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Sustainable Swimwear in Portugal: Perceptions and Purchase Intentions

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ABSTRACT

Title: Sustainable Swimwear in Portugal: Perceptions and Purchase Intentions

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Sustainable products are a rising trend in Portugal since concerns about the environment have been increasing over the last years. The fashion industry did not let the opportunity escape, and over this year, the appearance of sustainable swimwear made of recycled or upcycled materials has boosted. Hence, the present dissertation aims to explore the Portuguese females' perceptions and purchase intentions towards sustainable swimwear products. Thus, three research questions were answered: (1) Who is the consumer, (2) What are the main drivers that lead to intentions of purchase, and (3) What are the main barriers that prevent consumers from purchasing the product.

For this purpose, past literature was reviewed, and two methodologies were conducted: eight in-depth interviews and an online survey (418 participants). Results indicated that the Portuguese female consumer is a young adult, with high levels of education and with a monthly income between 1001€-1500€. Under a comparative analysis, the main drivers of purchase intentions found were knowledge about the environment, sustainable lifestyle, and psychographic factors. Lastly, the main barriers to the purchase were lack of information about the product, hard purchase access, and price.

Keywords: Sustainability, Ecological; Sustainable swimwear; Fashion; Intentions, Purchase.

RESUMO

Título: Biquínis Sustentáveis em Portugal: Perceções e Intenções de Compra

Autora: Teresa Girão

Produtos sustentáveis são uma tendência emergente em Portugal, desde o aumento das preocupações ambientais nos últimos anos. A indústria de moda não deixou escapar esta oportunidade e no último ano houve um reforço do aparecimento de biquínis sustentáveis feitos através de materiais reciclados ou reaproveitados. Desta maneira, o principal objetivo da presente dissertação é a exploração das perceções e intenções de compra da mulher portuguesa relativamente a biquínis sustentáveis. Assim, três questões de pesquisa foram respondidas: (1) Quem é a consumidora, (2) Quais são principais fatores que influenciam a intenção de compra e (3) Quais são as principais barreiras que fazem com que os consumidores não comprem o produto.

Com este propósito, literatura sobre o tema foi revista e duas metodologias de pesquisa foram utilizadas: oito entrevistas e um questionário *online* (418 participantes). Os resultados indicam que a consumidora portuguesa é uma jovem adulta com um nível de educação elevado e um rendimento mensal entre 1001€-1500€. Através de uma análise comparativa, os principais fatores que influenciam a intenção de compra são o conhecimento sobre o meio ambiente, um estilo de vida sustentável e fatores psicográficos. Por último, as principais barreiras à compra identificadas foram a falta de informação acerca do produto, o difícil acesso à compra e o preço.

Palavras-chave: Sustentabilidade, Ecológico, Biquínis sustentáveis, Moda, Intenções, Compra

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LIST OF ABBREVIATIONS

SSP – Sustainable Swimwear Products

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1 INTRODUCTION

1.1 BACKGROUND

In an era where global warming and environmental changes are becoming an even more serious concern for everyone, there have been made some changes in order to fight against this issue. Several researchers studied the impact of the fashion industry in the environment, and the findings were commonly upsetting, saying that it has a high impact on the environment (Lo, Yeung & Cheng, 2012). With that said, various organizations, in the fashion industry, in the hope of helping to solve the problem, are trying to adopt more sustainable solutions along their supply chain, mainly in the production and manufacturing of clothes, by using more ecological materials (Shen, 2014).

Although there is already an effort from the organizations and brands to try to become more sustainable and environmental-friendly, the consumers also have a huge role, since they are the ones who buy and can make this trend become a reality. Previous studies revealed that there is an increasing intention of consumers' choosing more environmental-friendly products. However, there is still a gap between the intention and the actual purchase behavior, but few studies focus on what factors influence this gap (Bray, Johns and Kilburn, 2010).

1.2 RESEARCH STATEMENT

In this research, the aim is to try to understand the consumers' perceptions and purchase intentions towards sustainable clothes, mainly about Portuguese females. Also, since consumers' environmental attitude and their purchase behavior sometimes fall apart (Brouwers, 2018), it will be studied why those intentions of buying and the actual purchase do not occur, trying to understand the reasons for it to happen. In this study, the object of experience is sustainable swimwear products made from recycled or upcycled materials.

With the research statement above, the study focuses on three main research questions:

RQ1: Who is the actual consumer that buys sustainable swimwear products?

RQ2: What are the drivers that influence intentions to purchase sustainable swimwear products?

RQ3: What are the barriers consumers feel, that prevent them of making the purchase of sustainable swimwear products?

1.3 RELEVANCE

With the increasing consciousness about environment changes and the need for adopting more sustainable options, the opportunity for organizations to create new products has risen. Nevertheless, since the effort needs to come from both parts – organizations and consumers – and there is still existing some reluctance to adopt sustainable behaviors towards the fashion industry, from the consumers side, this study may be important to understand why it is still occurring this gap.

Furthermore, with this study, sustainable product organizations will also be able to understand their consumers' habits and perceptions better, and they will be able to use it for their benefit.

2 LITERATURE REVIEW

2.1 IMPACT OF FASHION ON THE ENVIRONMENT

It is known that the environment has been suffering changes, especially by humans' hands. Different industries have an impact on the global environment, and the manufacturing ones are massively important on this problem. The fashion industry is the second most polluting industry in the world and is also responsible for 10% of global carbon emissions (Conca, 2015). With that said, the fashion and textile industry have a massive impact in the global environment, mainly due to the production process in which are used large quantities of chemical products, water, and pesticides (Lo, Yeung & Cheng, 2012).

The fast-fashion phenomenon is one of the reasons for fashion industry to have such a significant impact on the environment. Fast-fashion can be defined as an increase in the number of recognized fashion seasons (the four seasons of the year) and where the production and manufacturing decisions are made upon speed rather than sustainability (Bruce and Daly, 2006), to satisfy the consumers' demand of newness (Barnes and Lea-Greenwood, 2006 as cited in McNeill and Moore, 2015) and to stimulate sales (Anguelov, 2016). This need of the consumers leads to a huge production and manufacturing, to keep up with new and cheap products. The textile-making industry is one of the most polluting industries in the world, due to the production of cotton and synthetic fibers. Also, since fashion products rapidly become out of trend, consumers discard them more often, and it can end up in landfills, polluting soils and water (Payne, 2014).

2.2 FASHION CONSUMPTION

Individuals have the need to express themselves to others, and one way to do it, is by their clothing choices. O'Cass (2004) states that "individuals often define themselves and others in terms of their possessions". Thus, apparel has much higher importance for the consumer since it does not only satisfy a basic human need but also has a social component (Jenkins, 1973 as cited in Gam, 2011) because of its personal meaning and for others. Belk (1988) concludes that clothes are used to originate meanings, about those who wear, to others, and also to reinforce meanings to themselves.

The social component is due to the creation of an identity and impression to others. It is related to the consumer's intention of building status, and tell others more about themselves, their tastes, their individuality and how they want to be perceived. O'Cass (2000) states that the level of involvement consumers have with their clothes will define their behavior as a consumer. This involvement theory can help one understand the decision-making process of consumers. When a consumer is highly involved with a specific product, it will generally pay more attention and time in the decision process, whether in the information-seeking phase or the searching of alternatives.

Additionally, the general belief is that women are more involved in fashion than men, but results from past studies were contradictory. McCraken and Roth (1989) and O'Cass (2004) argued that women are, in fact, more involved with fashion than men (as cited in Vieira, 2008) and are more available to fashion innovativeness (Shieh and Cheng, 2007, as cited in Vieira, 2008). However, on the other hand, most recent studies have found no correlation between gender and fashion involvement, and explained that men are more focused on fashion clothing than conventional clothing (Vieira, 2008), and become more vain with their appearance (Davila, 2008, as cited in Vieira, 2008) which means they value more and are more concerned about what they wear and how they present themselves to the society.

2.3 SUSTAINABLE CONSUMPTION

Sustainability has various definitions, but according to the World Commission on Environment and Development can be defined as "development that meets the needs of the present without compromising the ability of future generations to meet their needs". Since the global environment has been suffering several changes, many organizations are making extra efforts to implement more sustainable solutions into their business. The fashion industry is not an exception, as one can see well-established brands, such as H&M, Timberland, or Nike, adopting more sustainable strategies for its' products (Brito, Carbone and Blanquart, 2008; Shen, 2014). Also, small new brands are taking the opportunity and investing more in sustainability, presenting new sustainable products. In the present research paper, sustainable fashion products will be considered those that use ecological, reused, or recycled materials, for example, organic fabrics, old clothes, scraps, wasted plastic items (Anson, 2012; as cited in Shen, 2014).

Sustainability does not only come from the organizations' side, but also from the consumers' side. First, it is essential to understand the definition of environmental-friendly purchase

behavior, as being the selection of products, recycling and take actions to protect the environment (Fraj and Martinez, 2006).

Previous researches show that consumers are becoming less self-centered to start being more society-centered (Diddi, Yan, Bloodhart, Batjelsmit and McShane, 2019) and are increasingly demanding for environmental-friendly products. On the other hand, when analyzing consumers' positive attitudes towards the environment versus their purchase behavior of sustainable products, there is a gap (Bray, Johns and Kilburn, 2010), especially when talking about products in the fashion industry (Joergens 2006, as cited in McNeill and Moore, 2015).

2.3.1 PURCHASE INTENTIONS TOWARDS SUSTAINABLE PRODUCTS

In order to understand and study purchase intentions toward sustainable products, previous studies have taken into consideration different factors. Factors such as the theory of planned behavior, shopping and fashion orientation, engagement with the environment, and willingness to pay more for those types of products were some of the most important ones. All the factors abovementioned have different weights in the consumer purchase intentions, and some can be consciously taken into account, for example, the engagement with the environment. At the same time, others are unconsciously taking into account, for example, fashion and shopping orientation, in consumers' purchase choices and intentions.

2.3.1.1 THEORY OF PLANNED BEHAVIOR

Before starting to analyze sustainable consumption, it is important to understand consumers' purchase behavior. In order to do that, it will be explained the theory of planned behavior by Icek Azjen (1985). This theory presents a model that calculates individuals' intention to have a particular behavior. The model presents three different stages: (1) The first stage is related to attitudes towards a behavior, subjective norms (perceptions about social pressure), and perceived behavior control (perceptions about the difficulty of the behavior). (2) The second stage is related to intention, in which is analyzed if the individual as the intention and motivation to behave in a particular way. (3) Lastly, the third stage is related to the behavior itself, which is a response to a specific intention or motivation.

This theory is essential to understand purchase intentions towards sustainable products since it is an action that, for most consumers, is something planned and analyzed before the purchase.

Consumers will take into consideration many factors before reaching the purchase action, which will be explained below.

2.3.1.2 FASHION AND SHOPPING ORIENTATION

A study conducted by Gam (2011) had the goal to analyze if fashion and shopping orientation were factors that influenced the eco-friendly clothes purchase intention. First, it is important to understand the difference between fashion and shopping orientation. *Fashion orientation* is defined as the attitudes, interests and opinions about fashion products. In contrast, *shopping orientation* is related to variety, frequency and motivation to shop (Belleau et al., 2001 as cited in Gam, 2011). Results, from the study, shown that regarding fashion orientation, the factor "importance of being well dressed" had a positive influence on the purchase intention of eco-friendly clothing. Regarding shopping orientation, the factor shopping enjoyment had a positive influence on the purchase intention of eco-friendly clothes, but cost-consciousness had a negative influence, meaning that consumers who were more conscious about the price of the product had less intention to buy eco-friendly clothes. Hence, the study proved that fashion and shopping orientation influenced the intentions of purchasing eco-friendly clothes.

2.3.1.3 ENGAGEMENT WITH THE ENVIRONMENT

The engagement with the environment can come from different sources; all of them studied by previous researches. Three of the most important are knowledge, values and lifestyle.

Knowledge is one of the factors that had contradictory conclusions, while some studies found it was a determinant when purchasing sustainable products, others found that there was little relation between knowledge about the environment and purchase intentions of sustainable products. Authors as Kumar, Manrai and Manrai (2017) found, in their study, that the relationship between knowledge about the environment and environmental behavior as purchase intention was not significant and low. Additionally, Butler and Francis (1997) observed that although consumers believe the environment should be taken into consideration while purchasing products, most do not act that way in a buying situation (as cited in Kang, Liu and Kim, 2013). On the other hand, previous researches (Kim and Damhorst, 1998; and Diamantopoulos et al., 2003) stated that the more knowledge consumers have about the environment, the higher their level of concern and taking in consideration environmental attributes when purchasing a product, and for instance the higher the probability of consuming eco-friendly clothes (Kim and Damhorst, 1998), as cited in Gam, 2011.

Furthermore, a study performed by Schahn and Holzer (1990) highlights the importance of understanding the difference between knowledge about facts and knowledge about actions. Knowledge about facts is regarding definitions and causes/consequences of environmental issues, for example, what is sustainable clothing, while knowledge about actions is regarding the information about actions, for example, what is the impact of buying non-sustainable clothes to the environment. In addition, the authors concluded that knowledge about actions has stronger influence in behaviors than knowledge about facts.

Values and lifestyle are other factors that can influence the purchase intentions of sustainable products. According to Fraj and Martinez (2006), values are defined as "the criterion that individuals use to select and justify their actions and to value objects and the other's conducts". The authors also stated that people who have environmental behavior and lifestyle would have a positive attitude towards the purchase of ecological products and actions that value the environment, such as recycling.

2.3.1.4 WILLINGNESS TO PAY

Several studies found that consumers are adopting more sustainable purchase behavior, and as Laroche (2001) showed, they are also willing to pay more for sustainable products. This willingness can come from different factors, such as their personal values and attitudes. The author characterized the consumers who are willing to pay more for sustainable products, as consumers who have knowledge about ecological problems and who think it is important and not inconvenient to behave in an ecologically positively manner (by recycling and/or optioning for purchasing more sustainable products). Also, these consumers have the value of collectivism, meaning they give great importance to security and warm relationships with others.

2.3.2 CONSUMER

Previous studies explored the sustainable products' consumer profile, considering both demographic and psychographic factors.

Regarding *demographic factors*, the most used in earlier studies were age, gender, income and education, while the most used *psychographic factors* were attitudes, perceived consumer effectiveness and environmental concerns. The general belief, as Roberts and Straughan (1999) presented on the literature review of their study, is that individuals who have directly faced a period with more environmental concerns have a higher tendency to be more sensitive with

those issues, in which, at the time the studies were conduct those individuals were young. Regarding the factor gender, the tendency is that women are more likely to embrace green actions than men, as shown by a study conducted by Brough, Wilkie, Ma, Isaac and Gal (2016), mainly because of the association and stereotype of greenness behavior as feminine, and consequently men feel their gender identity threaten by optioning for green behaviors and products. The relationship between income and environmental-friendly attitudes is also positive, since, normally, eco-friendly products have higher costs than normal products (Roberts and Straughan, 1999).

Finally, in the same study abovementioned (Roberts and Straughan, 1999), the authors stated that psychographic analysis had a greater importance than demographic factors in ecological conscious behavior, meaning that factors as altruism, collectivism, concerns regarding the environment and impact of products, and perceived consumer effectiveness – described as the perception that individuals' attitudes have a positive influence in the environment - are much greater predictors of consumers when analyzing their purchase choices.

2.3.3 INTENTION-BEHAVIOR GAP OF SUSTAINABLE FASHION CONSUMPTION

Several theories give insights about the gap between the attitude and the purchase behavior of the consumers regarding sustainable fashion consumption. First, according to Birtwistle and Moore (2007), this gap occurs because the consumers have a lack of knowledge about the negative impacts the fashion and textile industries have in the global environment. Consumers also underestimate the impact of their personal choices on acting environmental-friendly in the environment (Brouwers, 2018). Besides, other important factors determine the purchase behavior, such as price, value, trends and brand image (Solomon and Rabolt, 2004 as cited in McNeill and Moore, 2015).

Factors such as price and perceived quality are two of the most important when it comes to having the intention to purchase sustainable fashion. When the quality of the sustainable product is satisfied, consumers have a willingness to pay a higher price for it (Ellis, McCracken and Skuza, 2011).

A previous study from Connell (2010) also shows different factors that put limitations and barriers to the consumption of sustainable clothes. These barriers can come from an internal or external perspective. Internal barriers, which come from the personal perception of the consumers can be the idea that sustainable clothes are unfashionable or out of trend, the lack of

information about the products and how they have an influence on the environment and also lack of information in the point of sale to select products that go along to individuals ethical principles (Bray, Johns and Kilburn, 2010). External barriers, which come from the organization's side, are the limited availability and product variety. This barrier causes a negative effect on purchase behavior, resulting in consumers' choosing more available and varied products, which can be unsustainable products. Additionally, the decision-making process varies according to the type of product (Fu and Kim, 2019). The decision of optioning for sustainable products in the food sector is higher than in the fashion sector, since food have a direct influence on consumers' health and clothing' environmental impact is subtle and less perceived by the consumers (Fu and Kim, 2019).

In order to reverse this tendency of showing intentions to purchase and behaving oppositely, organizations and retailers need to recognize how those barriers, above mentioned, influence the decision-making process of purchasing sustainable clothes.

2.4 SWIMWEAR INDUSTRY IN PORTUGAL

2.4.1 NON-SUSTAINABLE MARKET

The non-sustainable market offers a great variety of brands and products that can differ from several factors, such as price, quality and production.

In the first place, we have the large international brands most known by the consumers, that until the last decade, the Portuguese industry was controlled by them, such as Calzedonia, Tezenis, Oysho, or H&M. These brands are fast-fashion oriented and offer the consumer a large variety of products, with good quality at a low/medium price, which can go from to 10€ (top or bottom piece) to 70€ (swimsuit), depending on the type of product and brand.

In second, we have the small/medium national brands. The industry started to change when young Portuguese entrepreneurs realized there was a gap in the industry and the opportunity to include Portuguese firms of swimwear. At the beginning of the last decade, one could see new firms slowly starting to conquer consumers and now reaching dozens of thousands of units sold. Some of the most known Portuguese brands are Cantê, Latitid, Bohemian Swimwear, Papua, Type and others. These brands are characterized by their high quality of fabrics, national production and their high prices, which can range from 90€ to 150€ per product.

2.4.2 SUSTAINABLE MARKET

With the increase of environmental concerns, firms gained the opportunity to develop more sustainable alternatives and new products allowing to gain competitive advantage and differentiation against the brands that already existed. With this new trend, across past years, several brands emerged on the Portuguese swimwear market by presenting sustainable new products, such as Vanilla Sand, Conscious Swimwear, Paparina, 38 Graus and Mist. All these brands present to the customer a new offer of eco-friendly products, while they are all made from recycled or upcycled materials. Recycled products are those who come from the transformation of wasted materials into entirely new materials, for example, the use of fishing nets, plastic bottles, bags and nylon or polyester fibers to create new fabrics, such as Econyl. The process of upcycling is the use of wasted materials to produce new items with higher quality than the original ones, for example, the use of old fabrics or leftovers from manufacturers to create a new clothing piece. The difference between the recycling and upcycling process is that the last one still looks and feels like the original wasted materials.

 Since the manufacturing process of recycled textiles needs high-end technology, the prices of products usually are higher than the fast-fashion brands. With that said, the prices of the sustainable swimwear products of the brands' abovementioned range from 40€ a piece (top or bottom) to 120€ (a full bikini or swimsuit).

2.4.3 RESEARCH ON THE AREA

Little research was conducted on the area of sustainable swimwear products. Most previous studies address the central issue of sustainable products or sustainable fashion products in general; the impact of the fashion industry in the environment or, the drivers/barriers of sustainable fashion products consumption. Therefore, it gives us an excellent opportunity to explore more the area of investigation focusing on the swimwear industry.

3 METHODOLOGY

3.1 HYPOTHESIS FORMULATION AND CONCEPTUAL FRAMEWORK

The reviewed literature above, gave several insights about the research questions of the present study. In order to verify those insights, hypotheses were formulated and are going to be tested under the quantitative method.

H1) Psychographic and sociodemographic factors influence intentions to purchase sustainable swimwear products, where:

H1a) Psychographic factors are positively related with intentions to purchase sustainable swimwear products

H1b) Sociodemographic are positively related with intentions to purchase sustainable swimwear products

H1c) Psychographic factors are better predictors than demographic factors regarding consumers purchase intentions towards sustainable swimwear products.

H2) Consumers who are fashion and shopping oriented have higher intentions to buy sustainable swimwear products.

H3) Consumers who have knowledge about the environment have higher intentions to purchase sustainable swimwear products.

H4) A sustainable lifestyle will increase the intentions of purchasing sustainable swimwear products.

H5) Perceptions about sustainable swimwear products influence the purchase of sustainable swimwear products, where:

H5a) Consumer's lack of information about sustainable swimwear products will negatively influence the purchase.

H5b) The hard accessibility of sustainable swimwear products will negatively influence the purchase.

H5c) The low variety of choices of sustainable swimwear products will negatively influence the purchase.

H5d) The higher the willingness to pay more, the higher the probability to purchase.

The following conceptual framework was designed in order to demonstrate the relationship between variables and hypotheses testing. As one can see, the intention to purchase will be measured by five factors (psychographic, sociodemographic, shopping and fashion orientation,

knowledge about the environment and sustainable lifestyle), and the actual purchase will be measured by the intentions of purchasing a product and the perceptions about the product (information, accessibility, variety and price).

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┌─────────────────────────┐          ┌─────────────────────────┐
│   Intention to purchase  │ ────────▶│        Purchase         │
└─────────────────────────┘          └─────────────────────────┘
            ▲                                      ▲
            │                                      │
┌─────────────────────────┐          ┌─────────────────────────┐
│         Factors          │          │       Perceptions       │
│                          │          │                         │
│ Psychographic factors    │          │ Information about the    │
│ (H1a)                    │          │ product (H5a)            │
│ Socio-demographic        │          │ Product acessibility     │
│ factors (H1b)            │          │ (H5b)                    │
│ Shopping and Fashion     │          │ Product variety (H5c)    │
│ orientation (H2)         │          │ Price (H5d)              │
│ Knowledge about the      │          │                         │
│ environment (H3)         │          │                         │
│ Sustainable Lifestyle    │          │                         │
│ (H4)                     │          │                         │
└─────────────────────────┘          └─────────────────────────┘
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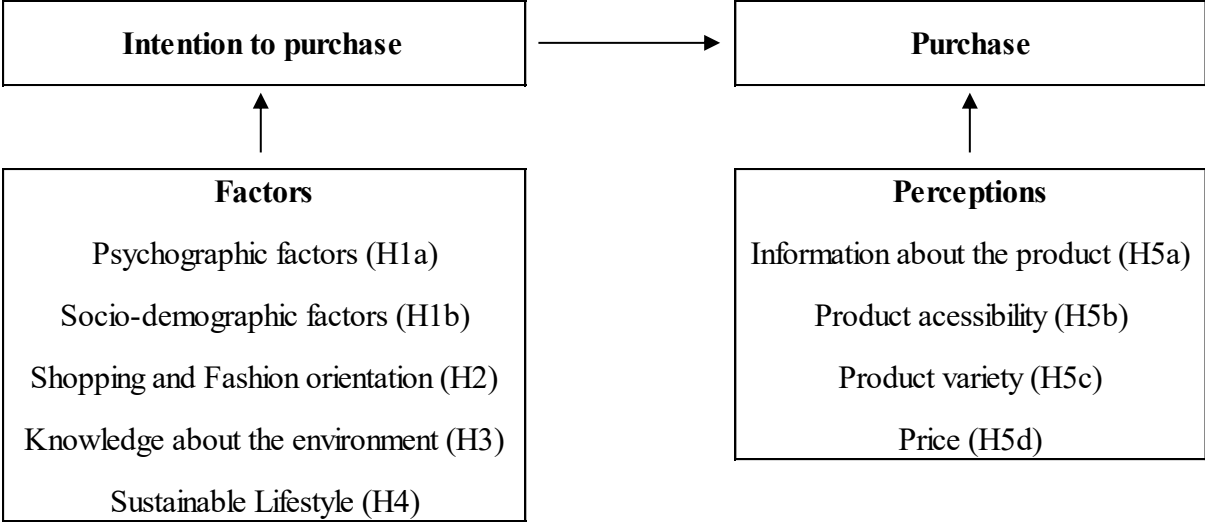
Graph 1 – Conceptual Framework

3.2 RESEARCH METHOD

This research aims to analyze Portuguese consumer's perceptions and purchase intentions towards sustainable swimwear products. In order to answer the research questions, firstly was collected secondary data through the existing literature about the topic. Subsequently, primary data was collected by using both qualitative and quantitative methods. A qualitative method was used to understand in depth what are the main drivers and barriers to the purchase of sustainable swimwear products. A quantitative method was used to search the same questions above, as well to define the consumer's profile and what were the general perceptions about the product.

3.2.1 QUALITATIVE ANALYSIS

For qualitative analysis, in-depth interviews were conducted to better understand the main drivers and barriers from consumers and non-consumers. In-depth interviews are individual interviews in which the respondents have knowledge about the topic and can provide information about their personal feelings, experiences and perspectives about it (Boyce & Neale, 2006). This method presents several advantages for data collection, such as the investigation of topics that are little known among the general population (Allen, Coombes,

Humphrey and Neale, 2009) and providing more detailed information about a topic compared to quantitative methods, (Boyce & Neale, 2006).

3.2.2 QUANTITATIVE ANALYSIS

For quantitative analysis, an online survey was conducted, to find the drivers and barriers of buying intentions and purchase, also to analyze general perceptions towards sustainable swimwear products and to draw a profile of the consumer. According to Evans and Mathur (2005), this method presents diverse advantages for both the respondents and the researcher. For the respondent, it is more convenient as he can answer the survey when it is best for him, he manages his time to answer the questions and has the opportunity to start answering and then return later to the same question, were it left. Other advantages for the researcher are the diversity of the questions, – as it can mix a great variety of questions and scales to provide more information – the sampling control, – as the researcher chooses where to share the survey and who will answer to it – and the control of size sample – the researcher can quickly obtain a large number of responses and decide when the size is enough.

3.3 DATA COLLECTION

3.3.1 INTERVIEWS

Eight in-depth interviews were conducted, where four of the respondents were consumers of sustainable swimwear products and the other four were non-consumers as they had never bought this type of product. The respondents were all Portuguese and females and were selected through a convenience sampling considering the lack of resources.

Two different interviews were designed, both following a semi-structured format, as the respondents were questioned about a specific topic or situation and encouraged to develop more about them. The first interview was developed for the users of sustainable swimwear products in order to search what were the main drivers that lead to the purchase. The leading questions, asked to the respondents, were related to the main reason of the purchase, its perceived benefits (for the buyers and the environment), shopping habits in general and regarding swimwear products (frequency, types of products, in what stores), and sustainable lifestyle. The second interview was developed for the non-users of sustainable swimwear products, in order to understand what the main barriers to non-purchase were and how could they become potential buyers. The leading questions asked, were related with the main barriers for the non-purchase,

perceptions related to the product price, their shopping habits related to swimwear products and what could be improved to motivate non-consumers to purchase.

3.3.2 ONLINE SURVEY

The online survey was developed under the Qualtrics research software and it was pre-tested by five individuals to verify if questions were clear and easy to understand or if existed any defects. Some questions were adjusted and modified based on the comments and reviews resulted from pre-testing. The survey was shared via social media platforms such as Instagram and Facebook, and in one particular group on Facebook called "*Mulheres à Obra*" with more than 100 thousand members, majorly Portuguese females. Afterwards, data was exported into IBM SPSS Statistics 23 for data collection and analysis.

The survey was structured according to findings of the reviewed literature and had a total of nine sections. After the initial welcoming message for the respondents, the first section offered a small topic's introduction, with the definition of sustainable swimwear, explanation of the materials used (such as *Econyl*) and an image of the process of manufacturing. The introduction was an essential part of the survey since it allowed the respondents, who did not know about the topic, to have an introduction about it. The second section questioned the respondents about their familiarity about sustainable swimwear products, to analyze if they ever heard about these products, if they knew brands who sell and if they ever bought this type of product. The subsequent five sections were related with factors discovered on the literature review, like shopping and fashion orientation, knowledge about the environment, lifestyle, psychographic factors (beliefs, attitudes and values) and perceptions towards the product. The eighth section asked the respondent about his purchase intentions towards sustainable swimwear products. Finally, the last section was related to sociodemographic factors, which included questions regarding age, level of education, monthly income and to despite any outliers, the respondents were also questioned about their gender and nationality.

3.4 INSTRUMENTS

3.4.1 MEASUREMENT OF SCALES

For most sections described before, the measurements and scales were based on previous studies of the literature review, and some were created for the specific study.

The third section measured *shopping and fashion orientation* of the respondents. This section was composed by a total of 9 items, in which four items were adapted from Gutman and Mills (1982) as cited in Gam (2009) and the left five items were created for this specific study. The scale used was a 5-point Likert-type where 1 corresponded to "Strongly Disagree" and 5 corresponded to "Strongly Agree".

The fourth section measured *knowledge about the environment*. It was composed by a total of five items, where three were adapted from Sidique et al (2010), as cited in Kumar, Manrai and Manrai (2017) to study environmental knowledge. The left two items were created for this specific study. The scale used, was also a 5-point Likert-type where 1 indicated "Strongly Disagree" and 5 indicated "Strongly Agree".

The fifth section measured *sustainable lifestyle* — a total of eleven items composed this section. Six items were adapted from Roberts (1996) cited in Straughan and Roberts (1999) to study ecological conscious consumer behavior. One item was adapted from Sanchez et al. (1998) cited in Fraj and Martinez (2006) to study lifestyle, and the rest four items were created for this specific study. All the items used a 5-point Likert-type scale, adapted from Roberts (1996), where 1 indicated "Never" and 5 indicated "Always".

The sixth section measured *psychographic factors*, such as beliefs, attitudes and values. This section was composed by a total of seven items. Three items were adapted from Do-Valle et al. (2005), as cited in Kumar, Manrai and Manrai (2017) to study Attitudes towards environmentally sustainable products. One item was adapted from Straughan and Roberts (1999) to study perceived consumer effectiveness. The rest three items were created for this specific study. All the items used a 5-point Likert-type scale, were 1 denoted "Strongly Disagree" and 5 denoted "Strongly Agree".

The seventh section measured *perceptions* about sustainable swimwear products, and it was composed by a total of nine items, in which three of them were inspired in items measuring behavior control from Ajzen and Fishbein (1980) and Shaw et al. (2000) and cited in Kang, Kim and Liu (2013) and adapted to this study. The left items were created specifically to this research. All the items used a 5-point Likert-type scale where 1 denoted "Strongly Disagree" and 5 denoted "Strongly Agree".

Finally, the eighth section measured *purchase intentions* towards sustainable swimwear products. A total of four items composed this section, where two were adapted from Chan

(2000) cited in Vaz (2019), to study purchase intentions towards slow-fashion products and now adapted to sustainable swimwear products. The other two items were adapted from Ajzen and Fishbein (1980) and Shaw et al. (2000) and cited in Kang, Kim and Liu (2013) used by the authors to study behavioral intention. All items used a 7-point Likert-type scale, based on the study of Kang, Kim and Liu (2013) where 1 denoted "Very unlikely" and 7 denoted "Very likely".

Section	Topic	Original author	Cited author	Scale
3	Shopping and Fashion Orientation	Gutman and Mills (1982)	Gam (2009)	5-point Likert (1- Strongly Disagree to 5- Strongly Agree)
4	Knowledge about the environment	Sidique et al. (2010)	Kumar, Manrai and Manrai (2017)	5-point Likert (1- Strongly Disagree to 5- Strongly Agree)
5	Sustainable lifestyle and ecological behavior	Roberts (1996) Sanchez et al. (1998)	Straughan and Roberts (1999) Fraj and Martinez (2006)	5-point Likert (1- Never to 5- Always)
6	Psycoghapich factors	Do-Valle et al. (2005) Straughan and Roberts (1999)	Kumar, Manrai and Manrai (2017) -	5-point Likert (1- Strongly Disagree to 5- Strongly Agree)
8	Purchase intentions	Chan (2000) Ajzen and Fishbein (1980) Shaw et al. (2000)	Vaz (2019) Kang, Kim and Liu (2013)	7-point Likert (1-Very unlikely and 7- Very likely)

Table 1 - Measurement of Scales

3.4.2 DATA ANALYSIS

After a preliminary analysis of data, specific procedures were conducted for data treatment, such as, variable recodification and the creation of composite measures that studied one latent variable. There were two specific variables recoded, ("I usually purchase the lowest priced product, regardless of its impact on society" and "It is worthless for the individual consumer to do anything about pollution") as they presented an inverse interpretation when compared to the remaining variables.

The creation of composite variables emerged from the validation that several items of the survey measured one same latent variable. Hence, and to facilitate the analysis, certain items were aggregated into new variables that studied the different constructs, as demonstrated in Appendix 3.

3.4.2.1 RELIABILITY OF SCALES

As the constructs were measured under various scales of different authors, it was required to test their reliability and validation through reliability tests and exploratory factor analysis, in order to analyze the consistency of scales. Cronbach's Alpha was considered, to validate the results of the reliability test, and for the Exploratory Factor Analysis, it was considered the KMO, Total Variance Explained and Bartlett's Test of Sphericity.

In total, seven new variables were computed through the aggregation of items, as they measured one common latent variable. Appendix 3 presents in detail all the items aggregated into new variables.

Factor in Analysis	Composite Variables	Number of Items	Cronbach's Alpha
Shopping and Fashion Orientation	Shopping and Fashion Orientation	7	0.727
Knowlegde	Environmental Knowledge	3	0.779
Lifestyle	Ecological Behavior	8	0.835
	Ecological Fashion Behavior	2	0.703
Psychographics factors	Attitudes towards the environment	4	0.886
	Environmental values	2	0.776
Intention	Intention	4	0.919

NOTE: Cronbach's Alpha > 0.7

Table 2 - Reliability Test: Cronbach's Alpha

For Cronbach's Alpha values, it is recommended values above 0.7, which are acceptable and any value above 0.9 is excellent. Therefore, all variables abovementioned are considered to have good reliability, except for intention, which is considered to have excellent reliability.

Factor in Analysis	Composite Variables	KMO	Total Variance Explained (%)	Bartlett's Test of Sphericity (Sig)
Shopping and Fashion Orientation	Shopping and Fashion Orientation	0.708	46,635	0.000
Knowlegde	Environmental Knowledge	0,703	69,388	0.000
Lifestyle	Ecological Behavior	0.889	48,161	0.000
	Ecological Fashion Behavior	0.500	77,128	0.000
Psychographics factors	Attitudes towards the environment	0.784	74,982	0.000
	Environmental values	0.500	81,801	0.000
Intention	Intention	0.803	80,807	0.000

NOTE: KMO>0.5; Total Variance Explained >40% and Sig<0.05

Table 3 - Exploratory Factor Analysis

For KMO values, it is recommended values above 0.5, where values from 0.5 to 0.7 are considered mediocre, from 0.7 to 0.8 are considered good, between 0.8 and 0.9 are considered great and above 0.9 are considered excellent (Hutcheson & Sofroniou, 1999, cited in Field, 2009). As one can see, only the factors Ecological Fashion Behavior and Environmental Values have a value of 0.5, which can be considered mediocre and the remaining factors are above 0.7 and 0.8, which are considered good and great. Field (2009) also explains that the Bartlett's Test of Sphericity test if the variables inside each factor have a relationship between themselves and the value should be lower than 0.05 in order to be significant. As one can see, all the factors present a Sig < 0.001, meaning the test is highly significant and therefore, the factor analysis is adequate.

3.4.3 COMPARATIVE ANALYSIS

Considering that sustainable swimwear products are new in the Portuguese market, and most people may not be familiarized with this type of product, it was essential to validate this assumption. Hence, after running a quick analysis of the responses, results showed most of the participants had never heard about sustainable swimwear products before answering the survey. So, the first contact with it was through the introductory section where it was explained what the product was, the manufacturing process and the product price. Although the participants never heard about the product before, a generous amount answered to have intentions of purchasing the product on the next time. Therefore, to have a more substantiated conclusion about the drivers affecting purchasing intention, the results are going to be analyzed separately between the two groups (heard before and never heard) and lately compared to verify if there are different factors that influence their decisions. Regarding variables measuring barriers to purchase, the comparative analysis will not be used, since those who never heard about the product could never bought it.

3.4.4 NORMALITY TEST

Before running any statistical tests to analyze data and interpret results, a normality test was performed to measure if both dependent variables (*Intention* to purchase and *Purchase*) were normally distributed.

According to Kolmogorov-Smirnov and Shapiro-Walk measures, none of the dependent variables are normally distributed (Sig=0.000, <0.05). Although the results show a non-normal distribution, according to the Central Limit Theorem when the sample size has adequate size

(usually >30), the distribution will approximate to normal. Given the fact that in the variable "*Have you ever bought SSP?*" there are two groups (1=Yes and 2=No), and the first group has a sample size of 23 (<30) and the second group has a sample size of 395 (>30), it will be assumed that this variable has a non-normal distribution. Regarding the variable "*Intention to Purchase*", it includes seven groups (1-Very unlikely to 7-Very likely), and all groups have a sample size higher than 30. Hence, for this dependent variable, a normal distribution will be assumed.

Therefore, to statistically analyze the first dependent variable of "*Have you ever bought SSP?*" it will be used non-parametric tests. For the second dependent variable "*Intention to purchase*" it will be used parametric tests.

Dependent Variables	Kolmogorov-Smirnov			Shapiro-Walk		
	Statistic	df	Sig	Statistic	df	Sig
Have you ever bought SSP	0,540	418	0,000	0,238	418	0,000
Intention to purchase	0,127	418	0,000	0,927	418	0,000

NOTE: Sig > 0.05

Table 4 - Normality Test

4 RESULTS

4.1 INTERVIEW'S FINDINGS

In this chapter the eight interviews were analyzed to gather the main findings about drivers and barriers of SSP purchase. All the interviewees were Portuguese females and the ages ranged from 21 to 28 years. Five of the participants were students and the remaining three were employed.

Users

In order to investigate the main drivers of intentions to purchase sustainable swimwear products, four consumers of the product were interviewed. As mentioned before, the interviews followed a semi-structured format where the interviewees were asked leading questions and encouraged to develop more their responses.

Firstly, when asked about the main reasons for purchase intentions and motivations, all interviewees pointed out the ecological aspect of the product, highlighting the importance of taking actions to preserve the environment. One common response over the interviewees was the acknowledgment that the textile and fashion industry is one of the main reasons for the pollution and natural resources waste, especially because of fast fashion. Therefore, the interviewees mentioned that is was necessary to start consuming in a more conscious way and thinking about the impact of personal choices in the environment, and that were the main reasons for their intentions of purchasing this type of product.

When asked about the major benefits of using sustainable swimwear products, the interviewees referred the opportunity to help conserving the environment and natural resources, the advantage of transforming and reutilizing wasted products/materials into something more ecological and a good way to fight against the fast-fashion industry and consumerism.

Interviewees were also asked about their shopping habits (in general and for swimwear products). Regarding swimwear products, one of the interviewees answered it only bought sustainable swimwear products once, mainly because of the high prices. The rest of the interviewees said they had bought more than once and one of them added that 90% of the swimwear products she uses are sustainable and intends to only wear sustainable swimwear products in the near future. In respect to general shopping habits, some interviewees answered

they also usually buy other type of sustainable products, mainly from the beauty and hygiene industry (as bamboo toothbrushes, wood hairbrushes, shampoos, etc.).

Finally, when asked about their definition of a sustainable lifestyle and if they practice, we obtained different responses. One interviewee stated that "sustainable lifestyle is to consciously take actions to help conserving the environment, whether by carefully manage what and how we consume or simply to try to reduce our ecological footprint (such as water waste, trash management, etc.)". Other interviewees stated they can live a sustainable lifestyle by choosing more ecological products, avoid consuming products they know are harmful for the planet, recycle, buy and sell at second-hand stores, and so on. All interviewees claimed to practice a sustainable lifestyle, one way or another.

Non-users

For gathering the findings about barriers that prevent consumers to purchase sustainable swimwear products, four interviews were conducted to non-users. Again, the interviews followed a semi-structured format.

Firstly, the interviewees were asked what were the main reasons for non-purchasing sustainable swimwear and the respondents identified, mainly, the factors price and lack of information. The price factor was present in the answers and although most of interviewees did not agreed that sustainable swimwear products are overpriced, taking into account the concept behind them and the manufacturing process, none of them were willing to pay more for this type of products. Additionally, they said that preferred to buy cheaper non-sustainable swimwear and the maximum price they were willing to pay for sustainable swimwear was between 40€ and 50€ for a set. Regarding information, two respondents stated that there exists little information about where they can find them, or which brands sell this type of products.

When asked about their shopping habits, most of the consumers answered to buy new swimwear products every year, and mainly via online to obtain more variety and cheaper prices or in physical stores, mainly during the sales season.

Regarding sustainable lifestyle, one of the interviewees claimed that "to live a more sustainable lifestyle there is no need to spend more money in sustainable products since there are other ways to be sustainable". Actions like recycling, buying second-hand clothes, avoid using plastic or buy harmful products are some of the most answered ecological behaviors the interviewees state to practice.

Finally, when asked about how brands could improve to motivate the purchase, the responses were diverse. The main suggestions were that brands should advertise more, because they believe most people are not aware of the existence of sustainable swimwear, how they are made or even where they can find this type of products. Additionally, one interviewee suggested that sustainable swimwear brands should advertise more about the benefits of the product and the impact that non-sustainable swimwear products have in environment as a way to motivate the purchase of sustainable swimwear.

4.2 GENERAL SAMPLE CHARACTERISTICS

During the survey share, a total of 591 responses were collected, but only 426 of the respondents concluded answering the survey, resulting on a response rate of 72%. From those 426 responses, eight were considered not valid because the respondents were not female or Portuguese, resulting in a total of 418 valid responses.

With respect to socio-demographic factors, the sample was composed only by Portuguese females. Their age ranged between 19 and 70 years and the average age of the respondents was 38,5 years with a standard deviation of 11 years. Regarding the level of education, the majority had a bachelor's degree (50,5%), followed by 21,1% with a master's degree and equally 21,1% with high school, 3,1% only completed the 9th grade and lastly 1,2% had a Doctorate. Regarding the factor monthly income, the majority have between 501€-1000€ (37,8%) followed by 23,9% with a monthly income of 1001€-1500€, 10,5% with less than 500€ and finally 8,9% between 1501€-2000€.

From the total sample, only 21,1% have already heard about sustainable swimwear against 78,9% who have never heard about this type of product. Only 9,8% could identify brands that sell the product, being the most answered: Conscious Swimwear, Mist and 38 Graus. Lastly, only 5,5% of the sample had already bought a sustainable swimwear product.

4.3 DESCRIPTIVE STATISTICS

The statistical analysis of descriptive measures allows to have more information about the participant's responses and provide insights about the participants. In this chapter, it will be analyzed the frequencies, means and standard deviations. To measure the variables related with drivers to purchase intentions, Independent T-tests were utilized in order to compare means between the groups of "Heard about SSP" variable.

Intention to purchase

Regarding intentions to purchase, as one can verify, consumers who have already heard about SSP present an average intention of purchasing the product of 5.10 (SD=1.57), and consumers who have never heard about it present an average intention of 4.87 (SD=1.65). According to Sig=0.246 (>0.05), one can conclude that there is no mean difference between the groups, both meaning a slightly likelihood to purchase SSP in the future.

Independent Variable	Heard about SSP	N	Mean	Std. Deviation	Std. Error Mean	Sig (2-tailed)
Purchase Intention	Yes	88	5,1023	1,57	0,16741	0,246
	No	330	4,8742	1,65	0,09088	

NOTE: Sig < 0.05

Table 5 - Independent T-Test for Intention

Shopping and Fashion Orientation

For Shopping and Fashion Orientation, the three variables associated to this construct were analyzed. Regarding the variable *Shopping Frequency,* one can see that there is a difference between means (Sig=0.001, <0.05), where the consumers who already heard about SSP go more often shopping (Mean=3.53, SD=1.050) than those who have not heard (Mean=3.95, SD=1.011). In respect to *Monthly Expenditure on clothes*, the average between the groups is not different (Sig=0.098, >0.05), meaning both groups spend on average between 21€-50€ in clothes every month. Finally, regarding *Shopping and Fashion Orientation* the average between the groups is not different (sig=0.000), indicating both groups are moderately fashion and shopping oriented.

Independent Variables	Heard about SSP	N	Mean	Std. Deviation	Std. Error Mean	Sig (2-tailed)
Shopping Orientation						
Shopping Frequency	Yes	88	3,53	1,050	0,112	**0,001**
	No	330	3,95	1,011	0,056	
Monthly expenditure on clothes	Yes	88	2,23	1,058	0,113	0,098
	No	330	2,03	0,970	0,053	
Shopping and Fashion Orientation	Yes	88	3,4594	0,830	0,088	**0,000**
	No	330	3,1312	0,764	0,042	

NOTE: Sig < 0.05

Table 6 - Independent T-Test for Shopping Orientation

Knowledge about the environment

For knowledge about the environment an analysis over the three variables was performed. Regarding *Environmental Knowledge*, there are no differences in means between the groups (sig=0.685), meaning both groups have knowledge about the positive impact of sustainable products in the environment. The conclusion for *Industry's Knowledge* is the same, where there is no mean difference between the two groups (sig=0.355) meaning both groups are aware how the textile industry impacts the environment. Finally, *Brand's Knowledge* is the only variable that presents different means over the groups (sig=0.002), concluding that consumers who have already heard about SSP (Mean=3.640) tend to be more interested on how the clothing brands they use impact the environment than those who never heard about SSP (Mean=3.2).

Independent Variables	Heard about SSP	N	Mean	Std. Deviation	Std. Error Mean	Sig (2-tailed)
Knowledge						
Environmental Knowledge	Yes	88	4,507	0,589	0,063	0,685
	No	330	4,538	0,644	0,035	
Industry's Knowledge	Yes	88	4,280	0,958	0,102	0,355
	No	330	4,180	0,946	0,052	
Brands knowledge	Yes	88	3,640	1,095	0,117	**0,002**
	No	330	3,200	1,171	0,064	

NOTE: Sig < 0.05

Table 7 - Independent T-Test for Knowledge

Lifestyle

With respect to Lifestyle, three variables were measured. None of the variables presents differences in means between the two groups, as all revealed a significance level higher than 0.05. Regarding *Ecological Behaviors*, one can conclude that both groups (sig=0.135) often practice ecological behaviors. Regarding *Second-hand clothes purchase*, both groups (sig=0.357) rarely purchase clothes in second-hand and with respect to *Ecological Fashion Behavior,* both groups (sig=0.349) sometimes practice ecological behaviors with fashion products.

Independent Variables	Heard about SSP	N	Mean	Std. Deviation	Std. Error Mean	Sig (2-tailed)
Lifestyle						
Ecological Behavior	Yes	88	3,541	0,667	0,071	0,135
	No	330	3,419	0,679	0,037	
Second-hand Clothes Purchase	Yes	88	2,250	1,157	0,123	0,357
	No	330	2,120	1,132	0,062	
Ecological Fashion Behavior	Yes	88	2,989	1,009	0,107	0,349
	No	330	2,874	1,019	0,056	

NOTE: Sig < 0.05

Table 8 - Independent T-Test for Lifestyle

Psychographic Factors

For psychographic factors, the three including variables were tested. Once again, none of the variables presented a significance level higher than 0.05, meaning there are no differences in means between groups. In respect to *Attitudes towards the environment,* both groups (sig=0.946) present an equal mean of 4,2 which can be interpreted as a partial agreement that their personal use of sustainable products can have positive impacts in the environment. Regarding *Environmental Values,* the two groups (sig=0.209) presented strong environmental values (Mean$_Y$=4.65 and Mean$_N$=4.57). Lastly, in relation to *Perceived Consumer Effectiveness*, both groups (sig=0.427), disagree that is worthless for the individual consumer to do something about the pollution (Mean$_Y$.= 1.69 and Mean$_N$=1.59).

Independent Variables	Heard about SSP	N	Mean	Std. Deviation	Std. Error Mean	Sig (2-tailed)
Psychographic Factors						
Attitudes towards the environment	Yes	88	4,242	0,669	0,071	0,946
	No	330	4,247	0,676	0,037	
Environmental Values	Yes	88	4,653	0,543	0,057	0,209
	No	330	4,573	0,532	0,029	
Perceived Consumer Effectiveness	Yes	88	1,690	1,216	0,130	0,427
	No	330	1,590	1,031	0,057	

NOTE: Sig < 0.05

Table 9 - Independent T-Test for Psychographic Factors

Socio-Demographic Factors

For socio-demographic factors, the variables age, level of education and monthly income were tested. The variable *Age* presented a difference in means between groups (sig=0.000), meaning that the group of consumers who already heard about SSP are younger (Mean=31.5 years) than those who never about SSP (Mean=40,3 years). Regarding *Level of Education* (sig=0.192) and *Monthly Income* (sig=0.522), both variables presented no differences of means between the two groups. Therefore, one can conclude that two groups presented an average level of education of bachelor's degree (Mean$_Y$=3.17 and Mean$_N$=3.02) and their monthly income is between 1001€ and 1500€ (Mean$_Y$=3,18 and Mean$_N$=3,35).

Independent Variables	Heard about SSP	N	Mean	Std. Deviation	Std. Error Mean	Sig (2-tailed)
Socio-Demographic Factors						
Age	Yes	88	31,5	10,513	1,121	**0,000**
	No	330	40,3	10,409	0,573	
Level of education	Yes	88	3,170	0,746	0,080	0,192
	No	330	3,020	0,977	0,054	
Monthly income	Yes	88	3,180	2,216	0,236	0,522
	No	330	3,350	2,107	0,116	

NOTE: Sig < 0.05

Table 10 - Independent T-Test for Socio-demographic Factors

Perceptions towards SSP

Lastly, for perceptions the test included nine variables, related to product information, product accessibility, product variety, product safety and price. In this factor it will be considered two different groups: those who already bought SSP and those who never bought. Regarding *product information*, the two measured variables presented a significance level <0.001, meaning that the two groups had differences in means. Those who already bought SSP have a higher tendency to neither agree nor disagree that there exists lack of information about where to find SSP (Mean=3.26) and how they are made (Mean=3.04); comparing to those who never bought SSP who strongly agree with the affirmations (respectively, Mean=4.57 and Mean=4.57).

With respect to *product accessibility*, both groups presented differences in means (Sig<0,001), where those who already bought SSP tend more to neither agree nor disagree (Mean$_Y$=3.22) that the purchase access is hard, while those who never bought agree with the hard accessibility of purchase (Mean$_N$=4.15).

Related with *product variety*, both groups agree that there is low variety of products (Sig=0.362), but, on the other hand there are mean differences between groups regarding to low variety of product design, style or color and with preferring to go non-sustainable swimwear stores because of product variety.

Regarding *product safety*, there is a difference between groups (Sig<0.001), where those who already bought SSP strongly disagree that the product is unsafe, comparing to those who never bought who have higher tendency to neither agree nor disagree.

Finally, related to *price*, both variables present differences in mean (Sig=0.001 and Sig=0.017). Those who already bought fall more towards the agreement of price adequacy (Mean$_Y$=3.39) and are more inclined to higher willingness to pay (Mean$_Y$=3.70) , than those who never bought.

Independent Variables	Have you ever bought SSP?	N	Mean	Std. Deviation	Std. Error Mean	Sig (2-tailed)
Perceptions towards SSP						
Exists lack of information where to find SSP	Yes	23	3,26	1,176	0,245	**0,000**
	No	395	4,57	0,714	0,036	
Exists lack of information about how SSP are made	Yes	23	3,04	1,065	0,222	**0,000**
	No	395	4,53	0,734	0,037	
SSP purchase access is hard	Yes	23	3,22	1,204	0,251	**0,000**
	No	395	4,15	0,923	0,046	
SSP have low variety	Yes	23	3,52	1,082	0,226	0,362
	No	395	3,71	0,934	0,047	
SSP have low variety of design, style or color	Yes	23	2,74	1,287	0,268	**0,003**
	No	395	3,23	0,726	0,037	
I prefer NSSP stores because they have higher variety of products	Yes	23	2,09	0,996	0,208	**0,000**
	No	395	3,01	0,881	0,044	
SSP are unsafe	Yes	23	1,3	0,635	0,132	**0,000**
	No	395	2,61	0,844	0,042	
SSP's price is adequate	Yes	23	3,39	1,34	0,279	**0,001**
	No	395	2,78	0,846	0,043	
I'm willing to pay more for SSP	Yes	23	3,70	1,102	0,23	**0,017**
	No	395	3,15	1,051	0,053	

NOTE: Sig < 0.05

Table 11 - Independent T-Test for Perceptions

4.4 INFERENTIAL STATISTICS

In this chapter, hypothesis will be tested, and the research questions will be answered. In order to achieve these goals, several tests were performed, both parametric and non-parametric, such as Multiple Linear Regressions, Independent T-tests and Spearman Correlations.

4.4.1 HYPOTHESIS TESTING

In order to validate a comparative analysis, as referred in the chapter before, all hypotheses related to drivers will be tested twice: the first case considering the sample who already knew about SSP before answering the survey and the second case considering the sample who never heard about it. On the other hand, all hypothesis related to barriers won't follow the double test procedure mentioned above.

Psychographic and Socio-Demographic Factors

The aim of the first hypothesis is to understand if psychographic and socio-demographic factors have effect on purchase intentions. The hypotheses will be tested under a multiple linear regression test.

a) Sample 1: Already heard about SSP

Independent Variables	Standardized Beta	P-values	R^2 Change	F	Sig
Psychographic Factors					
Attitudes towards the environment	0,228	**0,047**			
Environmental Values	0,143	0,180	0,160	5,345	**0,002**
Perceived Consumer Effectiveness	-0,161	0,152			
Socio-demographic Factors					
Age	-0,100	0,361			
Level of Education	0,134	0,217	0,033	0,964	0,414
Monthly Income	0,76	0,487			

Dependent Variable: Intentions to purchase

Sig < 0.05 and P-value < 0.05

Table 12 - Multiple Linear Regression for Psychographic and Socio-Demographic Factors (Sample 1)

Firstly, independent variables from *Psychographic Factors* were tested with the dependent variable *Intention to Purchase* to verify if they were significant predictors. Results show that the effect size is statistically significant (Sig=0.002; F=5.345 and R^2 Changes=0.160). According to data, only the independent variable "Attitudes towards the environment" can be considered

a strong predictor (Pvalue=0.047, β=0.228), meaning the higher the belief that personal use of sustainable products will positively affect the environment, the higher the intention of purchasing SSP. Therefore, hypothesis *H1a* is accepted.

Regarding *Socio-demographic Factors*, results show a low level of explanation as predictors of *Intention to purchase*. As one can see, the model is not statistically significant (Sig=0.414, F=0.964; R^2 Changes=0.033), neither any independent variable, meaning socio-demographic factors do not predict the intention of purchasing SSP. Thus, hypothesis *H1b* is rejected.

b) Sample 2: Never heard about SSP

Independent Variables	Standardized Beta	P-values	R^2 Change	F	Sig
Psychographic Factors					
Attitudes towards the environment	0,272	**0,000**			
Environmental Values	0,271	**0,000**	0,209	28,797	**0,000**
Perceived Consumer Effectiveness	-0,017	0,737			
Socio-demographic Factors					
Age	0,007	0,125			
Level of Education	0,016	0,282	0,001	0,155	0,926
Monthly Income	0,031	0,557			

Dependent Variable: Intentions to purchase

Sig < 0.05 and P-value < 0.05

Table 13 - Multiple Linear Regression for Psychographic and Socio-Demographic Factors (Sample 2)

Regarding *Psychographic Factors*, the regression model is statistically significant (Sig<0.001; F=28.797; R^2 Changes=0.209). There are two predictors inside the construct, which are the independent variables "Attitudes towards the environment" (Pvalue<0.001; β=0.272) and "Environmental Values" (Pvalue<0.001; β=0.271), meaning the higher the beliefs that personal use of sustainable products will positively affect the environment and their respect for environemnt and concerns about the planet, the higher will be their intentions of purchasing SSP. With that said, *H1a* is accepted.

Once again, *Socio-demographic Factors* reveal not be statistically significant (Sig=0.926; F=0.155; R^2 Changes=0.001), neither any of the independent variables. So, *H1b* is rejected. Hence, considering hypothesis H1a was accepted and H1b was rejected in both samples, one can conclude that psychographic factors are better predictors of intentions of purchasing SSP, than socio-demographic factors, meaning hypothesis *H1c* is also accepted.

<u>*Shopping and Fashion Orientation*</u>

The second hypothesis will be tested under a multiple linear regression test, in order to find if shopping and fashion orientation is a good predictor of intentions of purchasing.

a) Sample 1: Already heard about SSP

Independent Variables	Standardized Beta	P-values	R^2 Change	F	Sig
Shopping and Fashion Orientation					
Shopping frequency	-0,298	**0,047**			
Monthly expenditure in clothes	-0,253	**0,049**	0,085	2,601	0,057
Shopping and Fashion Orientation	-0,248	0,061			

Dependent Variable: Intentions to purchase

Sig < 0.05 and P-value < 0.05

Table 14 - Multiple Linear Regression for Shopping and Fashion Orientation (Sample 1)

The regression model between *Shopping and Fashion Orientation* and *Intentions to Purchase*, presents an effect size not statistically significant (Sig=0.057; F=2.601; R^2 Change=0.085). However, data shows that two of the independent variables are good predictors of the dependent variable: *Shopping frequency* (Pvalue=0.047, β=-0.298), meaning the more often people go shopping, the higher the intentions of purchasing SSP; and *Monthly expenditure in clothes* (Pvalue=0.049, β=-0.253), meaning the less people spend in clothes, the higher the intentions of purchasing SSP. Despite that, and since the regression model is not statistically significant, hypothesis *H2* is rejected.

b) Sample 2: Never heard about SSP

Independent Variables	Standardized Beta	P-values	R^2 Change	F	Sig
Shopping and Fashion Orientation					
Shopping frequency	0,006	0,933			
Monthly expenditure in clothes	-0,017	0,792	0,012	1,302	0,274
Shopping and Fashion Orientation	0,116	0,068			

Dependent Variable: Intentions to purchase

Sig < 0.05 and P-value < 0.05

Table 15 - Multiple Linear Regression for Shopping and Fashion Orientation (Sample 2)

According to data, results show that *Shopping and Fashion Orientation* do not explain *Intentions to Purchase*. As one can see, the effect size is not statistically significant (Sig=0.274; F=1.302; R^2 Changes=0.012), neither any independent variable is considered a good predictor of the dependent variable. Therefore, hypothesis *H2,* considering this sample, is also rejected.

Knowledge about the environment

For the third hypothesis, a multiple linear regression was performed, in order to analyze if knowledge was a predictor of the dependent variable.

a) Sample 1: Already heard about SSP

Independent Variables	Standardized Beta	P-values	R^2 Change	F	Sig
Knowledge					
Environmental Knowledge	0,091	0,394			
Industry's Knowledge	-0,092	0,467	0,114	3,598	**0,017**
Brands' knowledge	0,348	**0,008**			

Dependent Variable: Intentions to purchase

Sig < 0.05 and P-value < 0.05

Table 16 - Multiple Linear Regression for Knowledge (Sample 1)

In respect to *Knowledge*, results of the regression model show a good level of explanation with an effect size statistically significant (Sig=0.017; F=3.598; R^2 Change=0.114). However, the only dependent variable that is considered to be a good predictor of *Intentions to Purchase* is "Brand's Knowledge" (Pvalue=0.008, β=0.348), meaning the higher people aim to be informed about how the clothing brands, they use, impacts the environment, the higher the intentions of purchasing SSP. Therefore, we can conclude the higher the knowledge the higher the intentions to purchase, so hypothesis *H3* is accepted.

b) Sample 2: Never heard about SSP

Independent Variables	Standardized Beta	P-values	R^2 Change	F	Sig
Knowledge					
Environmental Knowledge	0,191	**0,000**			
Industry's Knowledge	0,083	0,128	0,184	24,555	**0,000**
Brands' knowledge	0,314	**0,000**			

Dependent Variable: Intentions to purchase

Sig < 0.05 and P-value < 0.05

Table 17 - Multiple Linear Regression for Knowledge (Sample 2)

The regression model of this sample reveals that *Knowledge* has a statistically significant effect on *Intentions to Purchase* (Sig<0.001; F=24.555; R^2 Changes=0.184). Besides, one can see that two of the independent variables of the construct are good predictors: "Environmental Knowledge" (Pvalue<0.001, β=0.191), meaning the higher people consider the usage of sustainable products can help the environment, the higher the intentions to purchase; and also "Brand's Knowledge" (Pvalue<0.001, β=0.314). Consequently, the higher the knowledge, the higher the intentions to purchase, so hypothesis *H3* is accepted.

Lifestyle

The aim of the fourth hypothesis is to understand if lifestyle have effect on purchase intentions. The hypothesis will be tested under a multiple linear regression test.

a) Sample 1: Already heard about SSP

Independent Variables	Standardized Beta	P-values	R^2 Change	F	Sig
Lifestyle					
Ecological Behavior	0,264	**0,038**			
Second-hand Clothes Purchase	-0,025	0,844	0,116	3,691	**0,015**
Ecological Fashion Behavior	0,148	0,213			

Dependent Variable: Intentions to purchase
Sig < 0.05 and P-value < 0.05

Table 18 - Multiple Linear Regression for Lifestyle (Sample 1)

According to data, the independent variables of *Lifestyle* present a statistically significant effect size (Sig=0.015; F=3.691; R^2 Change=0.116). However, the only independent variable which is a good predictor is *Ecological Behavior* (Pvalue=0.038, β=0.264), meaning the more often people practice ecological behaviors, the higher their intentions of purchasing SSP. Hence, as the model is statistically significant one can conclude that a more sustainable lifestyle will increase the intentions of purchase, so hypothesis *H4* is accepted.

b) Sample 2: Never heard about SSP

Independent Variables	Standardized Beta	P-values	R² Change	F	Sig
Lifestyle					
Ecological Behavior	0,498	**0,000**			
Second-hand Clothes Purchase	-0,053	0,312	0,265	39,113	**0,000**
Ecological Fashion Behavior	0,079	0,142			

Dependent Variable: Intentions to purchase

Sig < 0.05 and P-value < 0.05

Table 19 - Multiple linear regression for lifestyle (Sample 2)

As one can see, the results considering this sample, are similar to the results of the sample who already heard about SSP. The regression model is statistically significant (Sig<0.001; F=39.113; R^2 Changes=0.265) and the only variable that is a good predictor is, also, "Ecological Behavior" (Pvalue<0.001, β=0.498). Therefore, the hypothesis *H4* of this sample is also accepted.

Perceptions towards SSP

For the analysis of perceptions influencing the purchase, a Spearman correlation test was performed. With this test, one can identify if the variables are correlated and the correlation's direction (positive, null or negative). For this analysis the variable "Have you ever bought SSP?" was recoded, in order to facilitate the correlation coefficient reading, therefore, for this variable the codes considered are 1=No and 2=Yes.

	Have you ever bought SSP?	
Independent Variables	Correlation Coefficient	Sig. (2-tailed)
Perceptions towards SSP		
Exists lack of information where to find SSP	-0,315	**0,000**
Exists lack of information about how SSP are made	-0,329	**0,000**
SSP purchase access is hard	-0,185	**0,000**
SSP have low variety	0,000	0,995
SSP have low variety of design, style or color	-0,083	0,091
SSP are unsafe	-0,325	**0,000**
SSP's price is adequate	0,128	**0,009**
I'm willing to pay more for SSP	0,106	**0,030**

Dependent Variable: SSP Purchase

Sig < 0.05

Table 20 - Spearman Correlation of Perceptions and Purchase

Regarding *product information* results from the Spearman correlation test show that lack of information about where to find SSP (Sig<0.001) and how they are made (Sig<0.001) influence purchase decisions. As one can see, both correlations are negative (Correlation Coefficient= −0.315 and Correlation Coefficient= −0.329), meaning that consumer's lack of information about where to find SSP and how they are made will negatively influence the purchase, so hypothesis *H6a* is accepted.

Regarding *product accessibility*, results show a statistically significance of the correlation (Sig<0.001), and with a negative direction (Correlation Coefficient= −0.185), meaning that the harder consumers perceive the access to purchase is, the lower their probability to purchase. Therefore, hard accessibility will negatively influence the purchase, so hypothesis *H6b* is also accepted.

Regarding *product variety*, data shows that neither the perception of low product variety (Sig=0.995), neither the perception of low variety of design, style or color (Sig=0.091) influence the purchase of SSP. Therefore, hypothesis *H6c* is rejected.

Finally, regarding *price* and according data, the variable "I am willing to pay more for SSP" it's statistically significant (Sig=0.030) and presents a positive correlations (Correlation Coefficient=0.106), meaning the higher the willingness to pay more, the higher the probability to purchase SSP. Thus, hypothesis *H6d* is accepted.

Appendix 7 offers a results conclusion of all the hypotheses tested.

4.4.2 RESULTS DISCUSSION

RQ1: Who is the actual consumer that buys sustainable swimwear products?

To draw a consumer profile of sustainable swimwear, only the responses of participants who answered "Yes" to "Have you ever bought SSP?" were considered. Hence, the age of the consumers ranged between 19 and 43 years, with an average of 28 years and a standard deviation of 5,6 years. The level of education of the consumer was 56,5% a master's degree, 34,8% a bachelor's degree and 8,7% high school. Finally, most consumers (43,5%) had a monthly income between 1001€-1500€, followed by 30,4% between 501€-1000€, 8,7% less than 500€ and 4,3% between 1501€-2000€.

Therefore, the Portuguese female consumer has in average 28 years, a master's degree and a monthly income between 1001€-1500€.

RQ2: What are the drivers that influence intentions to purchase SSP?

As one could verify, the answers of interviews and from the online survey were coherent, providing reasonable conclusions to this question.

To answer what were the drivers, the comparative analysis explained before will be considered. A multiple linear regression was performed, under the backwards method, for both groups. allowing to find the main predictors that influenced intentions to purchase inside each group.

Results from the regression model (backwards method) identified the main predictors of purchase intentions for those who already heard about SSP. Those predictors were *Brand's Knowledge*: aiming to be informed of how the clothing brands they use impact the environment; *Ecological Behaviors* like switching products for ecological reasons; do not purchasing a product if that product can potentially damage the environment and avoiding to use plastic or other damaging materials to the environment; and finally, *Attitudes towards the environment*: believing that personal use of sustainable products will help conserving natural resources.

On the other hand, for those who never heard about SSP the predictors of purchase intentions were *Environmental Knowledge*: being aware that the use of sustainable products may reduce pollution; *Brand's Knowledge*: aiming to be informed of how the clothing brands they use impact the environment; *Ecological Behaviors* like, switching products for ecological reasons, always purchasing the less harmful product to the environment when there is a choice, trying to consider how the personal use of a product will affect the environment, and do not purchasing a product if that product can damage the environment; *Attitudes towards the environment*: believing the personal usage of sustainable products will help reducing pollution and finally, *Environmental Values* like caring about the environment and respecting the planet.

With that said, we can conclude that there are different drivers that influence the intentions of purchasing SSP in each group. For those who already heard about SSP, the drivers will be Brand's Knowledge, Ecological Behaviors and Attitudes towards the environment. While, for those who never heard about SSP the drivers will be Environmental and Brand's Knowledge, Ecological Behavior, Attitudes towards the environment and Environmental Values.

RQ3: What are the barriers consumers feel that prevent them of making the purchase of sustainable swimwear products?

Combining the findings from interviews and the responses from the online survey, one can make a conclusion of what are the main barriers that prevent consumers of purchasing SSP. Hence, we can conclude that the main barriers to the purchase are the lack of information, whether about where to find sustainable swimwear products (as it can also be demonstrated by only 21.1% of the sample has heard about it and only 9.8% known brands who sell) and how they are made. Another barrier is the product accessibility, as most people find it hard to have access to the purchase and finally, price, in which, people prefer to buy cheaper sustainable swimwear products.

5 CONCLUSION

Given the rising concerns about the environment that have exponentially grown over the last years, both organizations and consumers have extreme importance to help to fight the environmental problems nowadays felt. Considering this issue, the creation and emergence of more ecological and sustainable products are increasing, and consumers are getting more aware of its existence, such as the development of products made of recycled materials. However, in Portugal, the usage of this technology is recent, and few brands use it, inside the fashion industry, so there is little research about the topic in Portugal.

Therefore, the present dissertation aims to explore Portuguese females' perceptions and purchase intentions towards sustainable swimwear products. Consequently, the research focused on three research questions: (1) who is consumer, (2) what are the drivers that influence purchase intentions, and (3) what are the main barriers that prevent consumers from purchasing.

The research methods used to gather findings of the research questions were both qualitative and quantitative. For qualitative methods, eight in-depth interviews were conducted: four of them designed for consumers and four other designed for non-consumers. Thus, it was possible to explore the drivers with consumers and the barriers with non-consumers. For quantitative methods, an online survey was shared on social media to gather a large number of responses quickly. This method allowed to give insights about the three existing research questions.

An overview of the results reveals that very few people were familiarized with sustainable swimwear products, where only 21,1% of the respondents have heard about it; 9,8% known brands who sell this type of product and only 5,5% have already bought. This emphasizes the fact that there are still many barriers to the purchase mainly because it is an innovative product and recently entered in the Portuguese market.

As already mentioned, the first question attempts to draw a profile of the consumer of sustainable swimwear, and only the consumers who already bought the product were considered. The consumer's age ranged between 19 and 43 years, with a mean age of 28 years. Their level of education is majorly a Master's degree and have a monthly income between 1001€ and 1500€. Concluding, the Portuguese female consumer of sustainable swimwear product is a young adult, with high levels of education and a monthly income of 1001€ to 1500€.

For the second research question, the drivers that influence purchase intentions were studied. Firstly, the purchase intentions were quantified between two groups of participants: those who

already heard about sustainable swimwear and those who never heard before answering the survey. The results of both groups demonstrated a moderate intention to purchase sustainable swimwear in the future, and there are differences in the drivers that influence that intention between the groups. For those who already heard about sustainable swimwear, the drivers that influence intentions of purchase are knowledge about the environmental impact of the clothing brands they use, the practice of ecological behaviors, and positive attitudes towards the environment. For those who never heard about sustainable swimwear, the drivers that influence intentions to purchase are knowledge about the environment, knowledge about the environmental impact of the clothing brands they use, the practice of ecological behaviors, positive attitudes towards the environment, and strong environmental values.

Lastly, the third research question explored barriers that prevent consumers from purchasing sustainable swimwear. The main findings emphasized that there exists a lack of information about the products, and hard access to purchase, such as where to find them, how are made, and what brands sell the products. Additionally, the price was often referred to as the main barrier, since this type of product presents high prices compared to non-sustainable versions. Although consumers consider the price practiced is adequate, taking into account the concept behind it and the manufacturing process, the majority prefer to buy non-sustainable versions.

To conclude, firms should invest in marketing and advertising since there is still a lot of Portuguese females who are not aware of the existence of sustainable swimwear, as was demonstrated several times throughout the dissertation. Also, firms should advertise the main benefits of purchasing and using sustainable swimwear and the impact that the non-sustainable versions have on the environment. Thus, people may be more encouraged to purchase, as the majority say it as intentions of purchasing in the future and goes along with their values and ecological behaviors.

6 LIMITATIONS AND CONSIDERATIONS FOR FUTURE RESEARCH

Along the process of writing the dissertation, several limitations were discovered. The first limitation was regarding the sample size, not in total, consumer's sample, which was only four individuals in the interviews and 23 individuals in the online survey. This creates results biases, especially to draw a consumer profile since it takes into consideration very few responses. Moreover, the interview sample, as mentioned before, was selected through convenience, which is not representative of the Portuguese consumers and can also affect the results. To fight against

these issues, it is suggested to try gathering more responses of consumers and non-consumers by sharing, for example, in more appropriate groups who are related to the topic.

Another limitation was the fact that the vast majority of individuals were not familiarized with the concept of sustainable swimwear until answering the survey. Although the definition of sustainable swimwear, the process of manufacturing and prices were explained in the survey, this can influence results, as individuals are forced to answer about their perceptions and intentions of purchase without reflecting first or investigating more about the topic. Thus, it exists a higher tendency of choosing a neutral answer (as neither agree nor disagree), which can affect results. For future researches, the elimination of a neutral option or just considering individuals who are familiarized with the subject, if the sample size is adequate, can prevent the results biases.

Lastly, the non-utilization of already measured scales for perceptions about the product also might affect the results, as were not the more appropriate scales to measure the construct. Therefore, in future researches, scales from previous researches should be considered and used.

7 REFERENCES

Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational behavior and human decision processes, 50*, 179-211.

Anguelov, N. (2016). *The Dirty Side of the Garment Industry: Fast Fashion and its negative impact on environment and society*. CRC Press.

Belk, R. (1988). "Possessions and the Extended Self." *Journal of Consumer Research, 15*, 139-168.

Birtwistle, G. & Moore, C. (2007), Fashion clothing – where does it all end up?. I*nternational Journal of Retail & Distribution Management, 35*(3), 210-216. https://doi.org/10.1108/09590550710735068

Boyce, C., & Neale, P. (2006). *Conducting in-depth interviews: A Guide for designing and conducting in-depth interviews.* Pathfinder International.

Bray, J., Johns, N., & Kilburn, D. (2010). An Exploratory Study into the Factors Impeding Ethical Consumption. *Journal of Business Ethics, 98*, 597-608. DOI: 10.1007/s10551-010-0640-9

Brito, M., Carbone, V., & Blanquart, C. (2008). Towards a sustainable fashion retail supply chain in Europe: Organisation and performance. *International Journal of Production Economics, 114,* 534-553. DOI:10.1016/j.ijpe.2007.06.012

Brough, A., Wilkie, J., Ma, J.,Isaac, M., & Gal, D. (2016) Is Eco-Friendly Unmanly? The Green-Feminine Stereotype and Its Effect on Sustainable Consumption. *Journal of Consumer Research, 43*, 567-582. DOI: 10.1093/jcr/ucw044

Brouwers, T. (2018). *How Communicating Sustainable Packaging Impacts the Consumer's Purchase Intention* (Doctoral dissertation, Universidade Católica Portuguesa, Lisbon, Portugal). Retrieved from http://hdl.handle.net/10400.14/25371

Bruce, M. & Daly, L. (2006) Buyer behaviour for fast fashion. *Journal of Fashion Marketing and Management, 10*(3), 329-344. DOI 10.1108/13612020610679303

Conca, J., (2015). Making climate change fashionable - The garment industry takes on global warming. Retrieved from: https://www.forbes.com/sites/jamesconca/2015/12/03/making- climate-change-fashionable-the-garment-industry-takes-on-global- warming/#7d44bd8679e4

Connell, K. (2010). Internal and external barriers to eco-conscious apparel acquisition. *International Journal of Consumer Studies, 34,* 279-286. DOI: 10.1111/j.1470-6431.2010.00865.x

Diddi, S., Yan,R., Bloodhart, B., Batjelsmit, V. & McShane, K. (2019) Exploring young adult consumers' sustainable clothing consumption intention-behavior gap: A Behavioral Reasoning Theory perspective. *Sustainable Production and Consumption, 18*, 200-209. https://doi.org/10.1016/j.spc.2019.02.009

Evans, J. and Mathur, A. (2005), The value of online surveys, *Internet Research*, *15*(2), 195-219. https://doi.org/10.1108/10662240510590360

Ellis, J., McCracken, V., & Skuza, N. (2012). Insights into willingness to pay for organic cotton apparel. *Journal of Fashion Marketing and Management, 16* (3), 290-305. DOI: 10.1108/13612021211246053

Field, A. (2009). Discovering statistics using SPSS: And sex drugs and rock'n'roll. London: Sage Publications.

Fraj, E. & Martinez, E. (2006). Environmental values and lifestyles as determining factors of ecological consumer behaviour: an empirical analysis. *Journal of Consumer Marketing, 23*(3), 133-144. DOI: 10.1108/07363760610663295.

Fu, W. & Kim, Y. (2019). Eco-Fashion Consumption: Cognitive-Experiential Self-Theory. *Family and Consumer Sciences Research Journal, 47*(3), 220–236 DOI: 10.1111/fcsr.12296

Gam, H. (2011). Are fashion-conscious consumers more likely to adopt eco-friendly clothing? *Journal of Fashion Marketing and Management, 15*(2), 178-193. DOI: 10.1108/13612021111132627

Kang, J., Liu, C., & Kim, S. (2013). Environmentally sustainable textile and apparel consumption: the role of consumer knowledge, perceived consumer effectiveness and perceived personal relevance. *International Journal of Consumer Studies*, *37*, 442-452. DOI: 10.1111/ijcs.12013

Kim, H. & Hong, H. (2011). Fashion Leadership and Hedonic Shopping Motivations of Female Consumers. *Clothing and Textiles Research Journal, 29*(4), 314-330. DOI: 10.1177/0887302X11422819

Kumar, B., Manrai, A., & Manrai, L. (2017). Purchasing behaviour for environmentally sustainable products: A conceptual framework and empirical study. *Journal of Retailing and Consumer Services, 34*, 1-9. http://dx.doi.org/10.1016/j.jretconser.2016.09.004

Laroche, M., Bergeron, J., & Barbaro-Forleo, G. (2001). Targeting consumers who are willing to pay more for environmentally friendly products. *Journal of Consumer Marketing, 18*(6), 503-520. DOI: 10.1108/EUM0000000006155

Lo, C., Yeung, A., & Cheng, T. (2012). The impact of environmental management systems on

financial performance in fashion and textiles industries. *International Journal of Production Economics, 135*, 561-567. DOI:10.1016/j.ijpe.2011.05.010

McNeill, L. & Moore, R. (2015). Sustainable fashion consumption and the fast fashion conundrum: fashionable consumers and attitudes to sustainability in clothing choice. *International Journal of Consumer Studies, 39*, 212-222. DOI: 10.1111/ijcs.12169

Neale, J., (2009). Research Methods for Health and Social Care. London: Palmgrave Macmillan

O'Cass, A. (2000). An assessment of consumers' product, purchase decision, advertising and consumption involvement in fashion clothing. *Journal of Economic Psychology*, *21*, 545-76. https://doi.org/10.1016/S0167-4870(00)00018-0

O'Cass, A. (2004). Fashion clothing consumption: antecedents and consequences of fashion clothing involvement. *European Journal of Marketing, 38*(7), 869-882. DOI: 10.1108/03090560410539294

Payne, A. (2014) Spinning a sustainable yarn: Environmental sustainability and brand story in the Australian fashion industry. *International Journal of Fashion Studies, 1*(2), 185-208.

Roberts, J. & Straughan, R. (1999). Environmental segmentation alternatives: a look at green consumer behavior in the new millennium. *Journal of Consumer Marketing*, *16*(6), 558-575. DOI: 10.1108/07363769910297506

Schahn, J., & Holzer, E. (1990). Studies of individual environmental concern: The role of knowledge, gender, and background variables. *Environment and Behavior, 22*(6), 767-786. https://doi.org/10.1177/0013916590226003

Shen, B. (2014) Sustainable Fashion Supply Chain: Lessons from H&M. *Sustainability, 6*, 6236-6249. DOI:10.3390/su6096236

Tanner, C., & Kast, S. (2003). Promoting Sustainable Consumption: Determinants of Green Purchases by Swiss Consumers. *Psychology & Marketing, 20*(10), 883-902. DOI: 10.1002/mar.10101

Vaz, I. (2019) *O consumidor orientado para o slow-fashion: Relação entre perfil, orientação e intenção de compra*. (Unpublished doctoral dissertation). Instituto Superior de Economia e Gestão, Lisbon, Portugal.

Vieira, V. (2009). An extended theoretical model of fashion clothing involvement. *Journal of Fashion Marketing and Management, 13*(2), 179-200. DOI: 10.1108/13612020910957707

8 APPENDIX

Appendix 1 – Online Survey

Olá caro participante!

Sou aluna de segundo ano de mestrado de Gestão na Universidade Católica de Lisboa – Faculdade de Ciências Económicas e Empresariais.
O seguinte questionário serve como instrumento de investigação para a minha dissertação e tem uma duração de 5-10 minutos. Peço-lhe então que leia atentamente tudo aquilo que lhe é questionado e responda com a maior sinceridade.
Asseguro-lhe ainda que todas as respostas serão anónimas e não existe uma resposta certa ou errada, nem lhe serão feitos quaisquer juízos de valor.
Muito obrigada!
Para mais informações contacte-me através do meu e-mail: teresagirao46@gmail.com

SECTION 1

Antes de avançar, leia atentamente os seguintes conceitos que lhe serão dados.

Biquínis sustentáveis são um tipo de biquínis amigos do ambiente, pois são fabricados através de materiais reciclados, como o *Econyl*; ou materiais reaproveitados, como sobras de tecidos de fábricas.

O *Econyl* é um tecido feito de nylon regenerado e é criado através do desperdício encontrado em oceanos e aterros, como redes de pesca, restos de tecido e plástico industrial.

SECTION 2

Q1. Já tinha ouvido falar de biquínis sustentáveis?
- Sim
- Não

Q2. Conhece marcas de biquínis sustentáveis?
- Sim. Diga uma: _____
- Não

Q3. Já comprou biquínis sustentáveis?
- Sim
- Não

SECTION 3

As seguintes questões visam medir a sua **orientação para a moda e orientação para as compras**.

Q4. Com que frequência costuma ir às compras de roupa?

- Todos os dias
- Todas as semanas
- Todos os meses
- A cada três meses
- A cada seis meses
- Todos os anos

Q5. Quanto costuma gastar em compras de roupa num mês?

- 1€ - 20€
- 21€ - 50€
- 51€ - 100€
- 101€ - 200€
- Mais de 200€

Q6. Responda, entre uma escala de 1 a 5, onde **1 corresponde a "Discordo totalmente"** e **5 corresponde "Concordo totalmente"** às seguintes afirmações.

	1. Discordo Totalmente	2.	3.	4.	5. Concordo Totalmente
Gosto de frequentar lojas mesmo que não tenha intenção de comprar					
Gosto de estar sempre a par das últimas tendências					
Todas as estações compro roupa da nova tendência					

Compro roupa mesmo que não necessite dela					
Aquilo que visto é uma representação de mim mesmo					
Roupa é uma das maneiras mais importantes de expressar a minha individualidade					
Dou muita importância à maneira como me apresento aos outros					

SECTION 4

Q7. As seguintes questões têm o objetivo de medir o seu **conhecimento acerca do meio ambiente**. Responda, numa escala de 1 a 5, onde 1 corresponde a **"Discordo totalmente"** e 5 corresponde a **"Concordo totalmente"** às seguintes afirmações.

	1. Discordo Totalmente	2.	3.	4.	5. Concordo Totalmente
O uso de produtos sustentáveis é uma maneira primária de reduzir a poluição					
O uso de produtos sustentáveis é uma maneira substancial de reduzir o uso inadequado dos recursos naturais					
O uso de produtos sustentáveis é uma ótima maneira de conservar os recursos naturais					
Tenho consciência do impacto da indústria têxtil no meio ambiente					
Procuro estar informado de como as marcas de roupa que utilizo impactam o meio ambiente					

SECTION 5

Q8. As próximas afirmações visam avaliar se tem um **estilo de vida sustentável e um comportamento ecológico**. Responda quão verdade para si, são as seguintes afirmações, numa escala de 1 a 5, onde 1 corresponde a **"Nunca"** e 5 corresponde a **"Sempre"**.

	1. Nunca verdade	2.	3.	4.	5. Sempre verdade
Prefiro consumir produtos reciclados					
Já troquei de produtos por razões ecológicas					
Tenho o hábito de reciclar o lixo em minha casa					
Quando tenho a escolha entre dois produtos iguais, escolho sempre aquele que é menos nocivo para o ambiente					
Quando compro um produto penso na maneira que irá impactar o ambiente e outros consumidores					

Geralmente compro o produto mais barato, independentemente do seu impacto no ambiente					
Se eu perceber o impacto negativo que um produto tem no ambiente, eu não compro esse produto					
Evito usar plástico e outros materiais nocivos para o ambiente					
Tenho o hábito de comprar/usar roupa em segunda mão					
Gosto de dar novos usos às minhas roupas antigas					
Modifico a minha roupa quando esta se estraga/passa de moda					

SECTION 6

Q9. As seguintes questões têm o objetivo de avaliar as suas **crenças, atitudes e valores relativamente ao meio ambiente**. Responda, numa escala de 1 a 5, onde 1 corresponde a **"Discordo totalmente"** e 5 corresponde a **"Concordo totalmente"** às seguintes afirmações.

	1. Discordo Totalmente	2.	3.	4.	5. Concordo Totalmente
Acredito que o meu uso pessoal de produtos sustentáveis vai ajudar a reduzir a poluição e vai ajudar a melhorar o ambiente					
Acredito que o meu uso pessoal de produtos sustentáveis vai ajudar a reduzir o gasto de recursos naturais					
Acredito que o meu uso pessoal de produtos sustentáveis vai ajudar a conservar recursos naturais					
Acredito que as minhas ações pessoais têm impacto no ambiente					
É inútil que o consumidor individual faça algo relativamente poluição					
Preocupo-me com o meio ambiente					
Tenho respeito pelo planeta					

SECTION 7

Q10. As seguintes informações visam medir as suas **perceções relativamente a biquínis sustentáveis**. Responda, numa escala de 1 a 5, onde 1 corresponde a **"Discordo totalmente"** e 5 corresponde a **"Concordo totalmente"** às seguintes afirmações.

Considere ainda que o preço dos biquínis sustentáveis varia entre um mínimo de 40€ uma peça (parte de cima ou parte de baixo) e um máximo de 120€ um conjunto (fato de banho ou biquíni completo) dependendo da marca e sem qualquer desconto.

	1. Discordo Totalmente	2.	3.	4.	5. Concordo Totalmente
Existe pouca informação sobre onde posso encontrar biquínis sustentáveis					
Existe pouca informação sobre como são feitos os biquínis sustentáveis					
O acesso à compra de biquínis sustentáveis é difícil					
Sinto que existe pouca variedade de biquínis sustentáveis					
Os biquínis sustentáveis apresentam pouca variedade de design, estilo e/ou cor					
Prefiro comprar em lojas de biquínis não sustentáveis pois apresentam maior variedade de produtos					
Considero que biquínis sustentáveis são pouco seguros					
Acho que os biquínis sustentáveis têm um preço adequado					
Estou disposto a pagar mais por um biquíni sustentável					

SECTION 8

Q11. As seguintes afirmações visam medir a sua **intenção de compra de biquínis sustentáveis**. Responda, numa escala de 1 a 7, onde 1 corresponde a **"Muito improvável"** e 7 corresponde a **"Muito provável"** às seguintes afirmações

	1. Muito improvável	2.	3.	4.	5.	6.	7. Muito provável
Numa próxima vez, vou considerar a compra de biquínis sustentáveis por estes causarem menos consequências negativas ao ambiente							
Numa próxima vez, pretendo mudar para uma versão mais sustentável de biquíni.							
Se vir uma loja de biquínis sustentáveis, tenho intenção de visitar a loja para comprar um produto							
Quando encontrar um biquíni que se adeque às minhas necessidades, a possibilidade de comprar o produto é maior se este for sustentável.							

SECTION 9

Dados sociodemográficos

Q12. Indique a sua idade: _____

Q13. Nível de escolaridade

- Ensino Básico (9º ano)
- Ensino Secundário (12º ano)
- Licenciatura
- Mestrado
- Doutoramento
- Outro

Q14. Qual a sua ocupação?

- Estudante
- Trabalhador-estudante
- Trabalhador por conta própria
- Trabalhador por conta de outrem
- Desempregado/a
- Reformado/a

Q15. Rendimento mensal líquido individual

- Sem rendimentos
- Até 500€
- Entre 501€ e 1000€
- Entre 1001€ e 1500€
- Entre 1501€ e 2000€
- Entre 2001€ e 2500€
- Entre 2501€ e 3000€
- Mais de 3000€
- Não sei/Não respondo

Appendix 2 – Interview's Script

Hello, my name is Teresa Girão, and I am a second-year student from Católica Lisbon School, taking a master's degree in Business. My dissertation aims to study motivations of purchase intentions and barriers of purchase towards sustainable swimwear products.

The present interview is one of the investigation instruments used in the dissertation, and I would kindly ask you to answer the questions made and, if you feel comfortable, develop your answers as much as you can.

Before starting, I would like to add that there are no right or wrong answers, and your identity will not be disclosed. Thank you very much!

Users:

1) Have you ever bought sustainable swimwear?

2) What are the main motivations/reasons, for you to have intentions to purchase sustainable swimwear products?

3) Do you believe that this type of product offers benefits for the environment or to consumers? What are the major ones?

4) Could you talk about your shopping habits regarding swimwear products? (Frequency, where you buy, what type of product do you usually buy, etc.)

　　4.1) And regarding shopping habits of sustainable products from other industries?

5) For you, what does it mean to have a sustainable lifestyle?

　　5.1) Do you believe you practice a sustainable lifestyle? In what manner?

Non-users:

1) Have you ever bought sustainable swimwear?

2) What are the main barriers/reason, for you to non-purchase sustainable swimwear products?

3) Do you believe the price is adequate taking into account the concept and process of manufacturing of the product?

4) What is the maximum price you would be willing to pay to acquire a sustainable swimwear?

5) Could you talk about your shopping habits regarding swimwear products? (Frequency, where do you buy, what type of product do you usually buy, etc.).

6) For you, what does it mean to have a sustainable lifestyle?

    6.1) Do you believe you practice a sustainable lifestyle? In what manner?

7) What firms could improve, to motivate people to purchase sustainable swimwear?

Appendix 3 – Constructs scales

Factor	Created variable	Number of items	Items
Shopping and Fashion Orientation	Shopping Frequency	1	How often do you go clothing shopping?
	Monthly expenditure in clothes	1	How much do you usually spend in clothes in a month?
	Shopping and Fashion Orientation (a)	7	I often go shopping to get ideas even though I have no intention of buying
			I like to go to stores to see what is new in clothing
			I always buy at least one outfit of the latest fashion
			I buy clothes even though I don't need it
			What I wear is a reflection of myself
			Clothes are one of the most important ways I have of expressing my individuality
			I give great importance to the way I present myself to others
Knowledge	Environmental knowledge (a)	3	Using environmentally sustainable products is a way to reduce pollution
			Using environmentally sustainable products is a way to reduce wasteful use of natural resources
			Using environmentally sustainable products is a great way to conserve natural resources.
	Industry's knowledge	1	I am aware of textile industry's impact on the environment
	Brands knowledge	1	I aim to be informed how clothing brands I use impact the environment
Lifestyle	Ecological Behavior (a)	8	I prefer consuming recycled products
			I have switched products for ecological reasons
			I usually recicle my household trash
			When I have a choice between two equal products, I always purchase the one which is less harmful to other people and the environment
			When I buy products, I try to consider how my use of them will affect the environment and other consumers
			I usually purchase the lowest priced product, regardless of its impact on society (I)
			If I understand the potential damage to the environment that some products can cause, I do not purchase these products
			I avoid using plastic or other damaged materials to the environment (I)
	Ecological Fashion Purchase	1	I usually buy/wear second hand clothes
	Ecological Fashion Behavior (a)	2	I like to give new use to my old clothes
			I transform my clothes when it goes out of trend/or it is damaged
Psychographic factors	Attitudes towards the environment (a)	4	I believe that my usage of environmentally sustainable products will help in reducing pollution
			I believe that my usage of environmentally sustainable products will help in reducing wasteful use of natural resources
			I believe that my usage of environmentally sustainable products will help in conserving natural resources
			I believe my personal actions have impact on the environment
	Environmental values (a)	2	I care about the environment
			I have respect for the planet
	Perceived Consumer Effectiveness	1	It is worthless for the individual consumer to do anything about pollution (I)
Perceptions	Product information	2	There is little information where I can find SSP
			There is little information how SSP are made
	Product acessibility	1	The purchase accessibility of SSP is hard
	Product variety	3	I feel there is low variety of SSP
			SSP present low variety of desing, style or color
			I prefer to buy in non-sustainable swimwear stores as they present higher variety of products
	Product safety	1	I consider SSP as unsafe
	Price	2	I think SSP have a fair price
			I am willing to pay more for SSP
Intention	Purchase Intention (a)	4	Next time, I will consider buying SSP because they are less polluting
			Next time, I plan to switch to a sustainable version of a swimwear
			If I see a retail store of SSP, I intend to visit the store to purchase a product
			When I find an swimwear product that fits my clothing needs, the possibility of my purchasing it will increase if it is a SSP

(a) Composite Measures
(I) Inverted scale

Appendix 4 - Descriptive Statistics

Variables		Frequency	Valid Percent
Socio-demographics			
	Basic School	13	3,1
	High School	88	21,1
Level of education	Bachelor's Degree	211	50,5
	Master's Degree	88	21,1
	Doctorate	5	1,2
	Other	13	3,1
	Less than 500€	44	10,5
	Between 501€ and 1000€	158	37,8
	Between 1001€ and 1500€	100	23,9
Monthly Income	Between 1501€ and 2000€	37	8,9
	Between 2001€ and 2500€	13	3,1
	Between 2501€ and 3000€	5	1,2
	More than 3000€	7	1,7
	Do not want to answer	54	12,9
Introductory Questions			
Have you ever heard	Yes	88	21,1
about SSP?	No	330	78,9
Do you know sustainable	Yes	41	9,8
swimwear brands?	No	377	90,2
Have you ever bought	Yes	23	5,5
SSP?	No	395	94,5

Appendix 5 - Multiple Linear Regression (Sample 1)

Independent Variables	Standartized Beta	P-values	R2 Change	F	Sig
Shopping and Fashion Orientation					
Shopping frequency	-0,298	**0,047**			
Monthly expenditure in clothes	-0,253	**0,049**	0,085	2,601	0,057
Shopping and Fashion Orientation	-0,248	0,061			
Knowledge					
Environmental Knowledge	0,091	0,394			
Industry's Knowledge	-0,092	0,467	0,114	3,598	**0,017**
Brands' knowledge	0,348	**0,008**			
Lifestyle					
Ecological Behavior	0,264	**0,038**			
Second-hand Clothes Purchase	-0,025	0,844	0,116	3,691	**0,015**
Ecological Fashion Behavior	0,148	0,213			
Psychographic Factors					
Attitudes towards the environment	0,228	**0,047**			
Environmental Values	0,143	0,180	0,160	5,345	**0,002**
Perceived Consumer Effectiveness	-0,161	0,152			
Socio-demogrpahic Factors					
Age	-0,100	0,361			
Level of Education	0,134	0,217	0,033	0,964	0,414
Monthly Income	0,76	0,487			

Dependent Variable: Intentions to purchase

Sig < 0.05 and P-value < 0.05

Appendix 6 – Multiple Linear Regressions (Sample 2)

Independent Variables	Standardized Beta	P-values	R2 Change	F	Sig
Shopping and Fashion Orientation					
Shopping frequency	0,006	0,933			
Monthly expenditure in clothes	-0,017	0,792	0,012	1,302	0,274
Shopping and Fashion Orientation	0,116	0,068			
Knowledge					
Environmental Knowledge	0,191	**0,000**			
Industry's Knowledge	0,083	0,128	0,184	24,555	**0,000**
Brands' knowledge	0,314	**0,000**			
Lifestyle					
Ecological Behavior	0,498	**0,000**			
Second-hand Clothes Purchase	-0,053	0,312	0,265	39,113	**0,000**
Ecological Fashion Behavior	0,079	0,142			
Psychographic Factors					
Attitudes towards the environment	0,272	**0,000**			
Environmental Values	0,271	**0,000**	0,209	28,797	**0,000**
Perceived Consumer Effectiveness	-0,017	0,737			
Socio-demogrpahic Factors					
Age	0,007	0,125			
Level of Education	0,016	0,282	0,001	0,155	0,926
Monthly Income	0,031	0,557			

Dependent Variable: Intentions to purchase

Sig < 0.05 and P-value < 0.05

Appendix 7 – Hypotheses Testing

Hypotheses Testing	
H1a) Psychographic factors are positively related with intentions to purchase	Accepted
H1b) Sociodemographic are positively related with intentions to purchase	Rejected
H1c) Psychographic factors are better predictors than demographic factors regarding consumers purchase intentions	Accepted
H2) Consumers who are fashion and shopping oriented have a higher intention to purchase	Rejected
H3) Consumers who have knowledge about the environment have higher intentions to purchase	Accepted
H4) A sustainable lifestyle will increase the intentions of purchasing	Accepted
H5a) Consumers' lack of information about sustainable swimwear products will negatively influence the purchase.	Accepted
H5b) The hard accessibility of sustainable swimwear products will negatively influence the purchase.	Accepted
H5c) The low variety of choices of sustainable swimwear products will negatively influence the purchase.	Rejected
H5d) The higher the willingness to pay more, the higher the probability to purchase.	Accepted

Appendix 8 – Multiple Linear Regression: Backwards Method (Sample 1)

	Independent Variables	Standardized Beta	P-values	R2 Change	F	Sig
Knowledge						
Brands' knowledge	I aim to be informed how clothing brands I use impact the environment	0,318	**0,003**	0,101	9,646	**0,003**
Lifestyle						
Ecological Behavior	I have switched products for ecological reasons	0,424	**0,000**	0,247	9,202	**0,015**
	If I understand the potential damage to the environment that some products can cause, I do not purchase these products	0,264	**0,010**			
	I avoid using plastic or other damaged materials to the environment	-0,223	**0,037**			
Psychographic Factors						
Attitudes towards the environment	I believe that my usage of environmentally sustainable products will help in conserving natural resources	0,273	**0,011**	0,153	7,705	**0,011**

Dependent Variable: Intentions to purchase

Sig < 0.05 and P-value <0.05

Appendix 9 - Multiple Linear Regression: Backwards Method (Sample 2)

	Independent Variables	Standardized Beta	P-values	R2 Change	F	Sig
Knowledge						
Environmental Knowledge	Using environmentally sustainable products is a way to reduce pollution	0,156	**0,009**	0,190	25,434	**0,000**
Brands' knowledge	I aim to be informed how clothing brands I use impact the environment	0,346	**0,000**			
Lifestyle						
Ecological Behavior	I have switched products for ecological reasons	0,194	**0,001**	0,265	29,365	**0,000**
	When I have a choice between two equal products, I always purchase the one less harmful to the environment	0,147	**0,028**			
	When I buy products, I try to consider how my use of them will affect the environment and other consumers	0,192	**0,004**			
	If I understand the potential damage to the environment that some products can cause, I do not purchase these products	0,129	**0,016**			
Psychographic Factors						
Attitudes towards the environment	I believe that my usage of environmentally sustainable products will help in reducing pollution	0,189	**0,002**	0,208	21,294	**0,000**
Environmental Values	I care about the environment	0,146	**0,022**			
	I have respect for the planet	0,170	**0,006**			

Dependent Variable: Intentions to purchase

Sig < 0.05 and P-value <0.05

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