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TELL ME WHAT YOU BUY AND I WILL TELL YOU WHO YOU ARE:
A psychological characterization of Millennials sustainable consumption

Dissertation presented to the Portuguese Catholic University to obtain a degree of Master in Psychology in Business and Economics

By

Mariana Fernandes Pereira

Faculty of Human Sciences

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ABSTRACT

Sustainable consumption behaviour is a major concern for modern day societies and businesses. Understanding the psychology behind sustainable behaviours is crucial for a sustainable future and widespread behavioural change. As empirical surveys identify Millennials as the most sustainable generation to date, Millennials were chosen to be the target population of this dissertation.

This dissertation seeks to (1) investigate what is the psychological profile for sustainable consumer in Millennials; (2) warrant if there is only one (vs. more than one) psychological profile of the Millennials´ sustainable consumer and (3) ascertain which psychological factors predict such profile(s).

In order to fulfil the abovementioned goals, this dissertation followed a quantitative approach, with statistical analysis carried out at SPSS software. A convenience sample technique was used, with a total of 329 participants, of which 204 (62%) were female and 125 (38%) male. Data was collected through an online questionnaire.

Results indicate that there is not just one psychological profile for sustainable consumer in Millennials, but at least two psychological profiles, based on different type of products (clothing vs. food). These results provide a starting point for developing strategies that marketeers or policy makers can use to reach this economically powerful generation. Furthermore, it contributes to the understanding of the psychological variables of sustainable consumer behaviour and substantiates the body of knowledge in sustainable development.

Keywords: Millennials, food/clothing sustainable consumption, psychological variables

RESUMO

O comportamento de consumo sustentável é uma grande preocupação para as sociedades e empresas modernas. Compreender a psicologia por detrás de comportamentos sustentáveis é crucial para um futuro sustentável e uma mudança comportamental generalizada. Como se identifica os Millennials como a geração mais sustentável até à data, os Millennials foram escolhidos para ser a população alvo desta dissertação.

Esta dissertação procura (1) investigar qual é o perfil psicológico do consumidor sustentável nos Millennials; (2) ver se há apenas um (vs. mais de um) perfil psicológico do consumidor sustentável nos Millennials e (3) verificar quais os fatores psicológicos que predizem esse (s) perfil (s).

Para cumprir os objetivos acima referidos, esta dissertação seguiu uma abordagem quantitativa, com análises estatísticas realizadas no software SPSS. Foi utilizada uma técnica de amostra de conveniência, com um total de 329 participantes, dos quais 204 (62%) eram do sexo feminino e 125 (38%) do sexo masculino. Os dados foram recolhidos através de um questionário online.

Os resultados indicam que não há apenas um perfil psicológico para o consumidor sustentável nos Millennials, mas existem pelo menos dois perfis psicológicos, baseados em diferentes tipos de produtos (vestuário vs. alimentos). Estes resultados fornecem um ponto de partida para o desenvolvimento de estratégias que profissionais de marketing ou decisores políticos podem usar para alcançar esta geração economicamente poderosa. Além disso, contribui para a compreensão das variáveis psicológicas do comportamento de compra sustentável do consumidor e fundamenta o corpo de conhecimentos sobre desenvolvimento sustentável.

Palavras-chave: Millennials, consumo sustentável de comida/roupa, variáveis psicológicas

DEDICATION

I am dedicating this dissertation to three beloved people who have meant and still mean so much to me.

First and foremost, to my paternal grandmother Maria de Lourdes, that every day has an extreme affection and unconditional love for me. Also, even though she did not realize quite well what a Masters' dissertation consists of, always believed and supported me.

Second, I wanted to dedicate this dissertation to my maternal grandfather Luís Fernandes. Although he is no longer with us, I know he would be very proud to see me complete this journey. I dedicate to him for all his knowledge and culture, which made him a really wise man.

Finally, I wanted to dedicate this to my friend Carolina Inácio, also known as K. Despite our recent friendship, she someone who always believes in me and motivates me to never give up. Furthermore, she is someone I value very much for her simplicity and way of living, constantly challenging me to be an example for her to follow.

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"No one who achieves success does so without the help of others. The wise and confident acknowledge this help with gratitude."

Alfred North Whitehead

It would not be possible to develop this dissertation without the contribution of countless people who encouraged, helped and supported me throughout the course of the writing of this document.

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I also want to thank to all my friends and colleagues, who have been encouraging me and gave me motivation during this process. In particular, I wanted to thank my friend Rodrigo for all the interest and help he gave me throughout the course of the writing of this dissertation. I also wanted to thank my friends Alexandra and Maria Manuel, who have always helped me and supported me, not only throughout the writing of this dissertation but also throughout all my university years. It is a pleasure for me to complete this cycle of studies alongside them.

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INTRODUCTION

Background and problem statement

People have been increasingly concerned with sustainability issues, given all the environmental problems that threaten the environment and human life. One of the most pressing problems in contemporary societies, with direct consequences on sustainability, is consumption. Therefore, sustainable consumption behaviour is a major concern for contemporary societies and businesses.

Every decision about what to buy, how much to buy, how much to consume and how to dispose has a direct impact on the environment and future generations (Trudel, 2018). Notice that the cumulative effect of each individual´s consumption is devastating.

Despite the idea that there is only one type of sustainable consumer, not all sustainable consumers are homogenous in their concerns, given that some issues are more relevant than others or consumers are forced to choose due to the number of problems faced (Valor, 2007). One way to deal with this heterogeneity is through consumer segmentation, which entails the classification of consumers into groups that are rather homogenous on one or more key characteristics (Verain, Sijtsema & Antonides, 2016).

Not having an in-depth understanding of the consumer behaviour regarding sustainable products seems to be among the greatest barriers to promote sustainable consumption and their consequential effective marketing strategies (Tseng & Hung, 2013). According to Trudel (2018), understanding the psychological drivers behind sustainable behaviours is crucial for a sustainable future and widespread behavioural change.

Millennials, defined as those who were born between 1980 and the early 2000s (Main, 2017), are a demanding generation who wants a more balanced and healthier lifestyle. They want to be more informed about companies, their products and their business practices. Worldwide, empirical surveys identify Millennials as the most sustainable generation to date (Nielsen, 2015), making Millennials' motivations worth to explore and expand our comprehension, being thus the target population of this dissertation.

In order to draw the profile of these sustainable consumers, a set of psychological variables related to sustainable behaviours were studied in a sample of Millennials: personality traits, values, mindfulness, social mindfulness, emotions, risk-aversion and need for cognition.

Personality factors may influence individuals' likelihood to perform sustainable behaviours. Indeed, with personality being central to motivate beliefs, values and attitudes, it seems reasonable to expect that basic differences in personality may influence sustainable engagement (Milfont & Sibley, 2012). Milfont and Sibley (2012) examined the associations between the Big Five personality traits and environmental engagement and found that Agreeableness, Conscientiousness and Openness to Experience were positively associated with the environmental value of protecting the environment, self-reported data on past electricity conservation behaviour and country-level environmental engagement. Also, Ribeiro, Veiga and Higuchi (2016) ascertained that Agreeableness, Conscientiousness and Openness to experience traits had a significant direct effect on constructs related to sustainable consumption, namely ecologically correct purchase, resources saving and recycling.

Regarding values, while these help individuals navigate their social world, they are also determinant to decision-making processes in consumption. Thus, Şener and Hazer (2008) verified that there are significant positive relationships between a sustainable consumption behaviour and universalism, benevolence and power. They also verified that achievement and hedonism values in the 'self enhancement' value dimension were not correlated with environment-friendly behaviours.

An emerging literature suggests that increased consumer mindfulness may offer a pathway to more conscious and sustainable patterns of consumption (Helm & Subramaniam, 2019). Regarding this context of sustainable consumption, mindfulness is believed "to play the role of an antagonist to impulsive, automated acquisition habits that amount to unsustainable consumerism" (Geiger, Otto & Schrader, 2018). Helm and Subramaniam (2019) aimed to answer the research question of how mindfulness affects sustainability of consumption and they were able to find that mindfulness is positively associated with three different kinds of sustainable consumption behaviours: emission reduction, sharing and responsible buying. So, it is expected that more mindful individuals may generally be inclined to resort to sustainable consumption options. Also last year (2019), Dhandra presented a psychological approach in terms of mindfulness to enhance sustainable consumption behaviours and reduce unsustainable consumption patterns. These results showed that mindfulness positively relates to green purchase intention, social conscious purchasing, frugal purchasing and life satisfaction.

According to Doesum (2016), social mindfulness refers to mind the needs and interests of others in a way that honours the idea that most people like to choose for

themselves. A socially mindful person makes sure that he/she does not determine or close up situations for others as far as outcomes are concerned (Doesum, 2016). To the best of my knowledge, no previous studies have yet been carried out that relate the social mindfulness construct with sustainable behaviours. However, as people who are more social mindfulness take others into consideration and show concerns about others, it makes sense to predict that they are more sustainable people, since being sustainable can be considered one way of showing concern with the others´ future (as, by definition, sustainability refers to resources preservation, so there is enough for us and future generations) (Phillips, 2019).

Two other dimensions that have been categorized as crucial to consumer behaviour are emotions and cognition. Kanchanapibul, Lacka, Wang and Chan (2014) state that sustainable consumption has a stronger correlation with emotion when compared to cognition, as their statistical analysis shows that the influence from the ecological knowledge of the young generation on their intention to purchase green products is less significant than the influence from their personal effects. So, it is possible to affirm that people are driven by their emotions, rather than their cognitions when they engage in sustainable consumption. Wang and Wu (2016) studied the impact of 4 emotions (pride, guilt, respect and anger) on consumers intention of sustainable consumption choice of household appliances and found that pride, guilt and respect have a positive relationship with the resistance of non-energy conserving household appliances and purchasing energy preserving household appliances. Anger is only positively related to the latter. These authors also found that pride is the most powerful influence on consumers intention of sustainable consumption choice of household appliances, compared with the other 3 emotions. On the other hand, Liang, Chenxuan, Myung-Soo, and Sarigöllü (2019) noticed that other-directed emotions (gratitude) have stronger relationships with green purchasing intention than self-directed emotions (pride and guilt).

In what concerns cognitive factors, need for cognition might be a relevant one. According to Cacioppo and Petty (1982), need for cognition is a stable personality trait that describes individuals' tendency to engage in and enjoy effortful cognitive activity. Usually, individuals high in need for cognition tend to seek out and reflect on information to make sense of stimuli and events. On the other side, individuals low in the need for cognition tend to use other sources to make sense of the world, like heuristics. There is little or no evidence showing the relationship between the need for cognition and

sustainable consumption. However, there is some evidence that need for cognition is related with Openness to experience and Conscientiousness, both personality traits believed to be related with sustainable consumption (e.g., Milfont & Sibley, 2012; Ribeiro et al., 2016). Therefore, and as an element of novelty, need for cognition is going to be used as a psychological factor that should also predict sustainable consumer profiles.

Finally, Naderi and Steenburg (2018), aimed to shed greater light on Millennials' green behaviour by examining four psychographic variables (selfless altruism, frugality, risk aversion, and time orientation) that might be relevant to Millennials' motives to engage in environmental activities. They concluded that Millennials' attitudes toward risk (risk avoidance to be more specific) did not play a significant role in their intentions to engage in green consumption practices. However, they mention that future research needs to examine this relationship. Also, as planet's resources are scarce and finite it is expected that risk-averse people demonstrate more sustainable consumption behaviours, hoping it will reduce the risk of living in a deteriorating environment in the future. For this reasons, risk-aversion is also going to be used.

Thus, in summary, the main psychological variables found that present a relationship with sustainable behaviour are personality, values, mindfulness, social mindfulness, emotions, need for cognition and risk aversion. Therefore, these variables will be analysed together to profile who is the Millennial sustainable consumer.

Aims and scope

This dissertation aims to deep-in the psychological profile of Millennials sustainable consumers. Mainly, it aims to understand which psychological variables predict sustainable consumer behaviour. Additionally, it aims to understand if there is only one profile or more than one profile of sustainable consumers.

Hence, this dissertation seeks to (1) investigate what is the psychological profile for sustainable consumer in Millennials; (2) warrant if there is only one (vs. more than one) psychological profile of the Millennials´ sustainable consumer and (3) ascertain which psychological factors predict such profile(s).

Research methods

In this dissertation it will be followed a quantitative approach, with statistical analysis carried out at SPSS software. After collecting data through an online questionnaire, where a convenience sample will be applied, decision trees will be performed in order to profile sustainable consumers.

Taking into consideration the goal of this study, personality, values, mindfulness, social mindfulness, emotions, need for cognition, risk-aversion and sustainable consumption behaviour data, as well as some relevant demographic information, will be collected.

Relevance

It is expected that this research contributes to a deeper understanding of the psychological profile of consumer sustainable purchasing behaviour and that it substantiates the body of knowledge in sustainable development. By identifying factors that correlate with sustainable behaviour, these findings can be shared with policy makers to discuss and inform policies that will make progress toward a much-needed sustainable society for future generations to enjoy. This will provide important baseline information that may be useful in the ongoing collaborative effort to build models of the psychology underpinning sustainable engagement.

With these findings, it is aimed that this provides a useful reference for the managerial use (producers and retailers) to further develop appropriate marketing strategies to communicate and promote sustainable products effectively.

Thus, in summary, this study offers useful insights for researchers, practitioners, policy makers, retailers and marketers, providing them some insights about the psychology behind Millennials sustainable consumers.

Dissertation outline

This dissertation is organized into four different chapters. The first chapter consists of the Theoretical framework and serves as a summary of the existing literature on previous research from various fields of study. This theoretical chapter is divided into five main sections: 1) Sustainability; 2) Consumer segmentation; 3) Millennials; 4) Millennials clothing and food consumption and 5) Psychological variables.

The second chapter concerns the Methodology, including the purpose of the study, sample details, instruments, and procedures.

In the third chapter, Results will be presented and finally, in the fourth and last chapter, results will be discussed according to the literature review, as well as some limitations to the present study will be pointed out. Besides that, a conclusion about this study will be presented.

CHAPTER 1 - THEORETICAL FRAMEWORK

1. Sustainability

Sustainability is a very broad and complex topic, for which there are numerous definitions. In fact, some even say that the definition of unsustainable is easier to elaborate, given that phenomena like global warming or biodiversity erosion are perceivable and measurable (Ribeiro et al., 2016).

According to Stern (2000), sustainable behaviour is best defined by its impact: the extent to which decisions are driven with the intention to benefit or limit the impact on the environment.

The idea of 'sustainable development' was first widely articulated in 1987's Brundtland Report (World Commission on Environment and Development) from the United Nations. In this report, sustainability development, and therefore sustainability, is defined as the development that responds to the needs of the present, without compromising the possibility for future generations to respond to their needs. Here, it is possible to see that this concept is linked to two main ideas: a) first, the equity and guarantee of satisfaction of basic needs and b) respect for the limits and natural resources that are scarce. This posits that the only truly sustainable form of progress is the one which simultaneously addresses the interlinked aspects of economy, environment and social well-being (Johnston, Everard, Santillo & Robèrt, 2007).

So, sustainability is not only about maintaining environment quality but also involves the overall capacity of a society to sustain itself, which requires the creation of social, environmental and economic conditions that allow each person to reach their full potential for present, as well as future generations (Organisation for Economic Co-operation and Development, 2001).

1.1. Sustainability in Portugal

According to "First Great Survey on Sustainability in Portugal" (Schmidt, Truninger, Guerra & Prista,2016) around 73 % of the Portuguese population are familiar or heard about the term sustainability. Those who are more familiar with the term sustainability are also those who have higher levels of education, claim to earn a more comfortable or reasonable income and reside in medium-size cities and metropolitan areas (Schmidt et al., 2016).

Yet, most of the Portuguese still have a poorly integrated view of sustainability in its various dimensions, showing a binary approach about the concept: the dominant dimensions associated with the notion of sustainability are the economy and the environment, weighing less the dimensions regarding social issues and even less those related to governance and citizenship (Schmidt et al., 2016).

The Portuguese assume, above all, that each person is responsible for promoting sustainability, which is consistent with a more individualistic than collectivist view of civic participation. However, the importance attached to the political sector (National Government, Local Government and the European Union) and the business sector (Companies) is not ruled out (Schmidt et al., 2016).

Three years later, Schmidt and his colleagues (2019) repeated the same study and verified that, for the Portuguese, sustainability is only linked to the environment, and is associated with global ecological problems (oceans, tropical forests, or species extinction).

1.2 Sustainable consumption

One of the most pressing problems in contemporary societies and with direct consequences for sustainability is consumption. Given all the environmental problems that threaten the environment and human life, people have been increasingly concerned with sustainability issues. Sustainable consumption behaviour is, therefore, a major concern for modern day societies and businesses (Costa Pinto, Herter, Rossi & Borges, 2014).

Sustainable consumption may be defined differently according to one's field of research, geopolitical setting or behavioural domain. However, broadly speaking, sustainable consumption can be described as the behaviour that minimizes impact on the natural world (Richardson, Ginn, Prosser, Fernando & Judge, 2020). It simultaneously optimizes the environmental, social and economic consequences of acquisition, use and disposition in order to meet the needs of both current and future generations (Luchs et al., 2011). Thus, although it is not limited to, sustainable consumption behaviours comprise: purchasing only sustainable and fair trade goods, using energy efficient appliances, purchasing organic food, recycling waste from households, adopting a voluntary simplified lifestyle, buying goods made with recycled material and changing to environmentally friendly transport modes (Jackson, 2005).

Often, sustainable consumption, is perceived as a shift in individual behaviour to reduce or avoid unsustainable consumption (Richardson et al., 2020). However, throughout the past 20 years, sustainable consumption has evolved from an initially narrow approach of reduced consumption to a broader paradigm to include the concept of just, fair, ethical and ecological consumption (Wheeler, 2012).

The general consensus globally is that sustainable consumption now includes purchasing products that are grown organically, recyclable, biodegradable, energy-saving, eco-efficient, traded-fairly, simple in packaging, kind to animal welfare, supportive in human rights and so forth (Gilg, Barr & Ford, 2005).

Consumption is inherently linked to (un)sustainability, since every decision of what to buy, how much to buy, how much to consume and how to dispose has a direct impact on the environment and on future generations, and the cumulative effect of each individual´s consumption is devastating (Trudel, 2018).

Thus, consumers have a substantial influence on environmental issues through their consumption patterns. Consequently, consumers can mitigate negative environmental effects by changing the practices involved with their daily consumption routines and adopting more environmentally and socially responsible forms of consumption (Helm and Subramaniam, 2019).

In the present, Oney (2020) carried out an online study using a representative sample of people over France, Portugal, Spain and Hungary (~1,000 people were surveyed per country). According to this study, 90% of European consumers surveyed said that they are aware of sustainable consumption and believed they are taking action in this direction. The main concern of consumers in general is food waste, specifically for 66% of the Portuguese (Oney, 2020).

Also, 92% of the Portuguese believed that they are already proactive with regard to sustainable consumption decisions. Since 2016, Portuguese consumers more frequently consume organic products (51%), consume local products (52%), sort their rubbish (55%), buy recyclable products (51%) and buy recycled products (43%) (Oney, 2020).

With regard to the plastics theme, Portuguese reveal a growing refusal in relation to this material: 45.9% of the respondents reveal that they already come from home with the bags or packaging necessary to store the fruit and vegetables they wish to buy, while an increasing number of people are increasingly predisposed to more sustainable practices, such as buying bulk products (Schmidt et al., 2019).

In terms of food, the "Second Great Survey on Sustainability in Portugal" reports the existence of a slow transformation in terms of the population's eating habits, where there is still a notable predisposition to a reduction in meat consumption, essentially red, as well as meals based on vegetables are increasing. About half of respondents (49%) said that they are willing to reduce meat consumption, while 5% (mainly women and the elderly) report using plant-based food seven or more times a week (Schmidt et al., 2019).

2. Consumer segmentation

One of the greatest challenges in the pursuit of sustainability is the development of effective policies and communications that foster meaningful and lasting behaviour change. Some scholars and practitioners, like Darnton (2008), argued that this limited success of environmental policies to establish behaviour change is, in part, due to these policies not recognizing individual differences and circumstances.

Despite the idea that there is only one type of sustainable consumer, not all sustainable consumers are homogenous in their concerns, given that some issues are more relevant than others or they are forced to choose due to the number of problems faced (Valor, 2007).

Given that, it becomes important to take the heterogeneity of consumers into account. One way to deal with this heterogeneity is through consumer segmentation, which entails the classification of consumers into groups that are rather homogenous on one or more key characteristics (Verain et al., 2016). According to Barnett and Mahony (2011), segmentation models are essentially an analytical tool that help policy makers and campaigners to improve the efficiency of behaviour change and/or communication initiatives. Even small improvements in efficiency can produce substantial gains at the population level. This segmentation and profiling can enable businesses, as well as environmental organizations and governmental agencies, to develop positioning and marketing-mix strategies (Zhao, Gao, Wu, Wang & Zhu, 2014).

2.1 Sustainable consumer segmentation

Extant research used a variety of methods to segment and label sustainable consumers, including the use of their demographic, psychographic, socio-economic characteristics, or even a combination of multiple factors to reflect the complex structure of sustainable consumption behaviours (Onel et al., 2018).

According to Onel and her colleagues (2018), due to the complexity of sustainable behaviours, classification of consumers just according to demographic criteria, such as age, residence, income or gender is not enough and, considering the heterogeneous nature of sustainable consumers, studies that employ the demographics-based segmentation approach lack the predictive power necessary to understand sustainable consumer's behaviour. Therefore, adopting a more holistic approach is necessary in the categorization of sustainable consumers.

For instance, Carrero, Redondo and Fabra (2016), aiming to understand if there is only one sustainable consumer profile or several, examined demographic household profiles of sustainable consumers in Spain (real data obtained from Nielsen). Their main findings suggest that sustainable buyer´s profiles are not similar across labels, identifying three groups of labels according to the consumer profile: mainstream, niche and environmental sustainable labels. They were able to cast the doubt on the assumption of the existence of a unique sustainable consumer profile, given that, as they say, the main contribution of their research is that "future studies on this topic can address these differences and not assume the existence of a homogenous profile". Therefore, during the writing of this dissertation it will not be assumed the existence of a unique profile of a sustainable consumer.

3.Millennials

Millennials, also known as Generation Y, are formally defined as those who were born between 1980 and the early 2000s (Main, 2017). This cohort is characterized as the largest generation of consumers, reaching young adulthood in the early twenty-first century. As a consumer group, Millennials are just starting to flex its spending power, which will grow significantly in the coming years (Nielsen, 2016).

This is the largest generation and represent about a third of the world's population. Millennials have come of age under the shadow of climate change and are the most media savvy age cohort, so it is boundless their access to news and their ability to engage with and share information. They have been raised in a certified circle, particularly in terms of food. Furthermore, this generation is poised now to move into leadership positions in families, industries, and government ("Textile Sustainability is Really a Thing", 2018).

Regarding Millennials as consumers, some research shows that companies that advertise themselves as being environmentally friendly, are the ones that mostly attract

Millennials' interests. This is particularly true if these brands promote themselves as having a positive effect on the environment (Rosenburg, 2015).

Millennials are conscious socially, culturally and environmentally; purposeful in nature; confidant; require individual experiences and demand rationale due to a more sceptical nature than previous generations (Hume, 2010).

According to Cadet (2017), 45 percent of Millennials said that they could be swayed to purchase products from companies committed to helping the environment, with this being truth across all product categories, such as apparel, beauty, food and beverage.

"Millennials are dedicated to wellness - not just for themselves, but for the planet as well", stated Cadet (2017). As a result, Millennial's place a higher value on brands and retailers that clearly align with their overall lifestyle.

In 2015, Nielsen interviewed 30,000 consumers over 60 countries and concluded that 73% of Millennials consumers (who represent the largest share of the active, and purchasing power population) were already willing to pay more for sustainable products, a percentage that has been increasing in recent years. According to Euromonitor International (2016), Millennials seek products that are sustainable, ethical, artisanal, repairable and long lasting. Millennials are a demanding generation who wants a more balanced, healthy lifestyle, and they want to be more informed about companies, their products and their business practices. They also expect products to do more for them and for their community (Nielsen, 2016). Empirical surveys identify Millennials worldwide as the most sustainable generation to date (Nielsen, 2015).

Nielsen´s global study (2015) suggests that Millennials continue to be willing to pay extra for sustainable offerings: nearly three-out-of-four Millennial respondents were willing to pay more for brands committed to a positive social and environmental impact. In addition, Millennials are also supportive of stricter environmental laws, more likely to attribute global warming to human activity, and to favour environmentally friendly policies such as green energy development and economic incentives for sustainability (Pew Research Center, 2011).

So, as Millennials are arguably the most concerned generation with regard to environmental sustainability and social issues ("Millennials and their Impact on Sustainability", 2019), Millennials were chosen as the target population of this dissertation.

4. Millennials clothing and food consumption

Existing literature primarily focuses on broad consumption behaviour, often not tied to any specific product domain. In this dissertation, it is aimed to explore different profiles of the consumption behaviour across two different sustainable consumption domains (clothing and food), in order to provide a richer potential illustration of consumer groups in sustainable consumption behaviour, as well as in order to understand whether, psychologically, people behave differently in different domains of sustainability.

Food consumption is a major issue in sustainable consumption politics, given its impact on the environment, individual and public health, social cohesion, and the economy (Reisch, Eberle & Lore, 2013).

Millennials consumers consider the environmental implications of what they eat far more than the generations before them. More than just a tasty snack, they want to know that what they are eating aligns with sustainable values. Millennials are the driving force behind the shift toward sustainable products (Sparling, 2018).

According to Hartman Group report (2019), among the values that drive the diet preferences of Millennials are overall wellness, sustainability and animal welfare. For Millennials, eating can be a reinforcement of identity or a political statement.

Millennials are putting a higher priority on sustainability than any generation before them, given that compared to other generations, Millennials see the strongest connection between being eco-friendly, being healthy, and having a better quality of life (Evergreen Packaging, 2020).

While the Baby Boomer generation feel positive about choosing products or services from companies whose packaging aligns with desirable practices such as recycling, Millennials looks beyond recycling and are calling for packaging that supports sustainable practices, particularly recyclable packaging made with renewable materials, or that is biodegradable, compostable or plant-based (Evergreen Packaging, 2020).

The other area, sustainable clothing, has been described as "clothing which incorporates one or more aspects of social and environmental sustainability, such as Fair Trade manufacturing or fabric containing organically-grown raw material" (Goworek, Fisher, Cooper, Woodward & Hiller, 2012, p. 938).

According to Goworek and her colleagues (2012), understanding sustainability issues in the apparel industry is important because producing and retailing apparel products represent a large industry with great adverse environmental and social impacts. Few industries are more challenged by sustainability concerns than the apparel industry

(Caniato, Caridi, Crippa & Moretto, 2012), as in recent years issues of environmental protection and social equity in the apparel industry have received increased attention, with apparel firms implementing a variety of environmentally and socially responsible initiatives throughout their supply chains (Goworek et al., 2012).

On one hand, fashion's trend-driven ways press consumers to buy new pieces every season. But on the other hand, sustainability asks them to pare down. More and more brands are improving their business with eco-friendly practices, and it is not just start-ups that are getting in this positive trend, as big-box retailers are adding more sustainable products to their aisles and committing to cleaning up their practices (Rosmarin, 2020). Fast fashion brands, such as Zara and H&M, are becoming more socially responsible in response to this trend. For instance, companies did not attend the 2017 Dhaka Apparel Summit in Bangladesh, as a protest against terrible working conditions in that country's garment industry. Furthermore, H&M also launched various ecological efforts, such as pledging to use 100% recycled or sustainable materials by 2030 (Keve & Bryzek, 2019).

According to Keve and Bryzek (2019), whereas previous generations grew up in a consumerist culture, Millennials have a pared-down mindset and seek long-lasting high-quality apparel, instead of disposable items. They want to know where their products are made, by whom and with what materials. These consumers consider a product's ecological footprint and full lifecycle, from design to production and shipping, before making a purchase.

The OEKO-TEX study (2018) states that Millennials were much more aware of the industry's shortcomings than Boomers, with 26% of Millennials citing the textile industry as a major polluter as opposed to 16% of Boomers. As a result of their greater knowledge, Millennials are much more likely to be worried about harmful substances in their clothes—43%— and home textiles—41%—than Boomers at 31% for both. And when Millennials who are already parents were asked, their levels of concern were even higher. More than half of this group (51%) were worried about harmful substances in clothing and 48% about home textiles:

> "*As a mother, I'm very interested in making sure that our clothes and home textiles are safe from harmful substances and environmentally and socially sustainable*" explained a Millennial parent, for instance.

In the article "Textile Sustainability is Really a Thing" (2018) it is stated that, regarding sustainability, it all started with food. As it is said:

"First people became concerned about the pesticides and pharmaceuticals they were unwittingly ingesting, and then they started worrying about the impact of their food purchases on the environment, animals, and farmers. Nowadays, grocery shelves are stocked with foods that are certified organic, GMO-free, hormone free, cage free, preservative and dye free, free range, dolphin safe, fair trade, and a wide variety of monikers for foods that are free from harmful substances and responsibly produced".

It turns out that consumers are starting to feel the same about textile. In the OEKO-TEX study (2018), conducted with 11,000 global consumers, it was verified that 40% of consumers are concerned about harmful substances in their apparel, and 39% are concerned about their home textiles, numbers that are not far behind the 59% of people who are concerned about harmful substances in their food.

This abovementioned numbers indicate that consumers show different concerns to different product domains. Apparently, people show a greater concern about food products, and that concern decreases when it comes to apparel. Even though this paradigm is changing, as information about the textile industry's environmental and social shortcomings is rapidly reaching consumers, new stories about lead and formaldehyde in baby clothes are making headlines. The NGOs with an environmental and social agenda are becoming more numerous and outspoken, as well as documentaries about factory disasters, river pollution by textile mills, and exploited employees are making the favourites lists on Netflix ("Textile Sustainability is Really a Thing", 2018). Thus, it is possible to observe that food is leading the way, but textiles will follow.

Thus, in this dissertation, aiming to understand whether, psychologically, people behave differently in different domains of sustainability, two distinct areas of sustainable consumption will be evaluated: food and clothing.

5. Psychological variables

A sustainable identity has been revealed as a complex phenomenon. Therefore, I believe that a fair analytical perspective of sustainability requires a holistic and interdisciplinary approach. Sustainability draws on politics, economics, psychology, philosophy and other social sciences, as well as the hard sciences (Mason, n.d.).

Take Psychology, for example. It is one of the disciplines that strongly contributes to the study of sustainability. Understanding the psychology behind sustainable behaviours is crucial to a sustainable future and widespread behaviour change. However, knowledge of sustainable behaviour and decision-making is still scant (Trudel, 2018).

A better understanding of the psychological foundations is essential for a transition toward sustainable consumption (Helm & Subramaniam, 2019).

Given that human behaviour is at the root of the environmental problems, science and technology alone cannot create the solutions needed. Behaviours that affect the environment are driven by human perceptions, attitudes, beliefs, values, communications, motivations, choices and decisions. So, to create solutions, there must be a belief in the need for change, the will to make and sustain change and effective means of creating change. In short, the root causes of environmental problems lie squarely within the domain of psychological science, as do their solutions (Malt, 2019).

The main factors that the literature have been identifying as having relationships with sustainable behaviours are personality, values, mindfulness, social mindfulness, emotions, risk-aversion and need for cognition. Next, it will be explained each of these, and their relationship with sustainability concerns, in detail.

5.1 Mindfulness

Mindfulness can be described as an elevated "state of conscious awareness where an individual is implicitly aware of the context and content of information" (Langer, 1992, p. 289).

An emerging literature stream suggests that increased consumer mindfulness may offer a pathway to more conscious and sustainable patterns of consumption (Helm and Subramaniam, 2019). Rosenberg (2004), suggests a twofold contribution of mindfulness to sustainable consumption: mindfulness allows more deliberate choices by enhancing awareness of potentially accessible cognitive behavioural processes underlying consumption that have become relatively automatic. Additionally, mindfulness re-instils a sense of interconnectedness and interrelatedness between people as a genuine, non-consumerist satisfier of the need for fulfilment (Fisher, Stanszus, Geiger & Grossman, 2017).

In the context of sustainable consumption, mindfulness is believed to play a role of opponent to impulsive and automated acquisition habits, which lead to unsustainable consumerism (Geiger et al., 2018). Given that mindful individuals' behaviours are well thought-out and result from a deliberate and conscious choice after considering the consequences of consumption, mindfulness may help exercise temperance on overconsumption (Rosenberg, 2004).

Helm and Subramaniam (2019) aimed to answer the research question of how mindfulness affects sustainability of consumption and concluded that mindfulness is positively associated with three different kinds of sustainable consumption behaviours: emission reduction, sharing and responsible buying. So, it is expected that more mindful individuals may generally be inclined to resort to sustainable consumption options. These mindful individuals' behaviour results from a deliberate consideration of alternatives to, and outcomes of, consumption. They carefully determine which type of product to buy in order to decrease negative social and environmental impacts, or what alternatives to product ownership exist.

Recently, Dhandra (2019) presented a psychological approach in terms of mindfulness to enhance sustainable consumption behaviours and reduce unsustainable consumption patterns. These results showed that mindfulness positively relates to green purchase intention, social conscious purchasing, frugal purchasing and life satisfaction.

Furthermore, Hunecke and Richter (2019) hypothesized relationships between five dimensions of mindfulness, the construction of meaning in life, sustainability-related meaning, personal ecological norm, and sustainable food consumption. They were able to verify that only the mindfulness dimension acting with awareness had a direct and positive significant relation (although weak) to sustainable food consumption.

So, as mindfulness can play the role of an antagonist to impulsive and automated acquisition habits, leading consumers to deliberate and choose consciously after considering the consequences of consumption, it is predicted that Millennials who have more mindful behaviours are also more concerned about sustainability. Therefore, mindfulness should be an important psychological factor when profiling sustainability. Specifically, it is hypothesized that:

H1: There is a positive relation between mindfulness and sustainable consumption behaviour.

5.2 Social mindfulness

Doesum, Lange and Lange (2013) introduced and operationalized the construct of social mindfulness. This concept differs from mindfulness by extending a predominantly self-oriented mindful awareness to include a benevolent perspective on the needs and wishes of others in the immediate social environment. As general mindfulness starts with paying attention to the little things available to individual awareness, the same happens to social mindfulness (Doesum, 2016). Social mindfulness is minding the needs and

interests of others in a way that honours the idea that most people like to choose for themselves. The socially mindful person makes sure that he/she does not determine or close up situations for others as far as outcomes are concerned (Doesum, 2016).

According to Lange and Doesum (2015), social mindfulness can be defined as being thoughtful of others in the present moment and considering their needs and wishes before making a decision, operationalized as making other-regarding choices involving both skill and will to act mindfully toward other people's control over outcomes. These authors state that socially mindful behaviour does not necessarily require big sacrifices, as it often concerns relatively mundane costs, but spending these is still seen and appreciated by the second person. Second, they also state that social mindfulness involves having a 'social mind' that recognizes the needs and wishes of others in the present moment. So, this prosocial behaviour associated with social mindfulness requires that people see what others may want and act accordingly.

In a short definition, social mindfulness can be considered one out of many ways of prosocial behaviour. Being socially mindful means to safeguard other people's control over their own behavioural options in situations of interdependence (Doesum, 2016).

Furthermore, Lange and Doesum (2015) also affirm that while social mindfulness implies an above-chance tendency of choosing the non-unique option, social hostility implies an above-chance tendency to take the unique option, thereby limiting the other person's options. So, social mindfulness and social hostility represent two opposing orientations, with indifference in between, given that whereas social mindfulness and social hostility are directional, indifference means that people exhibit a tendency toward randomness in choosing the unique or non-unique option, which could be intentional or not (Lange and Doesum, 2015).

Although to my knowledge no previous studies have yet been carried out relating social mindfulness with sustainable behaviours, people who are socially mindful are also more mindful of their environment and social world (Lange & Doesum, 2015). Thus, socially mindful individuals should also have a higher level of concerns about those around them. As being sustainable is one way of showing concern with the future of others (Phillips, 2019), it is predicted that more socially mindful people should also have more sustainable concerns. Subsequently, it is hypothesized that:

H2: There is a positive relation between social mindfulness and sustainable consumption behaviour.

5.3 Values

Rokeach (1973) defined values as the guiding principles, or important life goals/standards determining social attitudes, ideologies and social behaviour. The most important characteristic of values is that they have a measurable effect on behavioural options, given that values have a substantial influence on the affective and behavioural responses of individuals. Generally speaking, values are defined as desirable trans-situational goals, varying in importance, that serve as guiding people's life (Schwartz, 1992).

Șener and Hazer (2008) stated that values regulate attitudes of individuals in every stage and every dimension of their lives. So, while values regulate individuals' daily lives, they also determine their decision-making processes in consumption. Values are central to consumption behaviours (Hiller & Woodall, 2019) because they guide individuals' choices and behaviours and provide a basis for understanding why consumers behave in a certain way (Su, Watchravesringkan, Zhou & Gil, 2019).

Aiming to test the impact of values on sustainable consumption behaviour, Șener and Hazer (2008) interviewed 600 individuals and verified that there are significant positive relationships between consumption behaviour and universalism, benevolence and power. As relationships between their sustainable consumption behaviours and their universalism and benevolence values are stronger than those for other value types, they affirmed that 'self-transcendence' value dimension is more important than others in explaining environmentally friendly behaviours. The authors also verified that the achievement and hedonism values in the 'self enhancement' value dimension were not correlated with environment-friendly behaviours.

Recently, in 2019, Su and his colleagues aimed to understand US and Chinese young Millennials' perceptions of consumption behaviour towards sustainable apparel products. They verified that there are positive and significant effects of young Millennials' apparel sustainability personal values on consumer attitude towards sustainable clothing, which in turn positively and strongly impacted purchase intention.

In summary, given that self-transcendence value dimension seemed more important than others in explaining environmentally friendly behaviours, it is hypothesized that:

H3: There is a positive relation between self-transcendence values (universalism and benevolence) and sustainable consumption behaviour.

5.4 Personality

According to McCrae and Costa (2003), personality describes the intensity of one´s thoughts and feelings, and patterns of behaviour in relation to others. Personality shapes how an individual respond to the world, in a broad sense. It develops over time, from birth to adulthood, and it is thought to be relatively stable from around 30 years of age. Personality comprises hundreds of different degrees of traits and qualities, and the sum of all these traits defines the individual as a person and guides how s/he will react in different situations or what kind of choices s/he will make (Gustavsen & Hegnes, 2020). Research exploring the structure of personality traits suggests that these traits can be grouped into five broad trait domains that have produced the "Big Five" model of personality (Goldberg, 1990). More explicitly, these five trait domains are: Neuroticism (or Emotional Stability in its positive pole), Agreeableness, Conscientiousness, Openness to Experience and Extraversion.

Personality factors may influence individuals' likelihood to perform sustainable behaviours. Indeed, with personality being such a core part of what motivates our beliefs, values and attitudes, it seems reasonable to expect that basic differences in personality may influence sustainable engagement (Milfont & Sibley, 2012).

Gustavsen and Hegnes, (2020) claim that, in combination with other perspectives and segmentation models, the focus on personality in sustainable and organic consumption expands and strengthens both the theoretical, methodological, and substantial understanding of sustainable consumption.

Milfont and Sibley (2012) examined the associations between the Big Five personality traits and environmental engagement at both the individual-level and country-level analyses. They predicted Agreeableness, Conscientiousness and Openness to Experience to be the main personality traits associated with environmental engagement. Their findings supported these predictions across three different studies: these three Big Five personality traits were consistent and positively associated with the environmental value 'protecting the environment', self-reported data on past electricity conservation behaviour and country-level environmental engagement.

Later, in 2016, Ribeiro and her colleagues aimed to analyse the antecedents of sustainable consumption behaviour, trying to figure out personality traits that promoted this kind of behaviour. They ascertained that Agreeableness, Conscientiousness and Openness to experience traits has a significant direct effect on constructs related to

sustainable consumption, namely ecologically correct purchase, resources saving and recycling.

Furthermore, this year, Gustavsen and Hegnes (2020) aimed to probe the relation between individuals' personality and organic foods choice. After using big data from consumer and opinion surveyed in Norway, they disclosed that personality has an impact on the consumption of organic food: Extraversion is negatively associated with the behaviour towards organic foods and the association between Openness to experience and organic food is significant and positive, being this the personality trait that has the strongest relationship with organic food choice. Individuals with the highest score on Openness to experience are those who are more interested in organic food choices: they purchased organic food more often; understood organic food as being healthier than other foods; considered organic food to taste better than other foods; and, reported that they were willing to pay a higher price for organic food than for conventional food.

Therefore, personality factors may be a predictor of individuals' likelihood to be more sustainable. I predict that this relation is particularly true when considering Agreeableness, Openness to Experience and Consciousness traits, the following hypothesis were formulated:

H4:

> **H4.1:** There is a positive relation between Agreeableness, Openness to experience and Consciousness personality traits and sustainable consumption behaviour.

> **H4.2**: There is no relation between Extroversion and Neuroticism personality traits and sustainable consumption behaviour.

5.4.1   Need for cognition

According to Cacioppo and Petty (1982), the need for cognition is a stable trait that describes individuals' tendency to engage in and enjoy effortful cognitive activity.

Given the tendency of individuals with high need for cognition to seek out and enjoy effortful cognitive activity, they are generally expected to have more positive attitudes toward situations that require reasoning and problem solving (Cacioppo, Petty, Feinstein, & Jarvis, 1996).

Based on Cacioppo and Petty's (1982) definition of need for cognition, Sadowski and Cogburn (1997) state that the need for cognition seems to be reflected in the five-factor domain of openness to experience, characterized by the willingness to entertain

new ideas. Given that individuals high in need for cognition enjoy cognitive activity, a positive relationship between need for cognition and openness to experience would be expected. Furthermore, they also assert that need for cognition should be reflected in the five-factor domain of conscientiousness, given that this domain is characterized by such descriptors as purposeful, organized, and task-oriented and individuals high in need for cognition are hypothesized to demonstrate a willingness to engage in effortful cognitive activity. So, these authors (Sadowski & Cogburn, 1997) investigated the relationship between need for cognition and the domains of the big-five factor model of personality, finding a positive direct relationship between need for cognition and the big-five domains of openness to experience and conscientiousness. Furthermore, there was also a significant negative correlation between need for cognition and the neuroticism domain.

To the best of my knowledge, no research has yet shown the relationship between need for cognition and sustainable consumption. However, there is some evidence that need for cognition is related with openness to experience and conscientiousness, both personality traits believed to be positively related to sustainable consumption (e.g., Milfont & Sibley, 2012; Ribeiro et al., 2016). Therefore, and as an element of novelty, need for cognition is going to be used as a psychological factor that should also predict sustainable consumer profiles. Thus, it is hypothesized that:

H5: There is a positive relation between need for cognition and sustainable consumption behaviour.

5.5 Risk-aversion

Individuals differ in their risk attitudes (risk-averse, risk-neutral or risk-taking). Henry (2017) suggested that as Millennials enter the workforce and consider their futures, they have become a risk-averse generation. Nowadays, young adults responded to a much more challenged economic environment by increasing their rate of precautionary savings, relative to what had been the norm since the late 1980s. During their development period, Millennials have seen their parents lose their jobs, homes and equity after two severe economic downturns, this generation is in a perpetual state of considering safety and security, consequently pursuing risk-averse behaviours (Naderi & Steenburg, 2018).

According to Rutter, Robin, Pickles & Leaves (2001), the concept of environmental risk (the risk attached to physical and social environmental factors) is considered a strong predictor of behaviour. Also, Séguin, Pelletier and Hunsley research

(1999) shows that the more individuals perceive potential risks in their environment, the more they are motivated to perform green behaviours.

Thus, it is expected that risk-averse Millennials demonstrate more sustainable consumption behaviours, as they hope it will reduce the risk of living in a deteriorating environment in the future.

Naderi and Steenburg (2018), aiming to shed greater light on Millennials' green behaviour by examining four psychographic variables (selfless altruism, frugality, risk aversion, and time orientation) that might be relevant to Millennials' motives to engage in environmental activities, discovered that Millennials' attitudes toward risk (risk avoidance in their case) did not play a significant role in their intentions to engage in green consumption practices.

Although their results showed that risk aversive Millennials' characterization did not translate into pro-environmental actions, they offered a possible explanation, stating that it could be because in the context of environmental conservation risks that may directly impact an individual are generally shorter in scope compared to those that may impact the environment. So, their participants might have not perceived their green consumption behaviours as endeavours that reduce the potential risk on themselves. Yet, they assure to mention that future research needs to examine this possibility. Thus, it is hypothesized the following:

H6. There is a positive relation between risk-aversion and sustainable consumption behaviour.

5.6 Affect and emotions

As stated by Ackerman (2020), affect refers to a more technical way to talk about emotions and expression, as it refers to the emotions or feelings that we experience and display, especially in terms of how these emotions influence us to act and make decisions. While positive affect refers to positive emotions and expression, including pride and joy, negative affect refers to negative emotions and expression, such as fear and guilt. Both positive and negative affect not only play a large role in our day-to-day experience as it can also influence our opinions, thoughts, performance, abilities and even our brain activity (Ackerman, 2020).

According to Carrus Passafaro & Bonnes (2008), emotion is a fundamental mechanism by which people respond to the environment. While the role of emotions in discouraging sustainable lifestyle choices has been largely ignored, both theory and data

also suggest that emotions are involved at multiple stages of the decision process (Ibanez, Moureau & Roussel, 2017).

Individuals tend to forecast how their decisions will make them feel in the future, and these anticipated emotions are the present imagination of future emotions conditional on the occurrence of certain desirable or undesirable events. According to Baumgartner, Pieters and Bagozzi (2008), individuals base their actions on these anticipated emotions, at least in part.

Self-conscious emotions, like pride and guilt, as well as a range of other emotions including shame, hubris, and embarrassment, are emotions evoked by self-evaluations after following or failing to follow personal or social standards. These emotions influence behaviour through the attribution of responsibility to the self, being especially effective for encouraging individuals to re-evaluate the outcome of their behaviour and to motivate action (Peter & Honea, 2012). These self-conscious emotions have an important role in self-regulation, given that they have shown to impact individuals' ability to control personal decisions in support of long-term goals (Baumeister, 2002).

Research on self-conscious emotions is relevant to the understanding of sustainable consumption because this activity often requires favouring responsible courses of action over competing motivations (Vohs, Baumeister & Tice, 2008). In this context of sustainable behaviour, pride and guilt seem especially relevant because these emotions are evoked after evaluations of specific behaviour and subsequently focus individual attention on specific behaviour, rather than on the entire self (Onwezen, Bartels & Antonides, 2014).

Rowe, Wilson, Dimitriu, Charnley and Lastrucci (2019) examined the role of recalled pride and guilt in shaping sustainable purchase intentions and the mediating role of anticipated pride and guilt. Their results indicated that recalled pride, resulting from recalling a past sustainable behaviour, can increase sustainable purchase intentions compared with neutral recall. Contrarily, recalled guilt, resulting from recalling a past unsustainable behaviour, does not significantly increase sustainable purchase intentions compared with neutral recall. So, this study challenges the common assumption that negative self-conscious emotions are key to motivating sustainable behaviours, as results suggest that pride about past behaviour has a stronger effect than guilt about past behaviour in motivating sustainable consumption choices. Likewise, Wang and Wu (2016) studied the impact of 4 emotions (pride, guilt, respect and anger) on consumers intention of sustainable consumption choice of household appliances. They found that

pride, guilt and respect have positive impact on resisting non-energy conserving household appliances and purchasing energy conserving household appliances, while anger only has positive impact on the latter. They were also able to find that pride is the most powerful influence.

Furthermore, Liang and his colleagues (2019) explored the relationship between emotions and pro-environmental intentions related to pollution avoidance and green purchasing. In a sample of 573 participants, they noticed that positive emotions (pride and gratitude) encourage both green purchasing and pollution avoidance intentions, but negative emotions (guilt) are only related to green purchasing intention.

On the other hand, Ansu-Mensah and Bein (2019) incorporated social-psychological factors, personal norms, positive and negative emotions into the Theory of Planned Behaviour (TPB) model, in order to assess the relationships among the variables, explain their impact on consumers' electricity conservation intentions and enhance the explanatory power of the model. Results indicated that negative emotions (sadness, anger, guilt and embarrassment) had the biggest direct positive influence on an individual's behavioural intention to conserve electricity. Thus, if consumers feel sad, angry, guilty or embarrassed, they can be motivated to display appropriate electricity conservation intentions when they realize that their activities are a threat to the environment.

It is possible to verify that the literature review demonstrates incongruous results on the relationship of emotions and sustainable behaviours, as in some studies positive emotions have greater influence (eg. Rowe et al., 2019), while in others are negative emotions (eg. Ansu-Mensah & Bein, 2019). However, as positive emotions lead to higher levels of physiological arousal and attention, as well as it also evokes a shift in orientation from a self-centred to other-centred orientation, Hain (2017) affirms that positive emotions lead to higher levels of friendliness and helpfulness, fostering an altruistic mindset. Consequently, it is it is hypothesized that:

H7: There is a positive relation between positive affect and sustainable consumption behaviour.

CHAPTER II – METHODOLOGY

In this chapter the methodological approach applied in this dissertation is described. First, it is explained the purpose of the study, as well as the research questions that this dissertation aims to answer. Then, the sample is characterized, and the instruments used are presented. Finally, the procedures for the operationalization of this dissertation are explained, step by step.

2.1. Purpose of the Study

This dissertation aims to deep-in the psychological profile Millennials sustainable consumers. Mainly, it aims to understand which psychological variables predict sustainable consumer behaviour. Additionally, it is aimed to understand if there is only one profile or more than one profile of sustainable consumers.

Therefore, in this dissertation, the main goal is to answer the following research questions:

Research Question 1: What is the psychological profile for sustainable consumer in Millennials?

Research Question 2: Is there only one (vs. more than one) psychological profile of the Millennials' sustainable consumer?

Research Question 3: Which psychological factors predict such profile(s)?

2.2. Participants

A convenience sample technique was used, with a total of 329 participants (Qualtrics registered 510 responses, but only 329 fully completed the survey), of which 204 (62%) were female and 125 (38%) male. Participants' mean age was 25.45 (*SD* = 8.71).

Participants were all Portuguese, 12 (3,6%) residing in the North, 19 (5,8%) in the Center, 258 (78,4%) in Lisbon and Tagus Valley, 5 (1,5%) in Alentejo, 24 (7,3%) in Algarve and 7 (2,1%) in Autonomous region of Azores (4 missing values).

One-hundred and ninety-seven participants (59.9%) were students, 35 (10.6%) were student-workers, 89 (27.1%) were workers, 7 (2.1%) were unemployed and 1 (0.3%) was retired.

Regarding their marital status, 292 (88.8%) were single, 28 (8.5%) were married and 9 (2.7%) were divorced.

As for educational qualifications (last year of education completed), 87 (26.4%) concluded high school or lower education, 16 (4.9%) concluded a professional course, 150 (45.6%) concluded bachelor´s degree, 16 (4.9%) concluded post-graduate degree, 57 (17.3%) concluded master´s degree and 2 (0.6%) concluded doctorate degree (1 missing value).

2.3. Instruments

Independent Variables

2.3.1 Mindfulness Attention Awareness Scale (MAAS): The Mindful Attention Awareness Scale (MAAS; Brown & Ryan, 2003) was chosen for this research. This scale consists of 5 items with ratings that range from 1 (almost always) to 6 (almost never). An example item is, "*I run through activities without being really attentive to them*". The core component of this mindfulness construct consists on the ability to attend to and remain aware of present life events and experiences. Smith, Melkevik, Samdal, Larsen and Haug (2017), state that due to the limited number of items, this five-item MAAS seems especially well-suited to large surveys with comprehensive questionnaires that also have an interest in mindfulness. This instrument presented a good Cronbach's alpha, with $\alpha = .81$. All items were reverse-coded, so that higher scores on MAAS represent lower mindfulness.

2.3.2 SoMi Paradigm: The experimental paradigm used to measure social mindfulness, is known as the *SoMi paradigm*, and it is based on the premise that experiencing a certain degree of choice is generally appreciated, hinges on leaving or limiting choice to others.

In a dyadic setting, participants are asked to choose one of the products that are shown on a computer screen: '*What if each of you could take one of these products?*' The instruction given is that the participant is the first to choose, followed by another person. The ratio of products to choose from varies between one unique versus two identical, and one unique versus three identical products. Control trials offer two versus two or three identical products. The paradigm consists of 24 trials in total, divided over 12 experimental and 12 control trials, using 12 separate categories of products. The 24 trials are offered in fully randomized order, with the products randomly placed on a horizontal line. Each category of products is used twice, divided over the trials in such a way that all

products are part of an experimental as well of a control trial; if it is offered once in a 3-structure, it will also be part of a 4-structure.

Social mindfulness is calculated as the proportion of socially mindful choices in the experimental trials (0–1). If the first mover takes the unique product, this is scored as socially hostile (0 point), because this leaves the other with no real choice. Taking one of the identical products is scored as socially mindful (1 points), because the other will still have a meaningful choice (Doesum et al., 2020). The index is composed by summing all the choices, so that higher values indicate higher social mindfulness.

2.3.3 Portrait Values Questionnaire (PVQ): The Portrait Values Questionnaire includes short verbal portraits of 21 different people. Each one describes a person's goals, aspirations, or wishes that point implicitly to the importance of a value. For instance, "*Thinking up new ideas and being creative is important to him. He likes to do things in his own original way*" describes a person for whom self-direction values are important. For each portrait, respondents answer: "*How much like you is this person?*", in a six-point Likert scale, ranging from 1 (not like me at all) to 6 (very much like me). Respondents' own values are inferred from their self-reported similarity to people described implicitly in terms of particular values, thus it captures the person's values without explicitly identifying values as the topic of investigation (Schwartz, 2001).

This instrument presented an acceptable Cronbach's alpha in the dimensions of self-enhancement ($\alpha = .69$), self-transcendence ($\alpha = .61$), openness to change ($\alpha = .73$) and conservation ($\alpha = .65$).

2.3.4 Ten item personality inventory (TIPI): TIPI includes two items measuring each of the Big-Five personality dimensions (Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness). Within each dimension, one item represents a positive pole, the other a negative pole (Nunes, Limpo, Lima & Castro, 2018). Participants rate how each trait applies to themselves using a seven-point scale, from 1 (strongly disagree) to 7 (strongly agree). Cronbach's alphas ranged from 0.31 for Agreeableness to 0.68 for Extraversion. This instrument presented an acceptable Cronbach's alpha for Extraversion, with $\alpha = .68$, but all other Cronbach's alpha values are poor ($\alpha = .58$ for Neuroticism) or unacceptable ($\alpha = .48$ for Consciousness, $\alpha = .46$ for Openness to Experience and $\alpha = .31$ for Agreeableness).

2.3.5 Need for cognition scale (NCS-6): The Need for Cognition Scale is an assessment instrument that quantitatively measures the tendency for an individual to engage in and enjoy thinking. An example item is, "*I really enjoy a task that involves coming up with new solutions to problems*".

This short version, developed by Coelho, Hanel and Wolf (2018), is composed by 6 items, where responses are given on a 5-point scale, ranging from 1 (extremely uncharacteristic of me) to 5 (extremely characteristic of me). This instrument presented a good Cronbach's alpha, with $\alpha = .80$.

2.3.6 PANAS-VRP: The Portuguese short version of Positive and Negative Affect Schedule (PANAS) is a self-reported questionnaire that consists of a 10-item scale measuring both positive and negative affect. This scale is split up into two segments, or mood scale: one that measures a person's positive emotion (e.g., interest, determination) and the other measures the negative (e.g., anger, fear). In this scale, developed by Galinha, Pereira and Esteves (2014), participants are asked to rate if they are feeling those emotions at the present moment on a 5-point scale of 1 (not at all) to 5 (very much). In addition, 5 emotions were added: Admiration; Gratitude; Pride; Inspiration; Respect; Shame.

In order to observe if emotions change after the presentation of sustainability scales, this emotions´ scale was presented twice to the participants, once at the beginning and again at the end of the questionnaire, with Cronbach's alpha of $\alpha = .76$ (for T1) and $\alpha = .81$ (for T2).

2.3.7 Risk-aversion: Risk averseness was measured with the four-item risk averseness scale, from Naderi and Steenburg (2018). The statements, rated on scales from 1 (strongly disagree) to 7 (strongly agree), measured the degree to which a consumer avoids taking risks in life. Sample items include "*I have no desire to take unnecessary chances on thing*" and "*Compared to most people I know, I like to gamble on things*" (reverse coded item). Two items were reversed coded so that scales´ higher values would represent higher risk avoidance. This instrument presented an acceptable Cronbach's alpha, with $\alpha = .69$.

Dependent Variables

2.3.8 Sustainable Consumption Behaviour – Food

Sustainable food habits: To measure sustainable consumption in the food area, eight items were retrieved from Hamza, Dalmarco and Pereira (2018), related with consumption habits. These items related to grocery-store/supermarket purchases and sustainable behaviours laid out on a frequency scale with a 1–5 amplitude (varying between never and always), such as "*I use reusable or disposable bags when grocery shopping*" or "*I prefer products that use less or smaller packaging*". This instrument presented a good Cronbach's alpha, with α = .84.

Sustainable food future intentions: Three items regarding future intentions to purchase sustainable food were added to the questionnaire, adapted from Gonçalves (2015). Example items are "*The next time I will go shopping, I will buy sustainable food, if I find it*" or "*If there are several options available, I will look for sustainable food*", ranging in a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). This instrument presented an excellent Cronbach's alpha, with α = .92.

Sustainable food willingness to pay: One item regarding participants willingness to pay more for sustainable food was added, using a slider as a way of answering.

2.3.9 Sustainable Consumption Behaviour – Clothing:

Sustainable clothing habits: To measure sustainable consumption in clothing area, four items were retrieved from Sustainable Apparel Consumption Scale (Zhang, 2014) and three items were retrieved from Gonçalves (2015) dissertation, regarding clothing consumption habits. These items were laid out on a frequency scale with a 1–5 amplitude (varying between never and always), such as "*When deciding whether or not to purchase an apparel item, I consider whether it's made of organic materials*" or "*Whenever I buy a piece of clothing I check the label regarding the place of manufacture (Made in) to know if it is made in a place where workers are treated fairly*". This instrument presented an excellent Cronbach's alpha, with α = .92.

Sustainable clothing future intentions: Three more items regarding intention to purchase sustainable clothes were added to the questionnaire (e.g. "The next time I will go shopping, I will buy sustainable clothes, if I find it" or "If there are several options available, I will look for sustainable clothes"). Retrieved from Gonçalves (2015), these items were ranging in a 5-point Likert scale from strongly disagree (1) to strongly agree (5). This instrument presented a good Cronbach's alpha, with α = .90.

Sustainable clothing willingness to pay: One item regarding participants willingness to pay more for sustainable clothes was added, using a slider as a way of answering.

2.3.10 Socio-Demographic Data: Lastly, a questionnaire was applied, in order to obtain socio-demographic data on the sample of participants, such as gender, age, professional status, marital status and educational qualifications.

2.4. Procedure

An invitation with a link to participate in a study was sent out in social networks (Facebook, Messenger, WhatsApp, Instagram and LinkedIn). After clicking on the link, participants were presented with the informed consent and were requested to authorize their voluntary participation. Filling out the questionnaire lasted about 10 to 15 minutes. Participants started by reporting their mood using PANAS scale (Time 1). Next, all the scales measuring the independent variables were filled out (MAAS, Social Mindfulness, Need for Cognition, Personality, Risk-aversion, and Values) and their order was randomized. Following, the scales measuring the dependent variables were presented, followed by PANAS scale (Time 2). At the end, participants filled out the demographic data, and were thanked and dismissed. Data collection lasted approximately 2 weeks (29 May 2020 – 14 June 2020).

CHAPTER III – RESULTS

Results of statistical analysis carried out in SPSS will be presented below, such as Pearson correlations, Decision Trees and Paired Sample T-tests.

3.1 Psychological variables and sustainable behaviours relationship

First, Pearson correlations were performed in order to analyse if the psychological variables were associated with sustainable behaviours, as foreseen in the initially formulated hypothesis.

Hypothesis 1 stated that there is a positive relation between mindfulness and sustainable consumption behaviour. Through Pearson correlation analysis it is possible to verify that there is a positive relation between mindfulness and sustainable consumption behaviour, as mindfulness is positively related with sustainable clothing buying behaviour ($r(327) = .157$, $p = .004$) and positively related with sustainable food buying behaviour ($r(327) = .129$, $p = .019$).

Hypothesis 2 affirmed that there is a positive relation between social mindfulness and sustainable consumption behaviour. Through Pearson correlation analysis it is possible to verify that there is no relation between social mindfulness and sustainable consumption behaviour, as mindfulness is neither related with sustainable clothing buying behaviour nor with sustainable food buying behaviour.

Regarding values, hypothesis 3 asserted that there is a positive relation between self-transcendence values (universalism and benevolence) and sustainable consumption behaviour. Through Pearson correlation analysis it is possible to verify that there is a positive relation between the universalism value and sustainable consumption behaviour, as universalism is positively related with sustainable clothing buying behaviour ($r(327) = .217$, $p < .001$) and positively related with sustainable food buying behaviour ($r(327) = .316$, $p < .001$). However, there is no relation between the benevolence value and sustainable consumption behaviour, as benevolence is not related with sustainable clothing buying behaviour, neither is related with sustainable food buying behaviour. Furthermore, it is yet to be noted that self-direction ($r(327) = .169$, $p = .002$) and security values ($r(327) = .115$, $p = .037$) are positively related with sustainable food buying behaviour, as well as power is negatively related with sustainable food buying behaviour ($r(327) = -.111$, $p = .045$).

Regarding personality traits, hypothesis 4 stated that Agreeableness, Openness to experience and Consciousness personality traits were positively related with sustainable consumption behaviour. From the Pearson correlations, it is possible to see that Openness to Experience is positively related with sustainable clothing buying behaviour ($r(327) = .145$, $p = .008$) and positively related with sustainable food buying behaviour ($r(327) = .2$, $p < .001$). The Consciousness personality trait is only positively related with sustainable food buying behaviour ($r(327) = .144$, $p = .009$), as it is not related with sustainable clothing buying behaviour. However, the Agreeableness personality trait is not related with sustainable clothing buying behaviour, neither is related with sustainable food buying behaviour.

Also, in hypothesis 4 it was established that there is no relation between Extroversion and Neuroticism personality traits and sustainable consumption behaviour, but it is possible to verify that the Neuroticism is positively related with sustainable food buying behaviour ($r(327) = .12$, $p = .029$).

Hypothesis 5 affirmed that there is a positive relation between need for cognition and sustainable consumption behaviour. Through the analysis it is possible to verify that there is a positive relation between need for cognition and sustainable consumption behaviour, as need for cognition is positively related with sustainable clothing buying behaviour ($r(327) = .189$, $p = .001$) and positively related with sustainable food buying behaviour ($r(327) = .218$, $p < .001$).

Finally, hypothesis 6 affirmed that there is a positive relation between risk aversion and sustainable consumption behaviour, but this was not possible to verify, since risk aversion is not related with sustainable clothing buying behaviour, neither is related with sustainable food buying behaviour.

Table 1

Pearson Correlations Between Psychological Variables

	Sustainable clothing buying behaviour	Sustainable food buying behaviour
Mindfulness	**.157****	**.129***
Social Mindfulness	.016	.04
Need for cognition	**.189****	**.218*****

Risk aversion	-.082	-.078
Personality: Extroversion	.034	.083
Personality: Agreeableness	.03	.105
Personality: Consciousness	.088	**.144**
Personality: Neuroticism	.08	**.12***
Personality: Openness to Experience	**.145**	**.2***
Values: Power	-.103	**-.111***
Values: Achievement	-.072	-.081
Values: Benevolence	-.035	.033
Values: Universalism	**.217***	**.316***
Values: Self-direction	.092	**.169**
Values: Stimulation	.05	.079
Values: Hedonism	-.073	.013
Values: Conformity	.027	.012
Values: Tradition	.02	-.045
Values: Security	.068	**.115***

*Note. (N = 329). *p < .05   **p < .01   ***p < .001*

3.2 Decision Trees

To define profiles for sustainable behaviours, I used Decision Tree graphs, a supervised learning algorithm used for solving regression and classification problems. The goal of using a Decision Tree is to create a training model that can predict the class or value of the target variable by learning simple decision rules inferred from prior data (Chauhan, 2019).

Four different Decision Trees were performed, with risk aversion, need for cognition, social mindfulness, mindfulness, values and personality as predictor variables. The outcome variable of each of the four different trees were: sustainable clothing buying behaviour, sustainable food buying behaviour, future intentions of buying sustainable clothes and future intentions of buying sustainable food. Results of the Decision Trees are presented below.

Figure 1.

Sustainable clothing buying behaviour decision tree.
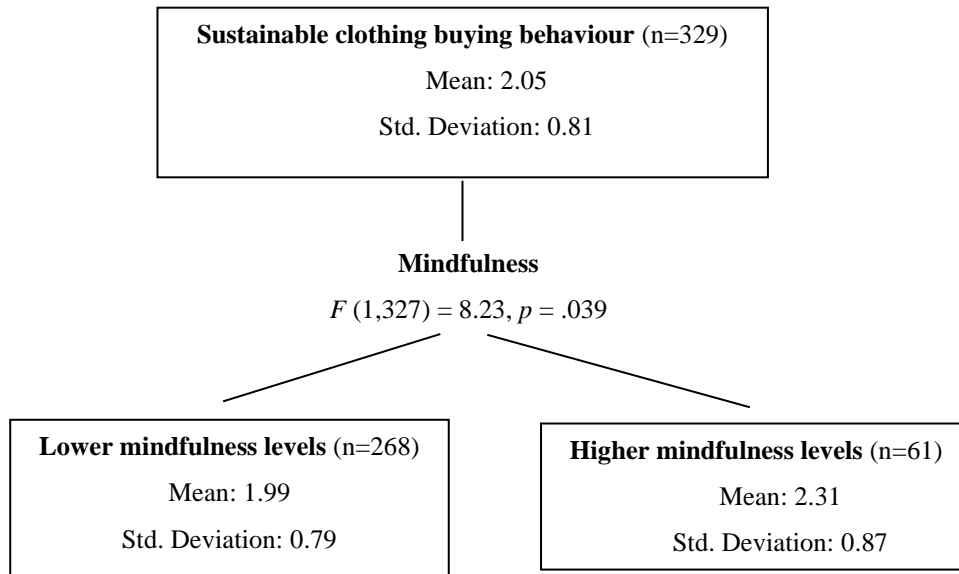
It is possible to verify that the decisive factor for sustainable clothing buying behaviour is mindfulness, presenting a regression analysis of $F(1,327) = 8.23$, $p = .039$. For individuals who present lower levels of mindfulness, the sustainable clothing buying behaviour mean reduces from 2.05 ($SD = 0.81$) to 1.99 ($SD = 0.79$). On the other hand, for individuals who present higher levels of mindfulness, the sustainable clothing buying behaviour mean increases from 2.05 ($SD = 0.81$) to 2.31 ($SD = 0.87$).

Figure 2.

Sustainable food buying behaviour decision tree.
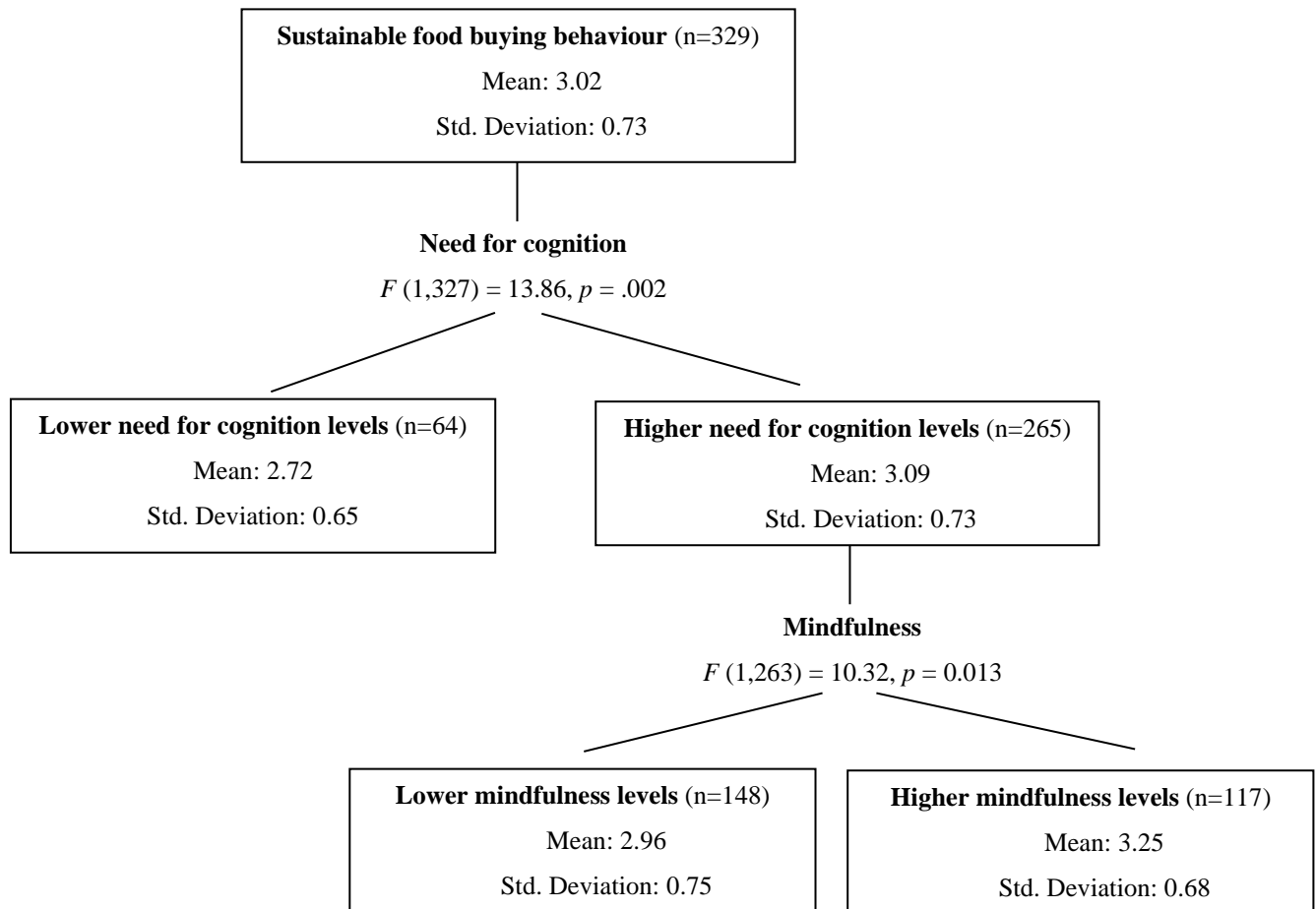
As it is showed above, the decisive factor for sustainable food buying behaviour is need for cognition, presenting a regression analysis of $F(1,327) = 13.86$, $p = .002$. For individuals who present lower levels of need for cognition, the sustainable food buying behaviour mean reduces from 3.02 ($SD = 0.73$) to 2.72 ($SD = 0.65$). On the other hand, for individuals who present higher levels of need for cognition, the sustainable food buying behaviour mean increases from 3.02 ($SD = 0.73$) to 3.09 ($SD = 0.73$).

A little less important than higher need for cognition levels is the mindfulness. Participants who present higher levels of sustainable food buying behaviours are those who have higher need for cognition and higher mindfulness. As can be seen in the model, mindfulness is a significant predictor, presenting a regression analysis of $F(1,263) = 10.32$, $p = 0.013$. Here, for individuals who present lower levels of mindfulness, the sustainable food buying behaviour mean reduces from 3.09 ($SD = 0.73$) to 2.96 ($SD = 0.75$). On the other hand, for individuals who present higher mindfulness levels, the

sustainable food buying behaviour mean increases from 3.09 (*SD* = 0.73) to 3.25 (*SD* = 0.68).
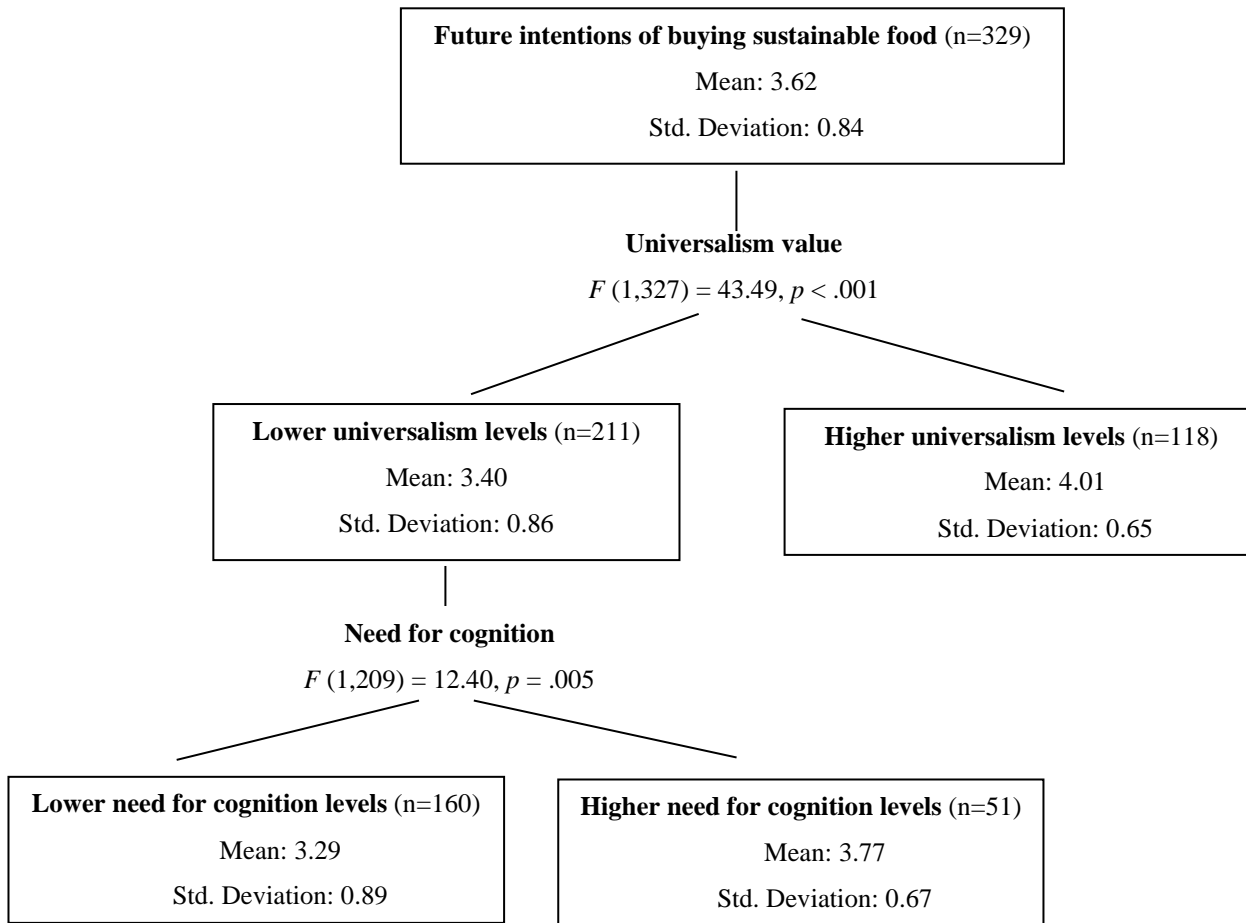
Figure 3.

Future intentions of buying sustainable clothing decision tree.

```
┌─────────────────────────────────────────────────────────────┐
│  Future intentions of buying sustainable clothes (n=329)     │
│                      Mean: 3.23                               │
│                 Std. Deviation: 0.88                          │
└─────────────────────────────────────────────────────────────┘
                              │
                     Universalism value
                 F (2,326) = 25.96, p < .001
```

Lower universalism levels (n=53)	Moderate universalism levels (n=158)	Higher universalism levels (n=118)
Mean: 2.60	Mean: 3.19	Mean: 3.57
Std. Deviation: 0.86	Std. Deviation: 0.88	Std. Deviation: 0.70
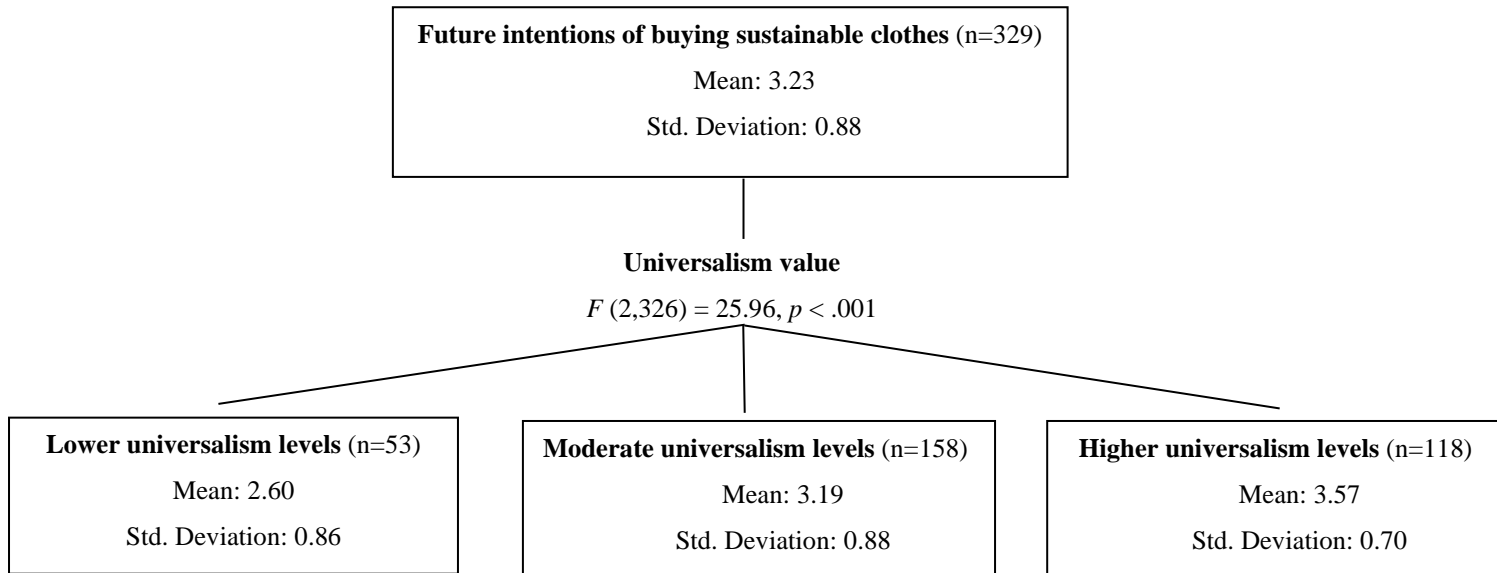
The decisive factor for future intentions of buying sustainable clothes is the universalism value, presenting a regression analysis of *F* (2,326) = 25.96, *p* < .001. For individuals who present lower and moderate levels of the universalism value, the future intentions of buying sustainable clothes mean reduces from 3.23 (*SD* = 0.88) to 2.60 (*SD* = 0.86) or to 3.19 (*SD* = 0.88), respectively. Finally, for individuals who present higher levels of the universalism value, the future intentions of buying sustainable clothes mean increases from 3.23 (*SD* = 0.88) to 3.57 (*SD* = 0.70).

Figure 4.

Future intentions of buying sustainable food decision tree.

As it is showed above, the decisive factor for future intentions of buying sustainable food is the universalism value, presenting a regression analysis of F (1,327) = 43.49, $p < .001$. For individuals who present higher levels of the universalism value, the future intentions of buying sustainable food mean increases from 3.62 ($SD = 0.84$) to 4.01 ($SD = 0.65$). For individuals who present lower levels of the universalism value, the future intention of buying sustainable food behaviour mean reduces from 3.62 ($SD = 0.84$) to 3.40 ($SD = 0.86$).

The mean for future intentions of buying sustainable food only increases when the next layer is added to the decision tree: the need for cognition. Those participants who are low in their universalism values, rely on the need for cognition ($F(1, 209) = 12.40$, $p = .005$) to promote future intentions of buying sustainable food: for individuals who present higher levels of the need for cognition, the future intentions of buying sustainable food mean increases from an initial value of 3.62 ($SD = 0.84$) to 3.77 ($SD = 0.67$).

Individuals who are low in their universalism values and also low in their need for cognition present the lowest future intention of buying sustainable food ($M = 3.29$, $SD = 0.89$).

3.3 Affect and emotions

Additionally, Pearson correlations were performed in order to understand if there is any kind of relationship between affective states and sustainable behaviours, both current behaviours and future intentions. It was possible to verify that, regardless of whether it is a current behaviour or a future intention, whether it is sustainable food or sustainable clothing, there are significant relationships between all these behaviours/intentions and positive affective states, as shown in Table 2. Hence, hypothesis 7 was confirmed. On the other hand, negative affective states do not present any significant values.

Table 2

Pearson Correlations of Positive/Negative Affect and Sustainable Behaviour/Future Intentions.

	Positive affect	Negative affect
Sustainable food buying behaviour	**.252*****	-.098
Sustainable clothes buying behaviour	**.248*****	-.012
Future intentions of buying sustainable food	**.188****	-.068
Future intentions of buying sustainable clothes	**.190****	-.019

*Note. (N = 329) *p < .05   **p < .01   ***p < .001*

Furthermore, in an exploratory analysis, different Paired Sample T-tests were performed to check if there were differences in emotions between the first to the second measurement of emotions (Time 1 vs. Time 2). As it is shown in Table 3 from Time 1 to Time 2, people feel more admired ($t(328) = -3,421$, $p = .001$), more embarrassed ($t(328)$

= -2,556 , p = .011), more guilty ($t(328)$ = -5,645 , $p < .001$) and less respected ($t(328)$ = 4,602 , $p < .001$).

Table 3

Paired Sample T-tests With Emotions Between Measured, at the Beginning of The Questionnaire and After The Sustainability Scales.

	Mean T1	Mean T2	$t(328)$	p
Admired	2.23	2.44	-3,421	.001
Embarrassed	1.57	1.69	2,556	.011
Guilty	1.51	1.78	-5,645	.000
Respected	3.35	3.15	4,602	.000
Grateful	3.74	3.67	1.455	.147
Proud	2.73	2.81	-1.676	.095

Note. (N = 329)

CHAPTER IV - DISCUSSION

Based on the well-known aphorism "Tell me what you eat, and I will tell you what you are" (by the gastronome Jean Anthelme Brillat-Savarin) and on Onel and her colleagues´ article (2018), the title of this dissertation is "Tell me what you buy and I will tell you who you are", being the main objective of this dissertation to discover the psychological profile of the Millennials' sustainable consumer behaviour.

While sociodemographic variables cannot be ignored, they offer limited value when trying to profile sustainable consumers or when trying to understand their psychosocial consumption behaviour. Therefore, this dissertation focused on seven different psychological characteristics of Millennials that may be relevant to their engagement in sustainable consumption: mindfulness, social mindfulness, personality, values, risk-aversion, need for cognition and emotions/affect.

Millennials were chosen as the target sample of this dissertation given that empirical surveys identify Millennials worldwide as the most sustainable generation to date (Nielsen, 2015).

It is still worth noting that in this dissertation the sustainable behaviour was unfolded in two areas, the area of food consumption and the area of clothing consumption. Sustainability presents itself as a concept that covers multiple definitions, areas and behaviours, and so it becomes necessary to specify behaviours, because talking only about sustainability is something very vague.

Hypothesis 1, which stated that there is a positive relation between mindfulness and sustainable consumption behaviour (both clothes and food consumption), was confirmed. As mindfulness is described as an elevated "state of conscious awareness where an individual is implicitly aware of the context and content of information" (Langer, 1992, p. 289), it could be expected that increased consumer mindfulness might offer a pathway to more a conscious and sustainable patterns of consumption (Helm and Subramaniam, 2019), given that mindfulness enhances awareness of potentially accessible cognitive behavioural processes underlying consumption that have become relatively automatic.

Hypothesis 2 affirmed that there is a positive relation between social mindfulness and sustainable consumption behaviour. According to Lange and Doesum (2015), social mindfulness can be defined as being thoughtful of others in the present moment and considering their needs and wishes before making a decision. Although there were no

previous studies on the relationship between social mindfulness and sustainability yet, it is known that people who are socially mindful are also more mindful of their environment and social world (Lange & Doesum, 2015). Thus, socially mindful individuals should also have higher level of concerns about those around them and being sustainable is one way of showing concern with other´s future (Phillips, 2019). However, it was not possible to verify this hypothesis, since mindfulness was neither related with sustainable clothing buying behaviour, nor with sustainable food buying behaviour. It should be noted that Lange and Doesum (2015) state that socially mindful behaviour does not necessarily require big sacrifices, as it often concerns relatively mundane costs. So, it might have been the case that sustainable consumption efforts might have not be seen by consumers as small or mundane sacrifices.

Regarding values, hypothesis 3 asserted that there is a positive relation between self-transcendence values (universalism and benevolence) and sustainable consumption behaviour. It was possible to partially verify this hypothesis, given that universalism was positively related with sustainable clothing buying behaviour and positively related with sustainable food buying behaviour. However, benevolence was not related with sustainable clothing buying behaviour, neither was related with sustainable food buying behaviour. According to Schwartz (2012), benevolence value can be described as preserving and enhancing the welfare of those with whom one is in frequent personal contact (e.g., a reference group). On the other hand, universalism value can be described as the understanding, appreciation, tolerance, and protection for the welfare of all people and for nature, which contrasts with the reference group focus of benevolence values. Universalism values derive from survival needs of individuals and groups (Schwartz, 2012). According to these definitions, it makes sense that universalism is the value that presents a relationship with sustainable behaviours, as in order to exist this concern with sustainability it becomes necessary that individuals as consumers stop looking only at their in-group and start looking at and caring about all people. It is possible to conclude then that these sustainable consumers are people that care about the well-being of all individuals, and not only with their closest group, with whom one is in frequent personal contact.

Furthermore, self-direction and security values were also positively related with sustainable food buying behaviour, and power was negatively related with sustainable food buying behaviour. According to Schwartz (2012), security value can be described as safety, harmony and stability of society/relationships/self, so logically this value is

related to food sustainable consumption behaviours, given that food has direct consequences on our body and health and consumers might think that sustainable products are more beneficial to our health. On the other hand, power value can be described as aiming social status and prestige, control or dominance over people and resources (Schwartz, 2012). This value was negatively related to sustainable buying behaviours possibly because as the person has this need to dominate others and resources, they tend to have less sustainable behaviours in order to be above other's and world´s needs, as being a sustainable consumer requires realizing that resources are finite and that we must behave in such a way that we do not end existing resources.

Regarding personality traits, hypothesis 4 was partly confirmed. This hypothesis stated that Agreeableness, Openness to experience and Consciousness were positively related with sustainable consumption behaviour, and it was possible to see that Openness to Experience is positively related with both sustainable clothing buying behaviour and sustainable food buying behaviour. This trait describes one's willingness to try new things and to engage in imaginative and intellectual activities, including the ability to think "outside of the box" (Lim, 2020). It is possibly this willingness engage in imaginative and intellectual activities that makes people with this personality trait more sustainable consumers, as it is necessary to reflect on the consequences of our consumption, both for us and for future generations, and to have the ability to imagine what the world will look like in the future if we do not change our consumption patterns to more sustainable ones. People who score high in consciousness personality trait are usually seen as organized, disciplined, detail-oriented, thoughtful, careful and with good impulse control, which allows them to complete tasks and achieve goals (Lim, 2020). This trait was only positively related with sustainable food buying behaviour. The Agreeableness personality trait, that describes people as soft-hearted, trusting, well-liked, sensitive to the needs of others, helpful and cooperative (Lim, 2020), is not related with sustainable clothing buying behaviour, neither is related with sustainable food buying behaviour. Finally, it was also possible to verify that Neuroticism is positively related with sustainable food buying behaviour. As those who score high on neuroticism often feel anxious, insecure and can be perceived as moody and irritable (Lim, 2020), they may perform more sustainable purchasing behaviours only in the food area because they feel anxious or insecure that food which is not sustainable is worse for their body and that might harm them, since sustainable foods are associated with a better quality and greater well-being

for the person who ingests them (as by definition, sustainable food is nutritionally adequate, safe and healthy) (FAO, 2010).

Although there were no previous studies that related the need for cognition with sustainable behaviour, it was possible to confirm hypothesis 5, as need for cognition is positively related with sustainable clothing buying behaviour and positively related with sustainable food buying behaviour. Cacioppo and Petty (1982) described need for cognition as the tendency to engage in and enjoy effortful cognitive activity. Usually, individuals high in the need for cognition tend to seek out and reflect on information to make sense of stimuli and events (Coelho et al., 2018). This need to seek for information is what, quite possibly, makes these individuals with more sustainable behaviours, as it is necessary to look for information on different ways to be sustainable and also about the materials existing in the different products, as well as to reflect on the consequences of unsustainable behaviours and a world without resources.

It was not possible to verify hypothesis 6, since risk aversion is not related with sustainable clothing buying behaviour, neither is related with sustainable food buying behaviour.

In addition to the correlation analyses carried out, decision trees were also performed, which provided the most interesting results of this dissertation. A detailed examination of these machine learning analyses allows us to realize that the decisive factor for sustainable clothing buying behaviour is different than the decisive factor for sustainable food buying behaviour. For sustainable clothing buying behaviour, the stronger predictor is mindfulness. So, the more mindfulness (aware and consciousness) consumers are, the more they engage in sustainable clothing buying. Differently, the decisive factor for sustainable food buying behaviour is need for cognition, meaning that consumers that engage in and enjoy effortful cognitive activities, seek out and reflect on information to make sense of stimuli and events are the ones who have more sustainable food buying behaviours. In my view, this difference between the decisive factors may be explained by two reasons:

1. Unlike clothes, food is something that is ingested and that enters the body directly, with direct consequences for our health and well-being. As people with higher need for cognition values are associated with increased appreciation of idea evaluation and seek out and reflect on information and those with a lower need for cognition may process information more heuristically (Dole & Sinatra, 1998),

sustainable consumers do not process the information in a heuristic way and they seek information about what they eat and about the contents they are ingesting.

2. Usually, clothing buying tends to be a more impulse act, as fashion's trend-driven ways press consumers to buy new pieces every season. Furthermore, young consumers are the ones more fashion-oriented and the ones who purchase more fast-fashion items than other consumer groups, in order to keep up with the latest trends (Gwozdz, Netter, Bjartmarz & Reisch, 2013). So, mindfulness plays here the role of an antagonist to impulsive and automated acquisition habits, being thus consumers who buy sustainable clothing more attentive and aware of the present moment, managing to control these impulses to buy new pieces.

Furthermore, when designing the psychological profiles, it was possible to verify that this is not the case for future intentions. Regardless of whether it is clothing or food consumption, the decisive factor for future intentions of buying sustainable products is the universalism value, described as the understanding, appreciation, tolerance, and protection for the welfare of all people and for nature (Schwartz, 2012). From a psychology point, this is an interesting fact because it informs us that what the consumer thinks it will be his behaviour in the future may often not correspond to reality, existing a discrepancy between future intentions and real behaviour.

Correlation analyses were also carried out between affective states and sustainable behaviours, being possible to verify that positive affect was positively related with sustainable food buying behaviour, sustainable clothing buying behaviour, future intentions of buying sustainable food and future intentions of buying sustainable clothes. People with positive affective state tend to have more sustainable buying behaviours, thus confirming hypothesis 7. It is known that people are more likely to engage in a behaviour when they derive positive feelings from doing so (White, Hardisty & Habib, 2019). But generally, this core precept is overlooked when it comes to sustainability, as ad campaigns are likely to emphasize disturbing warnings. Given that there is a correlation between sustainable behaviours and positive affective states, and that the same does not occur with negative affective states, marketing campaigns or political strategies could create campaigns that raise positive emotional states and feelings.

Recalling the main objective and questions that guided the writing of this dissertation, it aims to uncover the psychological profile of the Millennials' sustainable consumer behaviour. In other words, it aims to understand what are the different

psychological variables that influence sustainable consumer behaviour and to understand if there is only one profile of sustainable consumers or if there are different profiles (which vary according to the different psychological variables). In a nutshell, it can be said that there is not just one psychological profile for sustainable consumer in Millennials, but at least two psychological profiles, based on different type of products (clothing vs. food).

So, this dissertation makes three key contributions: 1) describes who are Millennials consumers for sustainability from a psychological perspective; 2) suggests that there is not just one single profile of sustainable consumers; and 3) provides a starting point for developing strategies that marketeers or policy makers can use to reach this economically powerful generation.

Like all other studies, this dissertation has some limitations. First, this study asks participants about their sustainable habits and future intentions. Although there were not correct or wrong answers, it would be beneficial for further studies to carry out this using real purchasing scenarios, like real shopping environments, in order to reduce or eliminate hypothetical bias, providing more reliable and precise information. Also, as it was a questionnaire conducted online, there is always the possibility of self-selection bias and representativeness, the risk of including multiple responses by the same subject, and of respondents misrepresenting their age, gender, level of education and some other variables. However, as measures to improve data accuracy, the questions were ordered randomly, noted that there were no right and wrong answers and guaranteed their anonymity.

Another possible limitation may have been the collection of data during the Covid-19 pandemic. As people ate more at home and clothing stores were closed this may have given a false sensation of more sustainable behaviour than the real one they have on a day-to-day basis.

Finally, Schmidt and his colleagues (2016) observed that those who are more familiar with the term sustainability are also those who have higher levels of education, as well as Gustavsen and Hegnes (2020) found that university educated individuals are a lot more interested in organic foods and they are willing to pay for it. So, it should be noted that a high percentage of participants completed a university degree and as education might affect one's consumption behaviour therefore it might indirectly affect the results of the present dissertation.

Despite these limitations, this study makes several contributions to the field of sustainable consumer buying behaviour.

As it was previously described, it was not possible to verify a relationship between risk-aversion and sustainable consumption behaviour. I think that further studies on the relationship of this variable with sustainable consumption behaviours should be carried out, given that the only study I know that was done in this area is Naderi and Steenburg study (2018), and the same risk-aversion scale was used here. So, it would be interesting in future studies to use another scale to measure risk aversion, aiming to verify that there is not a relationship between this variable and sustainable behaviours, and therefore it is not a problem of the scale itself.

Furthermore, Ten item personality inventory (TIPI) presented only one acceptable Cronbach alpha (for the extroversion trait), with other Cronbach's values being poor or unacceptable. So, future studies should take this into account and use a personality scale with more appropriate values.

Finally, it would also be interesting for future studies to verify whether the description of this psychological pattern occurs in other sustainable areas, such as mobility, and also to verify the differences and/or similarities of the psychological profile of this generation towards other generations (e.g., Centennials).

CONCLUSION

Sustainability is undoubtedly one of the most important themes to be discussed. There are indications from the smallest to the largest scale that sustainability is something that should be addressed.

Hence, the main goal of this dissertation was to understand which psychological variables predict Millennials sustainable consumption. This dissertation not only describes who are Millennials sustainable consumers from a psychological perspective, as it also suggests that there is not just one single profile of sustainable consumers, supported by the existence of different psychological profiles for sustainable consumer behaviour, depending on the type of products that people report buying or intent to buy in the future (clothing vs. food).

These results provide a starting point for developing strategies that marketeers or policy makers can use to reach this economically powerful generation. Furthermore, it contributes to the understanding of the psychological variables of sustainable purchasing behaviour and substantiates the body of knowledge in sustainable development. By identifying the factors that correlate with sustainable behaviour, these findings can help consumers, policy makers and food/clothing companies to better understand Millennials sustainable consumption. Moreover, this provides important baseline information that may be useful in the ongoing collaborative effort to build models of the psychology underpinning sustainable engagement.

In closing, Kofi Annan (a Ghanaian diplomat who served as the seventh Secretary-General of the United Nations) once stated that *"Our biggest challenge in this new century is to take an idea that seems abstract - sustainable development - and turn it into a reality for all the world's people"*. Along these lines, this dissertation intended to analyse such a general and vast theme (sustainability), and produced small but real outcomes, which inform us that, at a psychological level, sustainable food consumers are different from sustainable clothing consumers.

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ATTACHMENTS

ATTACHMENT 1: Informed Consent

No âmbito do Mestrado em Psicologia aplicada à Gestão e Economia (da Universidade Católica Portuguesa) estou a desenvolver a minha dissertação, onde pretendo traçar o perfil psicológico do consumidor sustentável jovem. Para tal, solicito a sua participação no preenchimento de um breve questionário, com uma duração total de aproximadamente 10 minutos.   É de salientar que não existem respostas certas nem erradas. É importante que leia atentamente e responda a todas as questões. A participação neste questionário tem um carácter voluntário, pelo que pode negá-la ou decidir interromper o preenchimento do questionário, a qualquer momento, se assim o entender. Todos os dados recolhidos são anónimos e confidenciais. Se pretender algum esclarecimento sobre este estudo, por favor não hesite em contactar.   Mariana Pereira: mariana.pereira782@gmail.com.   Tendo tomado conhecimento sobre a informação acerca do estudo, ao clicar no botão abaixo para avançar, declaro que tenho mais de 18 anos e que aceito participar nesta investigação.

ATTACHMENT 2: PANAS-VRP

Indique em que medida sente cada uma destas emoções neste momento, ou seja, no momento presente.

	Nada ou muito ligeiramente (1)	Um pouco (2)	Moderadamente (3)	Bastante (4)	Extremamente (5)
Interessado/a (1)	○	○	○	○	○
Nervoso/a (2)	○	○	○	○	○
Entusiasmado/a (3)	○	○	○	○	○
Amedrotado/a (4)	○	○	○	○	○
Inspirado/a (5)	○	○	○	○	○
Ativo/a (6)	○	○	○	○	○
Assutado/a (7)	○	○	○	○	○
Culpado/a (8)	○	○	○	○	○
Determinado/a (9)	○	○	○	○	○
Atormentado/a (10)	○	○	○	○	○
Admirado/a (11)	○	○	○	○	○
Grato/a (12)	○	○	○	○	○
Envergonhado/a (13)	○	○	○	○	○
Respeitado/a (15)	○	○	○	○	○
Orgulhoso/a (16)	○	○	○	○	○

ATTACHMENT 3: MAAS

Indique com que frequência costuma sentir estas experiências.

	Quase sempre (1)	Muito frequente (2)	Frequente (3)	Pouco frequente (4)	Muito pouco frequente (5)	Quase nunca (6)
Parece que estou a 'funcionar automaticamente' sem muita consciência. (1)	○	○	○	○	○	○
Realizo atividades sem estar realmente atento a estas. (10)	○	○	○	○	○	○
Fico tão focado/a no objetivo que quero alcançar que perco a noção do que estou a fazer agora para atingir esse objetivo. (12)	○	○	○	○	○	○
Faço trabalhos ou tarefas automaticamente, sem estar ciente do que estou a fazer. (13)	○	○	○	○	○	○
Dou por mim a fazer coisas sem prestar atenção. (11)	○	○	○	○	○	○

ATTACHMENT 4: SoMi

A tarefa que está prestes a executar envolve duas pessoas: você e outra pessoa. Imagine que a outra pessoa é alguém que não conhece nem irá conhecer. Imagine também que vocês escolhem um dos objetos que irá encontrar de seguida. Restam apenas alguns objetos, que depois de retirados não serão substituídos. Foi decidido que você escolhe sempre primeiro.

Que objeto escolhe? Primeiro escolhe você, e depois a outra pessoa.

ATTACHMENT 5: PVQ

De seguida descrevem-se brevemente algumas pessoas. Leia cada descrição e assinale o quanto a pessoa descrita se assemelha a si.

Não tem nada a ver comigo (1)	Não é parecida comigo (2)	É um pouco parecida comigo (3)	É mais ou menos parecida comigo (4)	É parecida comigo (5)	É exatamente como eu (6)

Um homem/mulher que dá importância a ter novas ideias e ser criativo/a. Gosta de fazer as coisas à sua maneira. (1)

Um homem/mulher para quem é importante ser rico/a. Quer ter muito dinheiro e coisas caras. (2)

Um homem/mulher que acha importante que todas as pessoas no mundo sejam tratadas igualmente. Acredita que todos devem ter as mesmas oportunidades na vida. (3)

Um homem/mulher que dá muita importância a poder mostrar as suas capacidades. Quer que as pessoas admirem o que faz. (4)

Um homem/mulher que dá muita importância a viver num sítio onde se sinta seguro/a. Evita tudo o que possa por a sua segurança em risco. (5)

Um homem/mulher que gosta de surpresas e está sempre à procura de coisas novas para fazer. Acha que é importante fazer muitas coisas diferentes na vida. (6)

Um homem/mulher que acha que as pessoas devem fazer o que lhes mandam. Acha que as pessoas devem cumprir sempre as regras mesmo quando ninguém está a ver. (7)

Um homem/mulher para quem é importante ouvir pessoas diferentes de si. Mesmo quando discorda de alguém continua a querer compreender essa pessoa. (8)

Um homem/mulher para quem é importante ser humilde e modesto/a. Tenta não chamar as atenções sobre si. (9)

Um homem/mulher para quem é importante passar bons momentos. Gosta de tratar bem de si. (10)

Um homem/mulher para quem é importante tomar as suas próprias decisões sobre o que faz. Gosta de ser livre e não estar dependente dos outros. (11)

Um homem/mulher para quem é importante ajudar os que o/a rodeiam. Preocupa-se com o bem-estar dos outros. (12)

Um homem/mulher para quem é importante ter sucesso. Gosta de receber o reconhecimento dos outros. (13)

Um homem/mulher para quem é importante que o Governo garanta a sua segurança, contra todas as ameaças. Quer que o estado seja forte, de modo a poder defender os cidadãos. (14)

Um homem/mulher que procura a aventura e gosta de correr riscos. Quer ter uma vida emocionante. (15)

Um homem/mulher para quem é importante portar-se sempre como deve ser. Evita fazer coisas que os outros digam que é errado. (16)

Um homem/mulher para quem é importante que os outros lhe tenham respeito. Quer que as pessoas façam o que ele/ela diz. (17)

Um homem/mulher para quem é importante ser leal com os amigos. Dedica-se às pessoas que lhe são próximas. (18)

Um homem/mulher que acredita seriamente que as pessoas devem proteger a natureza. Proteger o ambiente é importante para ele/ela. (19)

Um homem/mulher que dá importância à tradição. Faz tudo o que pode para agir de acordo com a sua religião e a sua família. (20)

Um homem/mulher que procura aproveitar todas as oportunidades para se divertir. É importante para ele/ela fazer coisas que lhe dão prazer. (21)

ATTACHMENT 6: TIPI

Vejo-me como uma pessoa:

	Discordo totalmente (1)	Discordo moderadamente (2)	Discordo um pouco (3)	Nem concordo nem discordo (4)	Concordo um pouco (5)	Concordo moderadamente (6)	Conco totalm (7)
Extrovertida, entusiasta. (1)	○	○	○	○	○	○	○
Crítica, conflituosa. (2)	○	○	○	○	○	○	○
De confiança, com autodisciplina. (3)	○	○	○	○	○	○	○
Ansiosa, que se preocupa facilmente. (4)	○	○	○	○	○	○	○
Aberta a experiências novas, multifacetada. (5)	○	○	○	○	○	○	○
Reservada, calada. (6)	○	○	○	○	○	○	○
Compreensiva, afetuosa. (7)	○	○	○	○	○	○	○
Desorganizada, descuidada. (8)	○	○	○	○	○	○	○
Calma, emocionalmente estável. (9)	○	○	○	○	○	○	○
Convencional, pouco criativa. (10)	○	○	○	○	○	○	○

ATTACHMENT 7: NCS-6

Indique até que ponto se identifica com cada uma das seguintes afirmações.

	Não me identifico (1)	Não me identifico quase nada (2)	Não me identifico nem muito nem pouco (3)	Identifico-me um pouco (4)	Identifico-me bastante (5)
Prefiro problemas complexos aos simples. (1)	○	○	○	○	○
Gosto de ter a responsabilidade de lidar com situações em que é preciso pensar muito. (2)	○	○	○	○	○
Pensar não me diverte. (3)	○	○	○	○	○
Prefiro fazer algo que não me obrigue a pensar, em vez de algo que desafie a minha capacidade de pensar. (4)	○	○	○	○	○
Gosto muito de uma tarefa que envolva a descoberta de soluções novas para problemas. (5)	○	○	○	○	○
Prefiro uma tarefa que seja intelectual, difícil e importante a uma que seja algo importante mas que não requeira muito pensamento. (6)	○	○	○	○	○

ATTACHMENT 8: Risk-aversion

Indique até que ponto concorda com as seguintes afirmações.

	Discordo fortemente (1)	Discordo muito (2)	Discordo (3)	Não concordo nem discordo (4)	Concordo (5)	Concordo muito (6)	Concordo fortemente (7)
Não gosto de correr riscos. (1)	○	○	○	○	○	○	○
Comparado à maioria das pessoas que conheço, gosto de "viver a vida no limite". (2)	○	○	○	○	○	○	○
Não desejo correr riscos desnecessários. (3)	○	○	○	○	○	○	○
Comparado à maioria das pessoas que conheço, gosto de apostar em coisas. (4)	○	○	○	○	○	○	○

ATTACHMENT 9: Sustainable Consumption Behaviour – Food

1. Sustainable food habits

Com que frequência tem os seguintes comportamentos?

Nunca (1)   Raramente (2)   Às vezes (3)   Muitas vezes (4)   Sempre (5)

Uso sacos reutilizáveis nas compras de supermercado.

Prefiro produtos que usam menos ou menores embalagens.

Compro produtos orgânicos.

Leio o rótulo dos produtos antes de os comprar.

No momento da compra, tenho em consideração informações sobre o impacto ambiental do produto.

Procuro informações sobre a origem dos produtos que consumo.

Procuro informações para saber se os produtos que compro são produzidos por empresas com ética (por exemplo, se seguem a lei, não usam trabalho escravo ou infantil, etc.)

Prefiro comprar produtos de empresas que participam em ações sociais (por exemplo, campanhas de doação de alimentos ou roupas, doações a ONGs, etc)

2. Sustainable food future intentions

No que respeita à sua intenção de compra de comida sustentável no futuro, qual o grau de concordância com as seguintes afirmações?

	Discordo totalmente (1)	Discordo (2)	Não concordo nem discordo (3)	Concordo (4)	Concordo totalmente (5)
Da próxima vez que for às compras, compro comida sustentável, se a encontrar. (1)	○	○	○	○	○
Se houver várias opções disponíveis, procurarei por comida sustentável. (2)	○	○	○	○	○
Sempre que possível, irei comprar comida que considero ser sustentável. (3)	○	○	○	○	○

3. Sustainable food willingness to pay

Está disposto a pagar mais por comida sustentável?

	Não, estou disposto a pagar menos	Estou disposto a pagar o mesmo	Sim, estou disposto a pagar mais
	-50	0	50
()			

Tendo em consideração que o preço médio de uma caixa de 6 ovos ronda os 0.90€, qual acha que seria o preço justo a pagar por uma caixa de 6 ovos produzido de forma sustentável?

0   1   1.5   2   2.5   3   3.5   4   4.5   5

€ ()

ATTACHMENT 10: Sustainable Consumption Behaviour – Clothing

1. Sustainable clothes habits

Com que frequência tem os seguintes comportamentos?

Nunca (1)   Raramente (2)   Às vezes (3)   Muitas vezes (4)   Sempre (5)

Sempre que compro uma peça de vestuário, verifico a etiqueta de composição para saber se os materiais são ambientalmente corretos.

Sempre que compro uma peça de vestuário, verifico a etiqueta respeitante ao local de manufatura (Made in/Fabricado em) para saber se é feita num local onde os trabalhadores são tratados de forma justa.

Costumo comprar vestuário sustentável.

Ao decidir se devo ou não comprar uma peça de vestuário, considero o seu impacto ambiental.

Ao decidir se devo ou não comprar uma peça de vestuário, considero se é feito de materiais orgânicos.

Ao decidir se devo ou não comprar uma peça de vestuário, considero se é feito de materiais reciclados.

Ao decidir se devo ou não comprar uma peça de vestuário, considero se foi feito usando processos de fabrico que têm baixo impacto ambiental.

2. Sustainable clothes future intentions

No que respeita à sua intenção de compra de vestuário sustentável no futuro, qual o grau de concordância com as seguintes afirmações?

	Discordo totalmente (1)	Discordo (2)	Nem concordo nem discordo (3)	Concordo (4)	Concordo totalmente (5)
Da próxima vez que for às compras, compro uma peça de vestuário sustentável, se a encontrar. (1)	○	○	○	○	○
Se houver várias opções disponíveis, procurarei por vestuário sustentável. (2)	○	○	○	○	○
Sempre que possível, irei comprar peças que considero serem sustentáveis. (3)	○	○	○	○	○

3. Sustainable clothes willingness to pay

Está disposto a pagar mais por peças de vestuário sustentável?

	Não, estou disposto a pagar menos	Estou disposto o mesmo	Sim, estou disposto a pagar mais
	-50	0	50
()		▮	

Tendo em consideração que o preço médio de um par de calças de ganga ronda os 20€, qual acha que seria o preço justo a pagar por um par de calças produzido de forma sustentável?

	5 25 44 64 83 103 122 142 161 181 200
€ ()	▮

ATTACHMENT 11: Socio-Demographic Questionnaire

Qual o seu género?

Feminino (1)

Masculino (2)

Outra. Qual? (4) _____

Qual a sua idade? _____

Qual a sua situação profissional?

Estudante (1)

Trabalhador-estudante (2)

Trabalhador (3)

Desempregado (4)

Outra. Qual? (5) _____

Qual o seu estado civil?

Solteiro/a (1)

Casado/a (2)

Divorciado/a (3)

Viúvo/a (4)

Outra. Qual? (5) _____

Quais as suas habilitações literárias? (último ano de ensino concluído)

Ensino secundário ou inferior (1)

Curso profissional (2)

Licenciatura (3)

Pós-graduação (4)

Mestrado (5)

Doutoramento (6)

Outra. Qual? (7) _____

Qual a sua área de residência?

Norte (1)

Centro (2)

Lisboa e Vale do Tejo (3)

Alentejo (4)

Algarve (5)

Região Autónoma dos Açores (6)

Região Autónoma da Madeira (7)