along with a call to action bottom (*Buy it now*). The hoodie had a gender-neutral cut, enabling the researcher to address both genders, while its plain design and neutral color made it more appealing to a broad segment of consumers. It was clearly mentioned in the information section that the hoodie was made out of sustainable material, in particular, organic cotton, a sustainable form of cotton grown without the use of synthetic pesticides, artificial fertilizer and toxic chemicals (Altenbuchner et al., 2017). The price of the hoodie i.e. 40 euros was chosen after a quick review of the online Greek market and is relatively expensive for the average Greek consumer, given that organic cotton is a bit more expensive than non-sustainable fabrics.

All the participants were exposed to the same advertisement however, for each of the experimental groups the corresponding nudge or nudge combination was incorporated. The social nudge experimental group was exposed to a statement next to the hoodie indicating that the presented product has been the number one sustainable choice among consumers. To the experimental group that incorporated the eco-label nudge a global organic textile standard (GOTS) certification - a worldwide recognizable indicator of sustainably produced products, was depicted next to the hoodie icon. The third experimental group was exposed to both nudging elements, while a control group was also included that contained none of the nudging elements. The advertisement was accompanied by a short message encouraging the participants to carefully look at the item and the provided information in order to answer later the related questions regarding their purchase intention toward the specific hoodie presented.

3.3.2. Manipulation Check

After being exposed to the visual stimulus, participants were immediately presented with two manipulation checks, used to determine the effectiveness of the manipulation in the experimental design. The manipulation check enables the researcher to test the plausibility of the hypotheses and whether the participants comprehended and correctly perceived the manipulation of the independent variable (Hoewe, 2017).

Initially, the participants were asked to indicate whether they agreed or disagreed with the statement that *"The item that you show in the advertisement is made of 100% organic cotton".* The wording of the question was clear, aiming to uncover wheatear the participants observed the sustainable nature of the product displayed in the advertisement.

In addition, a second manipulation check was created to test the degree to which the participants were able to identify the manipulation present within their group. Hence, the second manipulation consisted of a multiple-choice question for which the participants had to indicate whether in the presented advertisement an eco-label was included, a social nudge, a combination of both, or none of the above.

3.4. Measures and Operationalization

This section entails the operationalization of the different variables under research, referring to the description of the procedures used to measure the attributes of variables (Babbie, 2017). To test the six hypotheses formulated and measure the effects of the different variables under research the data collected from the Qualtrics questionnaire were analyzed. Regarding the scales, the aspects of validity, reliability and comprehensiveness co-lead the selection of the adequate scales.

3.4.1. Purchase intention scale

To measure the dependent variable of consumer's sustainable purchase intention the Baker and Churchill (1977) scale of Purchase Intention for Environmentally Sustainable Products was selected consisting of a 4-item scale measuring one factor on a 7-point Likert scale (1 = strongly agree to 7 = strongly disagree). A sample item utilized in the current research is: *I would buy this item if I happen to see it in a store.* The scale has been used in many studies (Kalwani & Silk, 1982) and its reliability has been verified, revealing a significantly high α = .93 (Umoru, 2017).

Factor analysis was conducted on the scale using Principal Component extraction with Direct Oblimin rotation based on Eigenvalue (> 1.00) *KMO* = .80, X^2 (N = 225,6)=576.55 $p <$. 001 and with all correlations being > .03. In the deriving factor, a reliability test was conducted with a Cronbach's α = .90. Cronbach's alpha of .70 or greater indicates good internal consistency reliability in a scale (Nunnaly & Bernstein, 1994), hence it was accepted and none of the items were excluded as it would only decrease the reliability. Finally, a new variable namely; *Purchase Intention* was created as the mean of the 4 items.

3.4.2. Subjective Norms Scale

The moderator of subjective norms was measured with the scale of Rhodes & Courneya (2004) which highly relied to the pre-existing scale measuring subjective norms recommended by Ajzen (2002). It is a 5-item, 7-point Likert scale, measuring both injunctive and descriptive norms, incorporated into the concept of subjective norms. For the measurements of the injunctive norm, the items were *(1) Most people in my social network want me to buy more sustainable fashion products in the future, (2) Most people in my social network would approve if I regularly bought sustainable fashion products,* while for the

descriptive norms the items were *(1) Most of my friends buy sustainable fashion products, (2) Most of my family members buy sustainable fashion products, (3) Most of my co-workers buy sustainable fashion products.* This scale has been utilized in many studies as a reliable instrument, while it has been verified that it indeed measures the intended concept of subjective norms (Rhodes et al., 2006).

Factor analysis was conducted on the 5 items of the scale using Principal Component extraction with Direct Oblimin rotation based on Eigenvalue (> 1.00) *KMO* = .86, $X^2 (N = 225, 10) = 652.92\ p < .001$ and with all correlations being >.03. A reliability test was conducted in the deriving factor with the Cronbach's α = .88, which was acceptable, while none of the items was excluded as it would only decrease the reliability. Finally, a new variable by the name of *Subjective Norms* was created as the mean of the 5 items.

3.4.3. Sustainable attitudes scale (NEP)

The moderator of sustainable attitudes was assessed with the use of the revised version of the New Environmental Paradigm (NEP) scale, measuring environmental attitudes on a 7-point Likert scale, based on the human-environment relation (Whitmarsh, 2009). The original 15-item version is relatively long while incorporating several items irrelevant to the research purpose; while the revised 6-item scale incorporates clear and concise items in addition to being less time-consuming. A sample item utilized in the current research is: *Humans are severely abusing the planet.* The revised 6-item version of NEP has been used in several studies (Whitmarsh, 2009) while its reliability has been verified in both the research of Cordano et al. (2003) revealing an α = .88 and in the one of Whitmarsh (2009), an α = .72.

Before conducting a factor analysis items 1, 4 and 5 measuring non-sustainable attitudes were reversed. From the factor analysis, most correlations were > .03 $KMO = .73, X^2 (N = 225, 15) = 215.72, p < .001$. Two components were extracted from the analysis and subjected to reliability analysis in order to verify their internal consistency reliability; the results are summarized in the table below. The first factor consisted of the items 1, 2, 3 and 6 had the highest reliability between the two - but still not sufficiently reliable – Cronbach's alpha. Hence, the new variable *Sustainable Attitudes* was created as the mean of those for 4 items.

Table 3.1. : *Factor and reliability analysis for Sustainable Attitudes scale (N=225)*

Items	Sustainable Attitudes 1	Sustainable Attitudes 2
The balance of nature is very delicate and easily upset.	.85	-
Humans are severely abusing the planet	.77	-
Plants and animals have the same rights as humans to exist.	.55	-
Nature is strong enough to cope with the impact of modern industrial nations.	.40	-
Humans have the right to modify the natural environment to suit their needs.	-	.90
Humans were meant to rule over the rest of nature.	-	.69
R^2	40.13	18.31
Cronbach's a	.65	.54

3.5. Validity and Reliability

This section addresses the validity and reliability of the research based on the decisions that were made regarding both the experimental design and the measurements used during the research. Validity refers to whether the study measures what is supposed to

measure, pre-existing and verified scales were used for the measurement of the different concepts while a pilot test was conducted to ensure high levels of validity (Neuman, 2014). Validity consists of internal and external, with the internal defining the degree to which the cause-effect relationship between the different variables is established, elaborating on the meaningfulness of the study (Slack & Draugalis, 2001). However, external validity, referring to the generalizability of the experimental findings was more difficult to establish, given the nature of the experimental design in the Greek context.

To establish the internal validity of the research and effectively address some of the most common threads, namely, selection bias, maturation effect and demand characteristics phenomenon (Neuman, 2014), certain decisions were made regarding the design and implementation of the experiment. Selection bias refers to the lack of randomized distribution of participants within the different conditions and the lack of equivalence regarding the different groups (Neuman, 2014). To avoid this threat the Qualtrics software was utilized enabling the randomized and equal distribution of participants within the different groups. The maturation effect is a consequence of long-lasting experiments resulting in participants' boredom and lack of attention usually apparent in experimental designs with an extensive duration of several hours days or even weeks (Slack & Draugalis, 2001). The short length of the experiment i.e. 5 minutes and its comprehensive items minimized this threat.

Finally, demand characteristics refer to the phenomenon of participants trying to guess the research hypotheses and altering their behavior in accordance with the research objectives (Neuman, 2014). To prevent such behaviors a brief introduction to the research was provided without revealing significant information regarding the research, while mild deception was used in the form of the cover story of an online fashion store. Manipulation checks were also incorporated to ensure the effectiveness of the included manipulations on the participants.

Reliability referring to the ability to reproduce the same study and extract similar insights was ensured through the selection of scales with a Cronbach's alpha above .70 an indicator of an internally consistent scale (Johnson, 2017). Each of the scales included in the study was pre-tested and identified as reliable in accordance with previous studies. Moreover, participants were not guided while completing the questionnaire and were encouraged to respond to the questionnaire sincerely.

4. Results

This chapter is dedicated to the presentation of the statistical analysis conducted in SPSS, the methods used for the analysis and the research findings. Initially, information regarding the descriptive statistics and the created variables on SPSS is presented. Following this, the tests of the manipulation checks are presented and an overview of the cleaned data set is provided. The different hypotheses are addressed, while the appropriate SPSS tests were selected in accordance with the assumptions of each one of the different methods. After selecting the adequate tests based on the data set, the SPSS tests were implemented and their results are being reported leading to the acceptance or rejection of the research hypothesis. Finally, the possible influence of the demographic characteristic of participants' age on the dependent and independent variables is examined

4.1. SPSS data preparation

The Qualtrics data set was exported and analyzed on the SPSS software. To facilitate the analysis of results the items of the different scales were combined for the creation of different variables, three variables were created based on the means of each scale's items. The independent variable *Purchase Intention* measures the purchase intention of the participants toward the sustainable fashion item. It is a continuous variable computed as the mean value of all 4 items of the purchase intension scale and has a mean value of $M = 3.74$ ($SD = 1.06$). Two new variables were also created for each one of the two moderators, the moderator of *Sustainable Attitudes* measures the respondents' sustainable attitudes, and it is a continuous variable computed as the mean value of the items 2, 3, 4 and 6 of the initial scale and has a mean value of $M = 5.59$ ($SD = 0.99$). Regarding the second moderator, the *Subjective Norms* variable was created to measure participants' subjective norms. It is a continuous variable computed as the mean value of all 5 items of the subjective norms scale and an overall mean score of $M = 3.46$ ($SD = 1.18$). The two independent dichotomous variables consisted of the variable *Social nudge* representing the condition of the social nudge manipulation (included and excluded) and the variable *Eco-label nudge* recording the conditions of the eco-label manipulation (included and excluded).
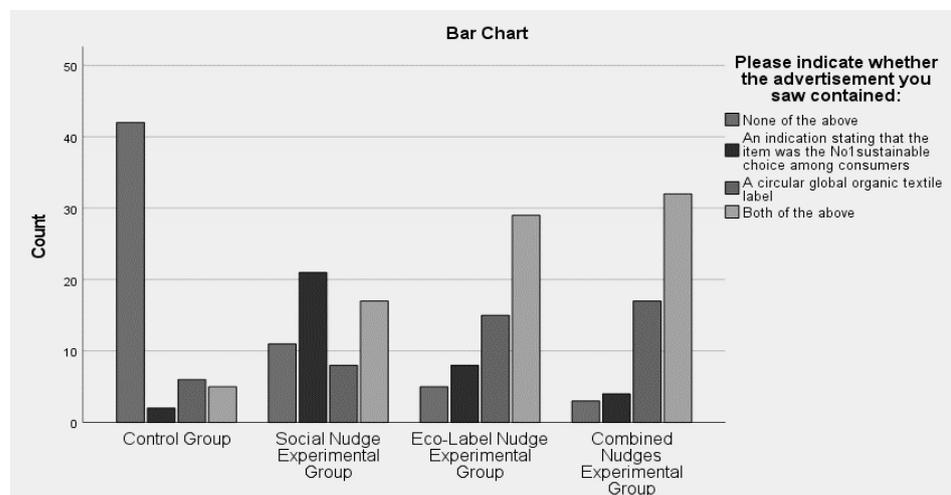
4.2. Manipulation Check

The analysis on *Manipulation Check organic cotton* revealed that 205 out of 225 (91, 1%) of the participants reported correctly that the fabric of the displayed hoodie was 100% organic cotton. To facilitate the analysis of *Manipulation Check groups* a new variable by the name of *Experimental Groups* was created, this categorical variable recorded the

manipulation that each participant was exposed to: the control group, the experimental group of social nudge, the experimental group of eco-label and the experimental group of combined nudges. The *Manipulation check groups* variable was recoded to correspond to the values of the *Experimental Groups,* consisting of participants' answer *"none of the above*", "*an indication stating that the item was the No 1sustainable choice among consumers,"* "*a circular global organic textile label*" and *"both of the above"*. To test *Manipulation check groups*, a bar chart was created with SPSS crosstabs placing the *Experimental Groups* on the horizontal axis and the frequencies of *Manipulation check groups* measured on the vertical one. In Figure 4.1., the participants' responses within the different experimental groups are displayed.

To examine the extent to which the participants noticed the manipulation included in their experimental group a Pearson Chi-square test was performed to enable the examination of the association between the experimental conditions in which each participant was assigned and the manipulation they reported seeing. The null hypothesis was rejected as a significant association was found between the two variables $X^2(9, N = 225) = 120.39, p < .001$. Hence statistically, participants were able to identify their assigned group fairly accurately.

Figure 4.1.: *Manipulation Check groups*

4.3. The cleaned dataset

In order to examine the effect of eliminating the participants who did not respond correctly in *Manipulation Check groups* and *Manipulation Checks organic cotton*, a new cleaned data set was created. In the new dataset the total sample which consisted of $N = 102$ participants, was not equally distributed in the different manipulation groups, resulting in certain manipulation groups having less recorded responses compared to others. Specifically, the control group consisted of $N = 42$, the eco-label experimental group of $N = 15$, the social

nudge experimental group of $N = 21$ and combined nudges experimental group of $N = 32$. Due to the unequal distribution of participants within the different treatments, which is a violation of the ANOVA assumptions, this data set was not used for further analysis. Hence, the statistical analysis relied on the initial sample of 225 participants.

4.4. Data assumptions

Before proceeding with the main research analyses the appropriateness of the ANOVA tests was examined. The different research variables were examined on whether they met the required assumptions regarding the normality, homogeneity, linearity, homoscedasticity, autocorrelation and multicollinearity and on their consequent appropriateness for statistical analyses.

The assumption of independence of observations requires each record in the data to be a distinct and independent entity, this assumption was met as the randomization option of Qualtrics was used enabling the random distribution of participants within the different manipulations. The assumption of normality, referring to the roughly normal distribution of the main variables was confirmed by visual interpretation of the variable's histograms. In general, ANOVA is considered to be fairly robust against violations of the normality assumption as long as the sample sizes are sufficiently large (> 20) as is the case in this research.

Overall, the two groups in each independent variable being almost equal, rendered the need to test for homogeneity of variance in each subgroup redundant. The three continuous variables were inspected. For the assumptions of linearity and homoscedasticity referring to the three continuous variables, the P-P Plot visualizations of the standardized residuals showed linearity (distributed along a line), while scatterplots indicated homoscedasticity. Finally, during the regression analyses of the models, variables were tested for autocorrelation and multicollinearity, where variables showed a value close to 2 (2.05) on the Durbin-Watson test which indicates a lack of autocorrelation. Concerning multicollinearity, VIF values of all variables were below 2, so the assumption of no multicollinearity also holds.

Table 4.1: *Means, standard deviation and Correlation Matrix*

Measure	Mean	Std. Deviation	Purchase intention	Subjective norms	Sustainable Attitudes
Purchase intention (independent variable)	3.74	1.06	-		
Subjective norms (moderator)	3.46	1.18	.26**	-	
Sustainable Attitudes (moderator)	5.56	.99	.15*	.20*	-

*N = 225, **p < .001, *p < .005*

4.5. Hypothesis testing

4.5.1. Difference of Means between Groups

        To examine the effects of the social and eco-label nudges on purchase intention (hypotheses H1, H2, H3) a two-way ANOVA test for the analysis of variance was selected. Given the experimental 2x2 factorial design this method was the most adequate, enabling the examination of the effect of the two independent variables on the dependent one. Hence, a two-way ANOVA was performed using *Purchase intention* as the continuous dependent variable while, *Social nudge* and *Eco-label nudge* as dichotomous independent variables or fixed factors.

        In Table 4.1., the mean values and standard deviations of *Purchase Intention* within the interaction subgroups are being displayed. Overall the ANOVA test revealed that there was no significant main effect for the *Social nudge* variable $F (1, 221) = 0.56$, $p = .454$ $\eta2 = 0.003$. Thus, there was no evidence that the social nudge had any effect on purchase intention; leading to the rejection of H1 regarding the influential effect of social nudges on the purchase intention. However, a significant main effect was revealed for the *Eco-label nudge* variable, $F (1, 221) = 5.10$, $p = .025$ partial $\eta2 = 0.02$. The mean purchase intention of the participants who were not exposed to the eco-label *(M = 3.59, SD = 0.98)* is significantly lower than the mean purchase intention of the participants who were exposed to the eco-label *(M = 3.90, SD = 1.11)*. Hence, the ANOVA test revealed that the mean value of purchase intention was significantly higher among participants who were exposed to the eco-label nudge – either exclusively or in combination with the social nudge – compared to the ones

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who were not exposed to it. In conclusion, H2 was accepted regarding the more positive effect of eco-label nudge compared the social nudge.

      Overall, the ANOVA test revealed no significant effect of the *Social nudge*Eco-label nudge* interaction $F(1, 221) = 0.59$, $p = .443$. $\eta2 = 0.003$, hence there was insufficient evidence that the experimental subgroups differ. Given that the interaction variable of *Social nudge*Eco-label nudge* corresponds to the combined nudges (social nudge included and eco-label included) no significant effect was found for the combined nudges. Hence, hypothesis H3 was rejected as the participants who were exposed to the combined nudges did not differ statistically from the ones who were exclusively exposed to the social or the eco-label nudge.

Table 4.2: *Descriptive Statistics for different groups*

Social Nudge	Eco-Label Nudge	Mean	Std. Deviation	N
	Excluded	3.69	1.02	55
Excluded	Included	3.89	1.07	57
	Total	3.79	1.05	112
	Excluded	3.47	0.93	57
Included	Included	3.90	1.17	56
	Total	3.68	1.07	113
	Excluded	3.58	0.98	112
Total	Included	3.90	1.11	113
	Total	3.74	1.06	225

      On table 4.2., the mean values of each subgroup are presented. Overall, from the descriptive statistics table, it was evident that participants exposed to eco-label ($M = 3.89$, $SD = 1.07$) and the ones exposed to the combined nudges ($M = 3.90$, $SD = 1.17$) scored higher on purchase intention than the ones of the control group ($M = 3.69$, $SD = 1.02$), while the participants exposed to the social nudge ($M = 3.47$, $SD = .93$) scored the lowest. However, as the regression analysis revealed only the eco-label mean difference was statistically significant.

Figure 4.2. *The purchase intention for the different groups*
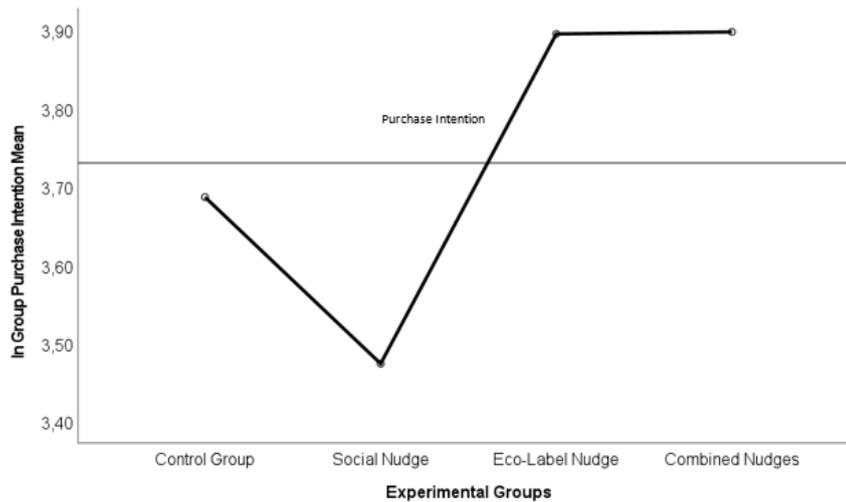
4.5.2. The Moderating effect of Sustainable attitudes

To provide an answer to the hypothesis H4 regarding the positive influential effect of sustainable attitudes on participants' purchase intentions and to the H5, regarding the moderating effect of sustainable attitudes on the relationship between the dependent and independent variables, hierarchical linear regression analysis appeared to be the most suitable method. This method enabled the investigation of the moderating effect by adding variables to the model in steps, namely blocks.

For this analysis the dependent variable of *Purchase intention* is the continuous dependent variable as described in the chapter 4.1., regarding the data preparation. The independent variables consisted of the dichotomous variable of *Social nudge* with values 1 and 0 represented the condition when the social nudge manipulation was included (value = 1, $N = 113$) and excluded (value = 0, $N = 112$) and the variable *Eco-label nudge* included (value = 1, $N = 113$) and excluded (value = 0, $N = 112$).

Initially, a hierarchical regression analysis was conducted to test the H4 regarding the overall effect of sustainable attitudes on purchase intention and H5 focusing on the moderating role of sustainable attitudes. For this reason new variables were created to represent the interaction effect between the nudges and the moderator. For the interaction between the nudges the variable *Social nudge * Eco-label nudge* was created, for the interaction between eco-label and sustainable attitude *Attitudes * Eco-label nudge* was created, for the one between social nudge and sustainable attitudes *Attitudes * Social nudge,* while for the three way interaction among eco-label social nudge and attitudes variable *Attitudes * Eco-label * Social nudge*. For the analysis, *Purchase intention* was placed as the dependent variable, the main effects *Social nudge*, *Eco-label nudge* and *Sustainable Attitudes*,

were inserted in box 1, the two-way interactions *Social nudge * Eco-label nudge*, *Attitudes * Eco-label nudge* and *Attitudes * Social nudge* were inserted in box 2, while the three-way interaction *Attitudes * Eco-label * Social nudge* was inserted in box 3.

The test revealed a significant main effect for the model 1 F (3, 221) = 3.53, p = .016. The inclusion of the two-way (model 2) and three-way (model 3) interactions did not significantly increase the adjusted *R square F* (3,218) = 1.27, p = .284 and F (1,217) = .03, p = .875 accordingly. This means that a model containing sustainable attitudes and social and eco-label nudges could significantly explain variations in purchase intention (*R2* = 0.21).

Table 4.3., including the coefficients and model summaries for the three models indicates that for the model 1 eco-label and sustainable attitudes significantly predict consumers' purchase intention. Hence, H4 was accepted, as sustainable attitudes appeared to have a positive effect on consumers' purchase intention. However, as displayed in columns model 2 and 3 of the table 4.3., the interactions of the sustainable attitudes, eco-label and social nudges did not appear to be good predictors of participants' purchase intention. Thus, no statistically significant moderation effect was found for sustainable attitudes on social and eco-label nudges. In conclusion, hypothesis 5 regarding the moderating effect of sustainable attitude on the relationship between the dependent (purchase intention) and independent (green nudges) variables was rejected.

Table 4.3: *Hierarchical Regression models with sustainable attitudes as moderator*

	Purchase Intension		
	Model 1 b*	Model 2 b*	Model 3 b*
Predictors: (Constant)	-	-	-
Eco-Label nudge	0.15*	-0.61	-0.68
Social Nudge	-0.03	-0.50	-0.58
Sustainable Attitudes	0.15*	-0.08	-0.10
*Social nudge * Eco-label nudge*		0.10	0.21
*Attitudes * Social nudge*		0.40	0.48
*Attitudes * Eco-label*		0.72	0.80
*Attitudes * Eco-label * Social nudge*			-0.11
R2	0.05	0.06	0.06
ΔR2	0.05	0.02	0.00
ΔF	3.53	1.27	0.03
p	.02	.28	.87

Note: *p<.05*

4.5.3. The Moderating effect of Subjective norms

To provide an answer to the hypothesis H6 regarding the positive influential effect of subjective norms on participants' purchase intentions and to the H7, regarding the moderating effect of subjective norms on the relationship between the dependent and independent variables, hierarchical linear regression analysis was conducted.

To facilitate the analysis the variable *Subjective norms,* as described in chapter 4.1., was used, while new variables were created to represent the interaction effects. For the interaction between eco-label and subjective norms *SubNorms * Eco-label nudge* was created, for the one between social nudge and subjective norms *Subnorms * Social nudge,* while for the three way interaction among eco-label social nudge and attitudes variable *Subnorms*Eco-label * Social nudge*. For the analysis, *Purchase intention* was placed as the dependent variable, the main effects *social nudge*, *eco-label nudge* and *Subjective norms*, were inserted in box 1, the two-way interactions *Social nudge * Eco-label nudge*, *Subnorms * Eco-label nudge* and *Attitudes * Social nudge* were inserted in box 2, while the three-way interaction *Subnorms * Eco-label*Social nudge* were inserted in box 3.

Table 4.4: *Hierarchical Regression models with subjective norms as moderator*

	Purchase Intension		
	Model 1 b*	Model 2 b*	Model 3 b*
Predictors: (Constant)	-	-	-
Social Nudge	-0.05	-0.24	-0.08
Eco-Label nudge	0.16*	-0.35	-0.19
Subjective Norms	0.03***	0.05	0.10
*Social nudge * Eco-label nudge*		0.03	-0.23
*Subnorms*Social nudge*		0.16	-0.01
*Subnorms*Eco-label*		0.54**	0.35
*Subnorms*Eco-label*Social nudge*			0.30
R2	0.10	0.13	0.13
ΔR2	0.10	0.03	0.00
ΔF	7.85	2.50	0.67
Sig.	<.001	.060	.413

Note: *p < .05, **p < .01, ***p < .001

In Table 4.4., regarding model 1 it was proved that the main effects *Social Nudge*, *Eco-label nudge and Subjective norms* are significant predictors of participants' purchase intention $F(3, 221) = 7.85$, $p < .001$. However, the inclusion of the two-way interactions as indicated in model 2 did not increase the adjusted *R-square* significantly $F(3, 218) = 2.50$, $p = .060$. The same is indicated in the model 3 regarding the three-way interaction as it did not significantly increase the adjusted *R2*, $F(1, 217) = 0.67$, $p = .413$. As shown in Table 4.4., subjective norms appear to be a statistically significant predictor of the dependent variable. Hence, hypothesis 6 was accepted as there is a significant positive influential effect of subjective norms on participants' purchase intention.

Overall, the contributions of the interactions in models 2 and 3 were not statistically significant with the exception of the interaction between subjective norms and eco-label nudge in model 2. In conclusion, hypothesis H7 regarding the moderation effect of subjective norms on the relationship between social nudge, eco-label nudge and purchase intention was rejected.

4.6. Additional analysis

After testing the different hypotheses of the study an additional analysis was conducted, to examine the moderating effect of the demographic characteristics and specifically participants' age on the relationship between the green nudges and participants' purchase intention. According to Vătămănescu et al. (2021), both Millennial and Gen Z, tend to prefer sustainable products, with sustainability having a significant effect on their overall evaluation of a brand. Hence, it was assumed that participants from the age groups of 18-24 and 25-35 would score higher on purchase intention.

To test the moderating effect of age on the social and eco-label nudges hierarchical regression analysis was performed. The categorical variable of *Age* was used as a moderator while new variables were created to represent the interaction effect between the social and eco-label nudges and the age groups variables namely; *Age * Social nudge, Age * Eco-label* respectively and the three-way interaction *Age * Eco-label * Social nudge.*

For the hierarchical regression analysis, *Purchase intention* was placed as the dependent variable, the main effects *Social nudge*, *Eco-label nudge* and *Age* were inserted in box 1, the two-way interactions *Social nudge * Eco-label nudge*, *Age*Eco-label nudge* and *Age*Social nudge* were inserted in box 2, while the three-way interaction *Age*Eco-label*Social nudge* was inserted in box 3. The test revealed that the model 1 containing the main effects is a good predictor of participants' purchase intention $R2 = .057$ $F(3, 221) = 4.43$, $p = .005$ (*Social nudge b* = -0.03, p = .64, Eco-label nudge b* = 0.133, p = .044, Age b* = 0.179, p = .007*), while the inclusion of the interactions did not increase the adjusted *R-*

square significantly. Hence, it appears that older participants scored higher on purchase intention compared to the younger ones, however, participants age did not act as a moderator in the relationship between the social and eco-label nudge and participants purchase intention.

5. Discussion

The fashion industry has been characterized as one of the most polluting ones responsible for excessive waste and chemical pollution, tendencies which are constantly growing within the current context of overconsumption and fast-fashion dominated market (Ly, 2021). However, against the prominent paradigm of fast-fashion and overconsumption, ethical and green fashion have been growing significantly as a result of the altered stakeholders' demands for more sustainable production. An increasing number of studies view consumers as the shapers of the current trends able to influence the transition toward a more sustainable future through their purchase intentions and habits (Randelli & Rocchi, 2017). On the contrary, corporations dedicated to catering to their stakeholders' needs have a secondary role as reflectors of the consumers' demands (Hojnik et al., 2019).

This study aimed to explore the drivers of consumers' intentions when it comes to sustainable products, with an overall goal to find ways to promote sustainable consumption, specifically among Greek consumers. Green nudges appeared to be a possible incentive able to steer individuals' purchase intentions toward sustainable purchases (Evans et al., 2017). Both the effectiveness of such manipulations and their relation to shaping consumers' purchase intentions were examined. Moreover, consumers' sustainable attitudes and subjective norms were also taken into consideration as possible moderating factors. To uncover the relationship between these concepts, an online experiment was conducted to provide an answer to the following research question: "*To what extent do green nudges (social and eco-label) influence online sustainable fashion purchase intentions moderated by sustainable attitudes and subjective norms.*"

This section underlines the key research findings for each of the different concepts, their effectiveness, and their relation with one another, while elaborative literature is provided. Following this, the theoretical and practical implications are being highlighted. The research limitations are being spotted and exemplified, while future research recommendations are being presented. Finally, in the conclusion of the study, an answer to the research question is provided.

5.1. Key findings

Regarding the first hypothesis (H1), it was expected that the social nudge would have a positive effect on participants' purchase intention compared to those who were not exposed to the social nudge, however, no significant effect was found. Even more, if the detected differences were statistically significant, the social nudge effect would be the opposite of what was expected. This conclusion is drawn from the observation that the mean value of purchase intention appears to be lower for the participants exposed to the social nudge, but

this result may be utterly circumstantial. Bohner and Schlüter (2014) also failed to find a significant correlation between social nudge and behavioral intention, while in the study of Schultz et al (2007), social nudge had a backfiring effect generating an unfavorable behavioral alteration among participants. One could argue that even if participants seemed to value their social group's opinions, as indicated by the predictive role of subjective norms on purchase intention that is not the case for the general public's opinion in the form of a social nudge. Overall, Greek consumers appear to rely more on the opinion of people they know when it comes to their purchase intention, -given the influential effect found for the subjective norms, compared to the social nudge. The fact that the social nudge had no effect could be attributed to the uncertainty regarding the relevant reference network, which according to Bicchieri and Dimant (2019), could even generate the opposite of the intended effect. Moreover, general normative messages, or social nudges lacking a specific focus group could generate confusion in the receiving audience. According to the study of Bernedo et al. (2014) regarding the effects of large water consumption, the use of social nudges informing about their neighbors' use was much more effective than the ones providing general information. Hence, it could be assumed that the use of a more personalized social nudge, addressing a specific social group familiar to the participants would lead to a positive contribution of the social nudge toward their sustainable purchase intention.

In contrast to social nudge, eco-label nudge did have a significant effect, leading to the acceptance of H2. This nudging treatment appeared to have a significantly positive effect on participants' willingness to purchase the sustainable hoodie, which aligns with the dominant literature insights (Berger et al., 2020; Lee et al. 2020). Even if quite a few of the participants exposed to the eco-label nudge treatment were not able to successfully recognize their treatment group this does not mean that the nudging element was not appropriately framed. Specifically, nudges target individuals' subconscious processing, hence they can be effective even if they are not easily recognizable. The selection of the Global Organic Textile Standard GOTS certification consists of an eco-label with worldwide recognition and a simple and colorful design, aspects that make an eco-label more promising in influencing consumers (Neumayr & Moosauer, 2021. Indeed, during the pilot test and when participants were asked to evaluate the nudging elements they were exposed to, overall they positively evaluated the eco-label nudge as an indication of good quality, rather than sustainability, while they perceived the social nudge as another promotion trick and did not evaluate it as positively.

Hypothesis H3, assuming a significantly higher influential effect of combined nudges on participants' purchase intention compared to the no nudge and to each of the two nudges individually was rejected. Specifically, combined nudges did not appear to be more effective than the eco-label nudge. The research insights do not contradict the dominant paradigm

regarding the higher effectiveness of combined nudges compared to the no nudge treatment, while they provide no evidence in support to the ones reveling a more influential role among combined nudges compared to the separate nudging elements (Zimmermann & Renaud, 2021; Chapman et al., 2019). Morever, the current study did not reveal a backfiring effect of the combined nudges, evident in both the studies of Holzmeister et al. (2022) and (Wang, 2022). Overall, it could be assumed that the lack of effect of social nudge was covered by the positive one of the eco-label nudge in the case of the combined nudge treatment, as its incorporation into the combined nudges treatment had a prominent effect. Another possible explanation of the deviating insights lies in the contextual effects when it comes to nudges effectiveness. Specifically, according to Costa and Kahn (2013), the effects of different nudges may vary significantly across groups with different views. Hence, it could be assumed that in a social context where consumers' awareness regarding the features of eco-friendly and sustainable products is limited could lead to a reduced effect of the nudging manipulations. Overall, these characteristics are apparent among Greek consumers with both Fotopoulos and Krystallis (2002) and Henninger et al. (2015), reporting low levels of awareness among Greek consumers when it comes to eco-friendly products.

Regarding the fourth hypothesis (H4) it was expected that participants who scored high on the sustainable attitudes scale would have a stronger intention to purchase the sustainable hoodie. Indeed, participants' sustainable attitudes appeared to be a significant predictor of their purchase intention. These findings align with the most prominent study findings regarding the predictive role of sustainable attitudes (Kumar et al., 2021). Even if the scale appeared to have comparatively low reliability, the relation between the two concepts was still evident. Overall, the research insights confirmed that the existing theory also applies in the case of the Greek market, while elaborating on the cause-effect relation between the two concepts and further verifying its effectiveness in the context of sustainable fashion purchases.

The expected positive effect of subjective norms on participants' purchase intention (H6) was also verified with participants scoring higher on the subjective norms scale and having a more positive purchase intention toward the sustainable hoodie. The predictive role of subjective norms when it comes to one's purchase intention aligns with the principles of the theory of planned behaviour, while it has been verified by several studies (Judge et al., 2019). Overall, it is evident that Greek consumers are influenced by their acquaintances' habits and opinions when it comes to their intention toward purchasing a product. This could be due to the collectivistic nature of the Greek society, where individuals value highly the opinion of others and one's social group plays a central role in one's identity (Lampridis & Papastylianou, 2014). According to both Farrukh et al. (2019) and Sethi and Jain (2020), subjective norms have a significantly influential role in the context of collectivistic societies

when it comes to behavioral intentions, aligning with the current research insights. Overall, it is evident that the current research elaborates on the theory of reasoned action, verifying its applicability within the Greek context.

Hypothesis H5 regarding the moderation effect of participants' sustainable attitudes on the relationship between the nudges and participants' purchase intention was rejected. Although sustainable attitudes proved to be a good predictor of the participants' purchase intention, as a moderator, it did not have the intended positive effect, against the initial prediction and the dominant literature body (Cooper & Kovacic, 2012). It could be assumed that the translation of the original scale in Greek may resulted in alterations, in regards to its items' meaning, confusing the participants and decreasing their understanding. Moreover, it is expected that the utilization of a different scale, which would score higher on reliability, would generate more significant results and possibly reveal a significant moderating effect of the sustainable attitudes.

Finally, hypothesis H7 was also rejected as the moderating effect of subjective norms was not statistically significant. Even if subjective norms sufficiently predicted participants' purchase intention, it did not have the intended effect as a moderator (Aceti, 2002). Overall, Greek consumers' appeared to rely highly on both their significant others and on their own attitudes concerning sustainability when formulating their purchase intentions for sustainable products, which aligns with the current literature regarding the influential role of both concepts (Zhang et al., 2019, Demarque et al., 2015), although this did not reinforce the effect of the nudges as initially expected.

Further exploration of the data set, revealed that participants' age appeared to have an effect on purchase intention. Against the initial predictions, the analysis revealed that the younger participants scored lower on purchase intention hence, were less likely to be motivated to engage in sustainable apparel purchases. This assumption is against the dominant literature insights regarding the shift of younger generations consisting of gen Z and Millenials toward sustainable consumption (Carrigan et al., 2004, p. 401), however, this divergent insight could be attributed to the particularity of the Greek context. As indicated in a 2020 research by the Political Research & Communication Center, materialism and individualism are in contrast to the culture that shaped post-war Greece. Hence, Greece, in terms of its economy is getting modernized, but in terms of culture, it became conservative (Karaiskaki, 2003)

5.2. Theoretical and Practical implications

The research contributed to the current literature, providing valuable insights regarding Greek consumers' purchase intention toward sustainable fashion products.

Moreover, the effectiveness of different nudging elements was tested verifying the influential role of eco-labels, while challenging the one of social nudges. The lack of effect regarding the latter, raised concerns regarding its influential role. Hence, it could be assumed that the effectiveness of such manipulations depends highly on the context or the domain of their implementation, with studies having an international orientation (Brandon et al., 2018) or a focus on nutritional food choices (Charry & Tessitore, 2021) revealing a positive effect of the nudge manipulation. Specifically, according to both Pe'er et al. (2019) and (Hagman et al., 2015) nudges' effectiveness highly relies on the target group's attitudes toward the nudge. Hence, the degree of favorability when it comes to the way a nudge is being perceived by its target population can define its effectiveness, preventing the generalizability of a nudge's effectiveness within multiple social contexts.

Moreover, the influential effect of both sustainable attitudes and subjective norms were verified, elaborating on the Theory of Reasoned Action, while establishing its applicability in the Greek context. However, the lack of significant effect linked with sustainable attitudes and subjective norms, when examined as moderators was an unexpected research finding. Even if sustainable attitudes and significant others' opinions were predictive in regards to consumers' purchase intention, they failed in reinforcing the effect of social and eco-label nudges. These findings could be attributed to the collectivistic nature of Greek society and the low levels of awareness, regarding sustainability among Greek consumers, hence the context remains an influential force defining the effectiveness of both the nudges and the research moderators, and finally consumers' purchase intentions.

Regarding the practical implication of the research, Greek sustainable brands would be encouraged to incorporate an eco-label nudge in their products as an attempt to increase consumers' purchase intention, while it would not be advisable to incorporate a social one, given the luck of effect associated with it (Parker, 2022). Apart from the Greek sustainable fashion brands, other sustainable organizations could also elaborate such practices to encourage consumers' shift toward sustainable products while experimenting further and testing the effectiveness of a wider range of nudging elements within different contexts (Bao and Ho, 2015).

Moreover, the influential role of sustainable attitudes and subjective norms could encourage brands to consistently engage in consumers' awareness regarding sustainable production. According to the study of Ahamad and Ariffin (2018) on university students, both attitudes and pre-existing knowledge lead to higher levels of sustainable consumption. Given the positive effect of knowledge regarding sustainability, it could be suggested that sustainable brands apart from the incorporation of nudging techniques, could also engage in educating consumers about the fashion industry's environmental footprint as an attempt to steer them toward sustainable consumption.

The influential role of subjective norms encourages organizations to highly value consumers' reviews and act toward establishing a sense of community with their audience. According to the study of Vlontzos and Duquenne (2014), Greek consumers significantly rely on the opinions of their inner circle when purchasing a product. Hence, brands through establishing a sense of community within which people will develop connections and be influenced by one another's opinions regarding the brand will on the long-run increase the consumers' likelihood toward purchasing sustainable products.

5.3. Research Limitations

Even if some of the research insights align with the current literature, several limitations may have influenced the results. Regarding the sample, the distribution of the questionnaire through the personal network of the researcher might have affected the research findings, as participants were deployed through convenience and snowball sampling, instead of a non-probability one which provides greater generalizability of insights. The online format of the questionnaire resulted in most of the participants being between the ages of 18 to 35, given that older people are generally less active online and less familiar with online tools (Nimrod & Shrira, 2014). Moreover, due to the limited amount of time and resources, a fairly small sample of 225 participants was gathered reducing its representativeness to the broader population.

The experimental design choices, such as the colour and positioning of both the hoodie and its elaborative features, might also impact the research findings (Belboula et al., 2018). Hence, the selection of a different hoodie in accordance with the participants' likings would probably increase their purchase intention toward the sustainable item, while similar results could be expected through the inclusion of more apparel choices reducing the possibility of the apparel's pattern influencing the relationship between the nudges and participants' purchase intention. Another limitation identified, concerns the research focus on the Greek context which limits the generalizability of the research insight, while encouraging further investigation within a different social context. Finally, the translation of the questionnaire in Greek may have facilitated participants' comprehension of the research items, however, it appears to be have been a possible limitation given that the translation was conducted by the researcher and was not based on an already existing translated version of the scales. This may have resulted in misinterpretations of the intended meaning of each of the items for the different scales leading to biased results.

5.4. Future research directions

Directions for future research are provided based on the current insights and the identified literature gap. Overall, nudges appear to be promising tools toward shifting consumers' behavioral intention, hence their effectiveness should be further examined on different kinds of sustainable products such as shoes and accessories or different fabrics, such as organic linen or recycled cotton and polyester. Nudges' effectiveness could also be examined within different contexts to steer individuals toward more ethical purchases and sustainable consumption a field with an identified literature gap (Roozen et al., 2021). After all internationally, the concept of sustainable fashion is quite complex and still evolving. The efforts to create an ecological landscape and define sustainability in fashion began just a few years ago leaving plenty of room for further exploration (Niinimäki, 2015). Overall, exploring the effectiveness of nudges within the Greek context would provide significant insights to Greek sustainable brands on finding ways to approach a broader audience increasing consumers' sustainable purchases and leading the way toward a more sustainable Greek market.

It appears that nudges should be selected based on a combined consideration of the social context and domain of implementation. Hence, future research should shed light on the factors influencing the effectiveness of nudges and the behavioral alterations they cause. Regarding the eco-label nudge, it appears to be a promising non-coercive tool for positive behavioral alteration steering consumers towards favorable decisions, at least within the Greek context, hence, its effectiveness should be further investigated within different domains of the Greek market. Moreover, the effectiveness of both the eco-label and social nudge could be further investigated within different individualistic social contexts, a focus which has previously led to contradictory insights given the contextual dependence of nudges effectiveness.

The role of sustainable attitudes and subjective norms as moderating factors in the relationship between nudges and purchase intention should be further explored. Specifically, the implementation of the same study in an individualistic social context would enable the comparison of the different study findings. Another recommendation relates to the Theory of Planned Behavior (TPB) a revised and renewed version of TRA theory that incorporates the aspect of perceived behavioral control as an additional influential factor toward purchase intention. Hence, future research could add this concept as an additional moderator between green nudges and purchase intention by engaging in a comparative approach between the two models as predictors of consumers' purchase intention.

Overall, the current study is explicitly focused on the effectiveness of nudges regarding consumers' purchase intention. However, consumers' intention to engage in sustainable behaviors does not always align with their actual behaviors revealing an attitude-

behavior gap (Landry et al., 2018) and a literature controversy regarding the cause-effect relation between individuals' attitudes and their behaviors. Hence, a future study could examine the relation between green nudges, consumers' behavioral intentions and actual behaviors shedding light on the possible preventive factors when it comes to the implementation of sustainable behaviors.

5.5. Conclusion

The social transformation toward a more sustainable paradigm has been an ongoing process with many organizations engaging in the promotion of environmentally sustainable products and services, leading the path toward a more sustainable future (Hojnik et al., 2019). Sustainable initiatives are initiated and face significant growth within different corporate industries, with several examples being from the fashion industry (Henninger et al., 2016). Through this study, instead of a mere exemplification of the emerging sustainable initiatives, a deeper understanding was attempted regarding the promotion of such. Based on the existing literature, digital nudges appeared to be an instrumental mechanism able to steer individuals toward a positive behavioral change.

The effectiveness of social and eco-label nudges was tested on Greek consumers' purchase intention for sustainable apparel with an overall goal to uncover methods of promotion regarding sustainable consumption. However, based on the Theory of Reasoned Action (TRA), subjective norms and consumers' sustainable attitudes signified two influential factors able to define consumers' purchase intention. Taking all into consideration this study examined the relationship between social and eco-label nudges and consumers' purchase intention for sustainable apparel moderated by subjective norms and sustainable attitudes.

Based on the research insights, eco-label nudge appeared to have the intended effect, strengthening consumers' purchase intention toward the sustainable hoodie. However, that was not the case for the social nudge which had no effect on participants' purchase intention. Overall, the combined effect of the two nudges was not significantly different from the effect of eco-label alone. Hence, it was concluded that the eco-label nudge was the most effective mechanism for steering consumers' purchase intention toward sustainable fashion products. Regarding the concepts of sustainable attitudes and subjective norms, both were found to be influential on participants' purchase intention, elaborating on the Theory of Reasoned Action. However, no moderation effect of the two was found on social or eco-label nudges regarding their influence on purchase intention. Overall, this study elaborated on the significance of eco-label nudge, subjective norms and sustainable attitudes for influencing consumers' purchase intentions, providing insights and methods to steer Greek consumers' toward more sustainable fashion purchases.

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Appendix A: *Experimental Manipulations*

Condition 1: Control Group. From Greek, the "Μαύρο Φούτερ Unisex" translates to Black Unisex hoodie and the descriptive taglines of "Φούτερ με μακριά μανίκια και στρογγυλή λαιμόκοψη" to the long-sleeved hoodie and round neck. Also the description of "υλικό: 100% οργανικό βαμβάκι, τιμή: 40.00 EUR, Χρώμα, Μέγεθος" translates to "Material: 100% organic cotton, Price: 40.00EUR, Color, Size"

Condition 2: Experimental Group Social nudge. From Greek the "No.1 Οικολογικό προϊόν στις προτιμήσεις των καταναλωτών" translates to "No.1 Sustainable product among consumers' preferences"

Condition 3: Experimental Group Eco-label nudge

Condition 4: Experimental Group Combined nudges

Appendix B: *Online Questionnaire (English version)*

Dear participant,

Thank you for your participation in this experiment! As part of my Master Thesis in Business and Media at Erasmus University Rotterdam, Department of Media and Communication (ESHCC), I am conducting research on sustainable fashion purchase intention, among Greek consumers.

The experiment will take approximately 5 minutes to complete. Please read the instructions carefully. There are neither right nor wrong answers. Be aware that your participation is completely voluntary and you are free to discontinue your participation at any time.

The data retrieved will be treated anonymously and your personal information will be kept strictly confidential. The data will be solely used for the purpose of this research and will not be shared with other third parties. Your privacy will be protected to the maximum extent. No personally identifiable information will be reported in any research product.

If you have any questions regarding the survey, you can contact me at the following e-mail address: 610054ds@student.eur.nl

Thank you for your participation,

Dionysia Sakarellou

To proceed with the questionnaire, please click on the box below. With this, you indicate you have read and understood this consent form.

Please carefully read the following statements and indicate to what extent you agree or disagree.

I believe that...

Humans have the right to modify the natural environment to suit their needs

- Strongly disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Humans are severely abusing the planet.

- Strongly disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Plants and animals have the same rights as humans to exist.

- Strongly disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Nature is strong enough to cope with the impact of modern industrial nations.

- Strongly disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Humans were meant to rule over the rest of nature.

- Strongly disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Agree
- Strongly agree

The balance of nature is very delicate and easily upset.

- Strongly disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Agree
- Strongly agree

I believe that…

Most people in my social network want me to buy more sustainable fashion products in the future.

- Strongly disagree
- Disagree
- Somewhat disagree

- Neither agree nor disagree
- Agree
- Strongly agree

Most people in my social network would approve if I regularly bought sustainable fashion products.

- Strongly disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Most of my friends buy sustainable fashion products.

- Strongly disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Most of my family members buy sustainable fashion products.

- Strongly disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Most of my co-workers buy sustainable fashion products.

- Strongly disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Imagine that you are browsing an e-shop page. Please take a moment to look carefully at the following item. You will be asked some questions based on this item on the next page.

One of the four manipulations is shown.

The advertisement displayed an item made of 100% organic cotton

- True
- False

Please indicate whether the advertisement you saw contained:

- A circular global organic textile label
- An indication stating that this item was the No.1 sustainable choice among consumers.
- Both of the above.
- None of the above.

Please carefully read the following statements and indicate to what extent you agree or disagree.

I would like to buy this item.

- Strongly disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Agree
- Strongly agree

I would buy this item if I happen to see it in a store.

- Strongly disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Agree
- Strongly agree

I would actively seek out this item in a store in order to purchase it.

- Strongly disagree
- Disagree

- Somewhat disagree
- Neither agree nor disagree
- Agree
- Strongly agree

I would recommend the use of this item.

- Strongly disagree
- Disagree
- Somewhat disagree
- Neither agree nor disagree
- Agree
- Strongly agree

Finally, please provide an answer to the following demographic questions.

What is your gender?

- Male
- Female
- Non-binary/third gender
- Prefer not to say

What is your age?

- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 64 +

What is your educational level?

- Compulsory education
- High school graduate
- Trade/technical/vocational training
- Bachelor's Degree
- Master's degree /Ph.D. degree
- Other (Please specify)

What is your occupational status?

- Employed full-time
- Employed part-time
- Self-employed
- Unemployed
- Student
- Retired

Thank you for your participation in this experiment!

The main purpose of this study was to examine the effect of green nudges on the purchase intention of sustainable apparel in an effort to promote sustainable apparel consumption.

The nudging elements used consisted of eco-label and social information indicators. The advertisement and the item that you have seen have been created for the purpose of this study and were fictitious. If you have any additional questions regarding this research, please contact Dionysia Sakarellou at: 610054ds@eur.nl

Appendix C: *Scale analyses*

Appendix C1: *Subjective Norms scale (Rhodes & Courneya, 2004)*

Items	Subjective norms
Most people in my social network want me to buy more sustainable fashion products in the future.	.911
Most people in my social network would approve if I regularly bought sustainable fashion products.	.893
Most of my friends buy sustainable fashion products.	.867
Most of my family members buy sustainable fashion products.	.759
Most of my co-workers buy sustainable fashion products.	.672
R^2	68.162
Cronbach's a	.879

Appendix C2: *Sustainable Attitudes scale (Whitmarsh 2009)*

Items	Sustainable Attitudes 1	Sustainable Attitudes 2
The balance of nature is very delicate and easily upset.	.847	-
Humans are severely abusing the planet	.773	-
Plants and animals have the same rights as humans to exist.	.551	-
Nature is strong enough to cope with the impact of modern industrial nations.	.401	-
Humans have the right to modify the natural environment to suit their needs.	-	.900
Humans were meant to rule over the rest of nature.	-	.691
R^2	40.125	18.308
Cronbach's a	.654	.540

Appendix C3: *Purchase Intention scale (Baker &Churchill, 1977)*

Items	Purchase Intention
I would like to buy this item.	.909
I would buy this item f I happen to see it in a store.	.895
I would actively seek out this item in a store in order to purchase it.	.884
I would recommend the use of this item	.800

R^2	
	76.169
Cronbach's a	
	.895

Appendix D: *Respondents' Demographics*

Age	Participants
N	225
18-24	72 (32%)
25-34	57 (25.3%)
35-44	20 (8.9%)
45-54	32 (14.2%)
55-64	40 (17.8%)
64+	4 (1.8%)