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How does personality influence the behaviour of green consumer in the textile industry?

A quantitative study that investigates the relationship between the big five personality traits and the willingness to pay for sustainable apparel

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ABSTRACT

Sustainability has become a global and important issue, due to the environmental degradation of the last decades which includes global warming, rising seas, declining air quality, shrinking animal habitats, increasing droughts, and spreading of newly diseases.

Everyone - government, businesses, and individuals - have become increasingly aware of the need to reduce our environmental footprint. It should be a collective activity where all the intermediaries have opportunities to contribute towards sustainability.
As a result, the consumer is considered the focal point, the key player in green market since the approval of sustainable products depend mostly on his decisions. He is the one who desires and aim at decreasing his own environmental footprint through of sustainable consumption and the sellers' energies are focused on satisfying his needs (Bigliardi et al. 2022), (Laroche et al, 2001, pp. 503 - 520).

In particular this study will focus on the fashion industry since it is considered on the most important player in the process of ensuring sustainable consumption and production patterns.

The reason is that there are many and severe social and environmental externalities are connected to all stages required for clothes manufacturing; starting with the extraction of raw materials, production of fibers and yarns for obtaining fabric, assembly, packaging, transport and delivery, consumer use and final disposal. The entire procedure is sadly known to be characterized by high water usage, pollution derived from chemicals used in dyeing and the difficulty of recycling fashion products which eventually finish in landfills or are incinerated. (Long & Nasiry, 2022) (Long & Nasiry, 2022)

That's enough! This whole mechanism must change and slow down. In this way we could benefit from superior quality products which demonstrate an ethical, environmental, and social engagement, enabling us to appreciate and value them even over time.
These are some of the fundamental pillars at the basis of the slow-fashion movement. It has been defined as a socially conscious movement that shifts consumers' mindsets from quantity to quality, encouraging people to buy high-quality items less often. It encompasses slow production and consumption, it does not exploit natural and human resources to expedite manufacturing speed,

and it slow consumption entails a longer product lifespan from manufacturing to discarding (Jung & Jin, 2014).

The future is green: the modern consumer is ready to switch to a more conscious buying which satisfies his ethical and moral identity. Indeed, consumers are usually prone to buy goods which make them feel better, because by fulfilling a set of values, they can enhance their self-image. Psychological human needs involve affection, empathetic, involvement, creation, identity and freedom. Clothing is considered a prominent tool used to create one's expressed identity or personal style, but it also enables participation in social groups and class, and creativity.
For this reason, the aim of this study is to establish a relationship between the individual's personality traits and willingness to pay for sustainable apparel. The personality traits examined are the famous Big Five: extraversion, agreeableness, consciousness, neuroticism and openness.

The hypothesized relationships have been tested through partial least squares structural equation modeling technique.
The answers have been collected by means of a questionnaire involving a sample of 100 people, in particular the study focus on young Italian female (age comprised between 19-35 years old) because the literature affirms that they represent the segment of the population who have little awareness of the social impact of their fashion consumption, and nonetheless exhibit the highest level of demand for new fashion items. Young consumers are the main target of fast fashion retailers, since they prefer clothes that are trendy, fashionable, low quality, and cheap; and they expect less service from salespersons than older ones when shopping (Kim et al. 2012, p. 245-256).

Indeed, despite of the increasing interest in sustainable fashion characterizing the last few years, this argument is still new and little known to a large part of the population.

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INTRODUCTION

Recently, sustainability has become one of the most discussed topics globally, due to the environmental degradation of the last decades which includes global warming, rising seas, declining air quality, shrinking animal habitats, increasing droughts, and spreading of newly diseases.

The first attempt to give an official definition of sustainable development has been made in 1987 by the World Commission on Environment and Development. It issued a report entitled Our Common Future, also known as the Brundtland Report, in which sustainable development was defined as "the ability to satisfy social, environmental and economic needs of current and future generations without depleting the natural resource base or degrading environmental quality" and "sustainable development is the development that meets the need of present without compromising the ability of future generation to meet their own" (United Nations, 1987, p.8).

Everyone - government, businesses, and individuals - have become increasingly aware of the need to reduce our environmental footprint. To this end, governments have developed more comprehensive policies on environmental issues and climate change as evidenced by the many international agreements and conferences that we will analyze throughout this study. Many businesses already started to design and implement green campaigns considering their impacts on society and environment, following the triple bottom line of corporate social responsibility.
But those measures and efforts cannot be made only by businesses or governments, it is a collective activity where all the intermediaries have opportunities to contribute towards sustainability. As a result, the consumer is considered the focal point, the key player in green market since the approval of sustainable products depend mostly on his decisions. He is the one who desires and aim at decreasing his own environmental footprint through of sustainable consumption (Laroche et al, 2001, pp. 503 - 520) (Bigliardi et al. 2022) and the sellers' energies are focused on satisfying his needs.
The more consumers realize how their consumption affects the environment, the more they try to change their attitudes and behaviors for the benefit of future generations.

This study is focused on the fashion industry, because especially after the rise of the so-called "fast fashion" phenomenon, it has become one of the world's most polluting and unethical industries. It

is sadly known for its high-water usage, overproduction, large use of chemicals, the unfair working condition of the employees in the factories and the difficulty of recycling fashion products which eventually finish in landfills or are incinerated (Long & Nasiry, 2022)

Sustainable fashion is a quite new concept; in order to be sustainable, the fashion industry should move toward the so-called slow fashion. It consists in emphasizing more sustainable practices, prizing craftsmanship, good stewardship, and quality products. Therefore, they promote sustainability through more ethical sourcing and production techniques as well as by using organic, recycled, or more durable materials. Further, the labor involved in the production of such garments receives higher wages and greater protection than its counterparts in the supply chain of the fast fashion industry (Colasante & D'Adamo, 2021, pp. 1-2). Sustainable fashion follows the concept of the "circular economy", according to which once it comes to an end, the product should be redesigned, reinvented and never discarded.

Consumers will be willing to buy and to pay for sustainable apparel as long as they perceive the value offered by this alternative. The more consumers have concern about the environment, the more they will be willing to pay for sustainable apparel (Notaro, Paletto 2021). Their purchasing decision are therefore affected also by emotions, moral obligations, and personality traits.
Clothes and fashion world help people to construct a self-image and to express their personality, sometimes it is the most immediate way to communicate it to others.
For this reason, the aim of this study is to establish a relationship between the individual's personality traits and willingness to pay for sustainable apparel. The personality traits examined are the famous Big Five: extraversion, agreeableness, consciousness, neuroticism and openness. I additionally supposed that impulsivity and need for uniqueness play the role of moderators, influencing the relationship of each Big Five and the WTP.

Since extraverts are sociable people with an extensive social circle, we can derive that they have a higher probability to come in contact with people who cares about the environment and buy green products (Quintelier, 2014, p. 344). Therefore, we hypothesized a positive relationship between extraversion and WTP for sustainable apparel since they have the opportunity to conversate about natural and environmental issues and the benefits of sustainable apparel, which could make them more likely to buy eco-friendly products.

In previous research, greater environmental concern was related to higher levels of the Big Five personality trait of agreeableness (Hirsh & Dolderman, 2007), (Tang & Lam, 2016). Agreeableness, in fact, is associated with being a 'good citizen', for them, it is easier to be concerned and take actions about environmental problems since they hold a selflessness orientation, they are cooperative towards others. These are the reasons why we assumed a positive relationship between agreeableness and WTP for sustainable apparel.

Conscientiousness has been defined as "the tendency to be organized, responsible, and hardworking" (Roberts et al., 2009, pp. 369–381). If conscientious people consider the nature preservation as their duty, then in this case they may be more incline to consume sustainable products (Quintelier, 2014, p. 344). So, we assumed that they will be more willing to pay for sustainable products which will enhance the well-being of future generations.

People high in neuroticism tend to perceive negative situations in general, as impossible to solve, as they ''are likely to interpret ordinary situations as threatening and can experience minor frustrations as hopelessly overwhelming'' (Leary & Hoyle, 2009, pp. 129-146). If we apply this vision to our context, we obtain that according to neurotic people, purchasing sustainable apparel will be useless because the environmental degradation cannot be solved by simply changing our consumption habits. Therefore, we hypothesized a negative relationship between neuroticism and WTP for sustainable apparel.

We assumed a positive relationship between openness to experience and WTP for sustainable apparel since opened people enjoy trying new experiences and ideas, it means that they also appreciate, and they are willing to pay more for innovative products. We also stated that sustainability in the fashion industry can be considered a novelty: experts in this field are continuously researching for alternative materials to realize sustainable garments.

I chose to include in my hypothesized research model two moderator variables: the need for uniqueness and impulsivity.

Need for uniqueness perfectly applies to all personality traits, especially in the field of fashion. We assumed that it will positively moderate the relationship between the Big five and the WTP for sustainable apparel because an individual who feels the urge to differentiate from others and to

enhance his/her self-image, will be more willing to adopt sustainable behaviors (Tian et al., 2001). People usually express their uniqueness by showing a personal style, rejecting fashion trends typical of fast fashion movement. Fashion clothes at affordable prices that can be found in big shopping center, and which are distributed identical all over the world, cannot satisfy the needs of this consumer's category. On the contrary, they are likely to pay a higher price to obtain just a few items which allow them to stand out from the crowd (Legere & Kang, 2020, pp. 2-11).

An impulsive individual reacts fast without thinking; Impulsivity applied to consumers' purchasing behavior is defined as a sudden, unplanned, and powerful temptation to purchase in response to both the internal and external stimulus (Taghikhah et al. 2021). This kind of unplanned action is opposed to the conscious and premeditate purchasing behavior typical of sustainable clothing. That is why we assumed that impulsivity will play the role of negative moderator.

After this first introduction of my work, the thesis continues with the literature review about the most fundamental concepts in this field, namely, sustainability and sustainable development, CSR, the environmental footprint of the fashion industry, the willingness to pay of consumers for sustainable products and the role of personality traits on their purchasing decisions. In the following section I expose the key research questions and develop my hypotheses. Afterwards, I present the research methodology and the data collection. The fourth chapter is about the analysis of the findings resulted from data collected. In the last chapter I discuss the results obtained, their contribution to the literature and their implications for practice; finally I present the limitations of my study and I make suggestions for future research.

1.1 – SUSTAINABILITY

1.1.1 - Definition of the concept

In the past, the human being did not worry about sustaining nature since it was considered too large and astonishing. People merely exploit the available natural resources to satisfy its needs, starting a process that we can define of nature recession. It means that nature tends to become a limiting factor less and less considered in the way we organize our lives; it means that societies became increasingly independent from natural conditions.

In particular, the main causes of environmental degradation can be tracked back to the Industrial Revolution. In this period, the real key role is played by technology used in many sectors such as transports, health, food and beverage, personal care. It brought many improvements in people's lives and a significant rise of living standards, but to the detriment of a massive use of territorial resources without any consideration for the environment and resources.
Today, this is not true anymore. For years we haven't considered the complexity of ecosystems, on the contrary we have modified and simplified them pursuing just the productivity goal.
Recent phenomena such as the technology revolution and globalization have led to an unprecedented economic growth, but also to over-consumption or unsustainable consumption and over-exploitation of resources.

The way in which we produce, consume, and dispose of products is not sustainable anymore from an economic and environmental point of view; and it is rapidly exhausting natural resources of our planet. There is only one planet Earth, yet by 2050, the world will be consuming as if there were three. (European Union, 2020, p.4)

"Sustainability is the term chosen to bridge the gulf between development and environment" (Rogers et al., 2008, p.22), it considered the key for preservation of global resources.
For some people "sustainability" can be typically defined as the effort to use natural resources less wastefully. For many, it simply entails recycling and being energy efficient. But sustainability is both more challenging and more rewarding: it pushes us to better understand our world and ourselves, it involves a sense of responsibility for maintaining the integrity and improving the ecological, social, and economic networks that supports us.
Sustainability is not simply about preserving things. It requires change. It pertains equally to conservation and creativity. Sustainability demands imagination and innovation.

Some practitioners often define sustainability as meeting current needs in a way that does not undermine future welfare. But whose needs? Whose future welfare? Sustainability extends our concern beyond the welfare of those participants who are directly involved in a practice, relationship, or institution. It also concerns the welfare of other stakeholders who become impacted by our actions. In an increasingly interdependent world, virtually everyone is impacted, sooner or later, by everything we do.
So, to live sustainably means to act being aware that the consequences of our actions (and inactions) cross national borders and generations.

The first attempt to give an official definition has been made in 1987 by the World Commission on Environment and Development. It issued a report entitled Our Common Future, also known as the Brundtland Report, in which sustainable development was defined as “the ability to satisfy social, environmental and economic needs of current and future generations without depleting the natural resource base or degrading environmental quality” and “sustainable development is the development that meets the need of present without compromising the ability of future generation to meet their own” (United Nations, 1987, p.8).

All of a sudden, the phrase Sustainable Development (SD) has become pervasive. SD has become the watchword for international humanitarian organizations, the subject of numerous conferences and meetings, and the perfect slogan of developmental and environmental activists.
But the fundamental question "What is SD?" has being asked increasingly frequently without, however, reaching a clear answer.
So, even if it has been frequently used, its meaning remains unsettled. It has been defined one of the least meaningful and most overused words in the English language and it is likely to become a cliché -- a fashionable phrase that everyone respects but nobody cares to define.
In response we should not stop using this word, but we should define it better, clearer and try to translate it into concrete actions. The world community clearly realized that the environment is the common heritage of humanity, and its protection and rational use of natural resources are considered the most urgent current issues and can be solved only by developing environmental legislation and effective approaches.

1.1.2 - INTERNATIONAL CONFERENCES AND AGREEMENTS

During the 1990s, governments and the whole international community began to approach to sustainable development at the global level.

- The United Nations Conference for Environment and Development (UNCED) in Rio de Janeiro in 1992 was the first large international conference focused on global environmental questions and it has been one of the key steps in the process of international environmental cooperation. It has involved 172 governments, 108 Heads of State and countless non-governmental organizations, creating an unprecedented global partnership to reverse the environmental degradation of the planet.

  The main goal of the conference was to identify and allocate the responsibilities of both developing and developed countries and guide them in the future sustainable development; this was the first time in which the theoretical concept of sustainable development was translated into global action.

  Also known as the “Earth Summit,” the conference presented and introduced the concept of sustainable development and defined it in 27 principles. Using these principles in an effective combination provides an important guideline on the road to achieving a more sustainable world.

- The Kyoto Protocol entered into force in 2005 and engages developed countries and economies in transition “to limit and reduce greenhouse gases (GHG) emissions in accordance with agreed individual targets”. The Kyoto Protocol is the first international agreement to be binding for its member States. Its objective is to actively pursue the achievement of the objectives set out in the Protocol which contribute to containing the global warming of the planet.

- "Only through broad and sustained efforts to create a shared future, based upon our common humanity in all its diversity, can globalization be made fully inclusive and equitable", world leaders stated as they unanimously adopted a "United Nations Millennium Declaration" at the conclusion of their Millennium Summit on 8 September 2000.

  The main document of the declaration was the Summit which contained a proclamation of values, principles, and objectives for the international agenda for the twenty-first century. In particular, they have set 8 goals that UN Member States have agreed to try to achieve by the year 2015.

The leaders affirmed that the main challenge at the time was to guarantee that globalization was perceived positively by everyone, since its benefits and costs are unequally distributed.

The core focus of the Summit Declaration was the elimination of extreme poverty, but they also cited freedom, equality (of individuals and nations), solidarity, tolerance, respect for nature and shared responsibility as fundamental values to international relations for the twenty-first century.

- The year 2015 marked another important milestone in the mission of sustainable development: on the 12th of December the Paris Agreement, which entered into force in November 2016, was adopted by 196 countries. The main objective of this agreement is to design a global framework to avoid dangerous climate change by reducing global warming to well below 2°C, preferably to 1.5 degrees Celsius, compared to pre-industrial levels (article 2).

  For the first time, an agreement binds all nations to act for a common cause: the Paris Agreement is the first-ever universal, legally binding global climate change agreement. All the parties support each other financially and technically.

  In addition, countries established an enhanced transparency framework (ETF), according to which each party shall report transparently on actions taken and progress in climate change mitigation, adaptation measures and support provided or received. (Rafferty, 2015)

  Until now, many countries, regions, cities and companies are establishing carbon neutrality targets; in particular, in the power and transport sector, zero-carbon solutions have been adopted (UNCC). Despite these improvements, there is still a lot of work to do and a lot of changes to make in order to achieve the goals of the Paris Agreement.

- The United Nations in 2015 presented “The 2030 Agenda for sustainable development” which includes seventeen goals that consider six elements: dignity, human beings, the planet, prosperity, justice and partnership. They should be achieved by 2030 with the purpose of ending poverty and hunger, combatting inequalities, defending human rights and protecting the planet and its natural resources. The “2030 Agenda for sustainable development” is the most ambitious international program related to sustainable development in which the EU is committed.


SUSTAINABLE DEVELOPMENT GOALS
1 NO POVERTY
2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS
SUSTAINABLE DEVELOPMENT GOALS

1.1.3. - CORPORATE SOCIAL RESPONSIBILITY

"The goal is to leverage your company's unique capabilities in supporting social causes, and improve your competitive context at the same time. The job of today's leaders is to stop being defensive and start thinking systematically about corporate responsibility." (Porter, 2005)

The concept of corporate social responsibility, in the modern sense, dates back to the 1920s, when people began to talk about the need for company managers to operate in the interests not only of shareholders, but also of other stakeholders.

In 1953 Bowen, unanimously recognized as the founder of Corporate Social Responsibility stated the principle that larger companies are vital centers of power, their decisions and actions affect and condition the life of society from many points of view. The author, inspired by the fundamental question: "What responsibilities to society may businessman reasonably be expected to assume?", creates a first definition of social responsibility: "It refers to the obligations of businessman to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society".

So, in this first phase, the debate focuses on the social responsibility just of the businessman. Only later Davis will expand the concept expressed by Bowen and he will extend it to institutions and businesses, talking about "corporate" social responsibility. This change is very relevant because it shifts the responsibility from the individual to an entity like the enterprise.

Subsequently, the concept of CSR has obviously evolved and spread more and more since the second half of the last century. Conscious capitalism, corporate citizenship, corporate social responsibility; they all mean the same thing.

By definition, CSR is the act of aligning a company's operations and planning with general and measurable goals for the overall purpose of societal and environmental good. Usually, this responsibility is expressed by actions such as reducing waste and pollutants, getting a more sustainable supply chain, and contributing to social causes and philanthropic efforts, all while still meeting business targets. (Miller, 2020)

It's important to mention the contribute of Barroso, President of the European Commission, at the annual European conference on CSR, who declares that "a new culture of ethics and responsibility is essential not just to restore the brand image of particular enterprises but to restore people's faith

in the market economy itself. People still want markets, but they want markets with a conscience" (Barroso, 10 June 2009).

CSR has been then defined by the European Commission as "the responsibility of enterprises for their impacts on society. Companies should have in place a process to integrate social, environmental, ethical, human rights and consumer concerns into their business operations and core strategy in close collaboration with their stakeholders, with the aim of maximizing the creation of shared value for their owners/ shareholders and civil society at large and identifying, preventing and mitigating possible adverse impacts". (European Commission, 2011)

Nowadays it is important that companies, especially large corporations, are aware of the impact of their actions in the environment and in the society. There is growing recognition of the significant effect the activities of the private sector have—on employees, customers, communities, the environment, competitors, business partners, investors, shareholders, governments and others. It is also becoming increasingly clear that firms can contribute to their own wealth and to overall societal wealth by considering the effect they have on the world at large when making decisions.

Corporate social responsibility (CSR) concerns not only the compliance with the law but it allows you to creating value in the long term: value for customers, value for employees, value for communities, value for society, for shareholders and for debt holders.

Porter and Kramer (2006, p. 80) stated that if "...corporations were to analyze their prospects for social responsibility using the same frameworks that guide their core business choices, they would discover that CSR can be much more than a cost, a constraint, or a charitable deed—it can be a source of opportunity, innovation, and competitive advantage."

In this way CSR became a tool capable of helping companies to make profits, justifying its existence in front of people who consider profits the sole objective of an enterprise (Friedman, 1970).

Friedman, for example, in addressing the issue of corporate social responsibility, he defines it as a senseless behavior, capable of undermining the foundations of a free society. The only social responsibility of a business should be to use its resources to continue operating according to the "rules of the game". The purpose of a business, according to Friedman, should focus on one thing: generating profits. He claimed that a company is not capable of having responsibility. (Friedman, 1962, p. 133)

1.1.4. - TRIPLE BOTTOM LINE

Most of CSR theories admit that the foundation of the idea is the Triple Bottom Line (TBL) concept that was introduced in 1987 in Brundtland Commission. The Brundland Commission's fundamental definition of SD mentioned before, stresses the interdependence among social, economic, and environmental dimensions of sustainability.

The expression was officially coined by John Eliknton in 1994, who used the expression “triple bottom line,” to suggest that equal consideration should be given to financial, environmental, and social dimensions when making business and policy decisions.

The Triple Bottom Line of Corporate Social Responsibility (CSR) demonstrates that sustainability is a complex phenomenon with multiple dimensions covering several issues non only related to the protection of the natural environment. (Jum’a et al., 2022, p. 3)

The triple bottom line concept highlights the fact that companies should measure their social and environmental impact—in addition to their financial performance—instead of concentrating just on generating profit, which correspond to the classical “bottom line.” It can be divided into “three Ps”: profit, people, and the planet. In order to define a business activity sustainable, all three pillars must be taken into account, in fact, the overall objective of a sustainable business strategy is to positively impact the environment, society, while also benefiting shareholders.

We can affirm that the Triple Bottom Line of CSR tries to combine the three dimensions obtaining a “win-win situation” for the company, in which profit is generated by socially and environmentally responsible behavior. In other words, the company is improving its own image and generating higher profit by taking responsible actions (Kuhlen, 2005).

PROFIT

The success of a firm in a capitalist economy, is mostly connected with its financial performance, or the profit it generates for shareholders. Profit is a mandatory requirement, thanks to which a company has a possibility to develop.

Strategic planning proposals and the most important business choices are generally and carefully made with the intent to maximize profits and at the same time dropping costs and alleviating risk. In the past, many firms' objective would have concluded there. But today, leaders are discovering they have the power to use their firms and activities to positively change the world without ignoring the financial performance.

Indeed, in many cases, implementing sustainability initiatives has demonstrated to drive firm success. In the 1930s, CSR was seen as a moral imperative for directors of large companies to defend the public interest. In today's society consumers pretend involvement and personal responsibility for the social good and health of Planet Earth. So, companies have been stressed by their customers and stakeholders to structure their activities and products based on charitable or sustainability principles. With corporate social responsibility (CSR) became less voluntary and more essential to everyday business, the ethical and sustainable choices have often become the most profitable. At

the same time, in doing so, leaders are increasingly understanding the power of this kind of strategies in two ways: they contribute to the world's most emergency challenges and also drive their firms' success.

In conclusion, the economic part of CSR is not only about making profit, the most important task is to use it well.

PEOPLE

People are lifeblood of a company. The second piece of the triple bottom line focuses on the firm's effects on society, or its commitment to people.

First of all, we should define what the term "social impact" means. Positive social impact refers to the ways that businesses and individuals take action to address issues facing their communities. The social dimension relies on improving the standard of living. CSR is a tool that serves to develop and preserve good relationship between society and an enterprise.

The first thing to do is to recognize the core values that motivate the firms' leaders to act and take decisions. Those values usually concentrate around issues like climate change, poverty, and other urgent social and environmental challenges of our society. With values informing their decision-making and strategy, purpose-driven leaders can feel empowered to make a difference. A business that respects the Triple Bottom Line concept is the one that would not exploit people, that stands against child labor and provides fair salaries and fair treatment for its employees, and that controls its subcontractors to obey the same rules.

There are many simple ways in which companies can contribute to this second pillar:

- Adopt and Promote Ethical Business Practices

Companies which aim to bring a change externally, should first concentrate internally and guarantee an engagement in social responsibility. They should consider and question themselves about how to be more ethical in their sourcing and production processes, and in general in their business operations.

- Encourage Personnel to Volunteer

Being a purpose-driven firm – which means going beyond selling goods and make the difference with your own decisions and strategies - requires a deeper devotion to social responsibility, not

limited to the organizational or managerial level. Even at the bottom of the hierarchy, employees should share the company's vision and perceive that their contributions are meaningful.
Ensuring fair hiring practices and encouraging volunteerism in the workplace is a useful and concrete method to involve staff in social impact initiatives and boost self-confidence.
By creating a background that motivate employees to give back, companies are able to involve their workforce in issues that matter to them and transmit a sense of shared purpose.

- Create Strategic Partnerships with Nonprofit Organizations

Adopting strategies inside the organization is not enough; in order to make a change on a larger scale, companies should also look externally. For example, many organizations have formed successful strategic partnerships with nonprofit organizations that share a common purpose-driven goal. Strategically partnering with nonprofit organizations can be an effective way for companies to boost their social impact since they directly face some of the most pressing challenges at global level. For instance, there are nonprofit organizations that helps people in developing countries to escape from poverty by building competitive farms, businesses, and industries.
This joint effort demonstrates the great step forward that can be made when for-profit and not-for-profit firms combine their resources to work for the greater good.

PLANET

The final component of the triple bottom line is concerned with making a positive impact on the planet. Planet is the habitat for both previous elements: the company and people.
Even though historically businesses have been the greatest contributors to climate change, they are also the ones which hold the keys for driving a positive change. Many business leaders are now recognizing their responsibility to do so. This responsibility isn't just on the shoulders of the largest companies in the world—ideally all businesses have opportunities to make changes that reduce their carbon footprint. There are plenty of ways the business can be environmentally friendly. Adjustments such as employing ethically sourced materials, reducing energy consumption, and optimizing shipping practices are steps in the right direction.
CSR has moved from theory to practice, and many believe that organizations need to define their roles in society and apply social and ethical standards to their businesses (Lichtensteinet al.2004). Organizations increasingly use CSR activities to position their corporate brand in the eyes of consumers and other stakeholders.

1.2. – CONSUMER BEHAVIOUR

1.2.1 - NEW “GREEN” CONSUMER

Everyone - government, businesses, and individuals - have become increasingly aware of the need to reduce our environmental footprint. To this end, governments have developed more comprehensive policies on environmental issues and climate change as evidenced by the international agreements mentioned before. Many businesses already started to design and implement green campaigns considering their impacts on society and environment, following the triple bottom line of CSR explained above.

But those measures and efforts cannot be made only by businesses or governments, it is a collective activity where all the intermediaries have opportunities to contribute towards sustainability. In this section, we will analyze the role of single individuals who have the power to make the difference through their consumption decisions. Unilever estimates that almost 70% of its greenhouse gas footprint depends on which products customers choose and whether they use and dispose of them in a sustainable manner—for example, by conserving water and energy while doing the laundry or recycling containers properly after use. (White et al., 2019, p. 127)

As a result, the consumer is considered the focal point, the key player in green market since the approval of sustainable products depend mostly on his decisions. He is the one who desires and aim at decreasing his own environmental footprint through of sustainable consumption (Bigliardi et al. 2022), (Laroche et al, 2001, pp. 503 - 520) and the sellers’ energies are focused on satisfying his needs.

The green consumer is an individual that wants and knows how to satisfy his or her needs in the everyday life causing as little as possible impact on the environment (Anderson & Cunningham, 1972, pp. 23-31). Indeed, even if fulfilling personal needs seems to remain a crucial aspect, environmental conservation and social awareness have become primary concerns in more recent times.

The actions people take and the choices they make – to consume certain products and services rather than others or to live in certain ways rather than in others – all have direct and indirect

impacts on the environment, on social equity and on personal (and collective) well-being. (Jackson, 2009, pp. 279-290)

The more consumers realize how their consumption affects the environment, the more they try to change their attitudes and behaviors for the benefit of future generations. In almost every opinion poll, consumers say that they are very concerned about climate change. They worry about rising seas, declining air quality, shrinking animal habitats, increasing droughts, and spreading of newly diseases. Different studies highlight how this ecological awareness has led an increasing number of individuals to engage in environmentally friendly behaviors (De Moura et al., 2012, p.452), giving rise to the so-called green consumerism. The broad definition of green consumerism subsumes a list of behaviors that are undertaken with the intention of promoting positive environmental effects. Examples of such behaviors include: recycling wastes, save energy and water, promoting second-hand or remanufactured goods purchase, posting garden and kitchen waste, investing in 'ethical' funds, buying organic food, using electric vehicles and so on (Jackson, 2005, p. 3).

But from this point forward we will focus the attention just on the moment in which consumers face the choice between "green" products and their more traditional counterparts.

1.2.2. - ENVIRONMENTALLY FRIENDLY PRODUCTS

The term "green" was born within the marketing field in late 1980s–early 1990s and it became quite fashionable. Researchers defined it "evocative and powerful" since consumers and companies alike seem to be attracted to it.

The many meanings of the word 'green' have been discussed in the literature identifying several dimensions of green, like ecological, political, corporate social responsiveness, fair trade, conservation, non-profit, new-consumerism, sustainability, and equality. (Dangelico & Pontrandolfo, 2010, p. 1609)

These concepts are very broad and embrace very different aspects. In fact, the main problem with green products regards its definition that is still unclear. The concept boundaries are poorly defined, resulting in a vague notion which can have different meanings depending on who uses or hears it. The lack of a commonly accepted definition in literature may generate confusion in its testing and

evaluation. Moreover, the existing misunderstanding led to different goals and scope from the point of view of both firms and society who have not clear directions on how to become green.

Some authors have tried to define 'green products':

- The Commission of the European Communities (2001) defines green products as products that "use less resources, have lower impacts and risks to the environment and prevent waste generation already at the conception stage".

- According to a research article 'green product' is referred to as a product designed to minimize its environmental impacts during its whole life-cycle. In particular, non-renewable resource use is minimized, toxic materials are avoided, and renewable resource use takes place in accordance with their rate of replenishment. (Albino et al.,2009, p. 86)

- Pickett-Baker and Ozaki affirmed that defining environmentally sustainable products is complex. In a strict sense, there is no such thing as a truly sustainable or green product, as all products we buy, own, use and discard in our everyday lives will have negative environmental impacts at some stage in their life cycles.

- In 2009, the OECD stated that "products which are produced without non-toxic chemicals or are recyclable, reusable, bio-degradable or having eco-friendly packaging and with low detrimental environmental impact at all stages of its life cycle with the long-term goal of preservation of natural environment are termed as green or environment friendly products"

- Green products can be described as goods that are long lasting and durable while taking into account the preservation of earth's resources.

From all those different definitions, we can derive one main conclusion: the real advantage of a sustainable good derives from its lifecycle benefits. Most of traditional product' damages and environmental impacts are caused by the improper use of natural resources, detrimental production practices, harmful ways of usage and disposal, or the generation of wastes. A green product may cost more than its traditional counterpart but may have lower lifecycle costs. For instance, the product may have an easier recycling process easily resulting in few adverse environmental impacts. (Maniatis, 2015, p. 217)

That is one of the reasons why people perceive sustainable products as higher quality, with higher social and economic values, and higher environmental sustainability and moreover, they seem to be more resource and energy efficient. (Forbes et al., 2009, pp. 1197-1199), (Biswas & Roy, 2014, p. 468), (Maniatis, 2015, pp. 225-226) In fact, people recognize an additional value to eco-friendly products, and the demand for such type of goods is increasing.

1.2.3. - WILLINGNESS TO PAY

The more consumers value a specific product's feature, the more they are willing pay for it. Willingness-to-pay play a decisive leverage on their choice behavior. It denotes the maximum amount of money that a consumer may be inclined to pay for a particular or a bundle of products. (Biswas, 2016, pp. 211-214) From a marketing point of view, consumer willingness to pay measures the value perceived by the customer for a good consumption or usage experience. (Li & Meshkova, 2013, pp. 449-461)

In other words, the willingness to pay can be also defined as the extra cost that a person is ready to pay to get the attribute.

In the field of sustainable consumption, adoption of environment-friendly behaviors, included the purchase of green products, depends on their inclination to pay the green price premium.

Clearly not all consumers are willing to buy environmentally friendly (EF) products. In fact, despite the widespread attention that the sustainability theme is getting, the purchase of sustainable products still represents "only a small fraction of overall demand" (United Nations Environment Programme, 2005, p. 3).

At the household level, housing, food and drink and mobility have the greatest environmental impacts in terms of emissions of greenhouse gases, acidifying and ozone-depleting substances as well as resource and energy use. Those household activities are strongly related with lifestyles and daily live routines. People tend to be engaged more frequently in daily activities such as switching off lights and recycling paper, rather than considering environmental factors when purchasing products (Caeiro et al., 2012, p. 73)

Generally people affirm to be concerned about the environmental and social impacts of the products they buy. But when it comes to actually buying green goods, words and deeds often part ways. So, it seems to be a significant gap between consumers' explicit mentality about sustainable

products and their concrete actions in the purchasing decision process. (United Nations, 2005) (Joshi et al., 2021).

Many consumers testimony positive attitudes about eco-friendly products and services, but they often seem unwilling to pay for them. In one recent survey 65% said they want to buy purpose-driven brands that encourage sustainability, yet only about 26% actually do so. (White et al., 2019, p. 126)

There are many reasons because some consumers may be reluctant to purchase EF products. Sometimes they are perceived to be less effective (Luchs et al., 2010, p. 29), cost can be a crucial deterrent as well, since eco-friendly products have historically cost more than their traditional counterparts. (Haws et al., 2013, p. 337) Clearly, some customers are willing to purchase EF products whereas others are not, which suggests that there are personal differences among consumers in the value they give to the preservation of nature in consumption settings. (Haws et al., 2013, p. 337)

Willingness to pay can vary significantly from customer to customer (Stobierski, 2020). This variance often derives from features of customer population, normally divided into extrinsic and intrinsic.

Extrinsic differences are evident and can be observed. They're aspects you can easily conclude about an individual and you don't need to ask them directly. A customer's age, gender, income, education, and where they live can all be examples of extrinsic differences able to impact their willingness to pay.

Intrinsic differences, instead, are also called "unobserved differences" because they are hard to identify. In contrast to extrinsic differences, the intrinsic ones consist in features that you wouldn't know about without asking directly to people. Examples belonging to this category are the customer's risk tolerance, the desire to integrate with other people, and the degree of passion for a given subject.

This study tries to analyze, in detail, how personality traits influence the willingness to pay of consumers for green products.

1.3. - PERSONALITY TRAITS

If we look around for people, our attention immediately focuses on how different they are from each other. People may be chatty and talk a lot whereas some are very quiet. Certain are active while others are laid-back. Some people worry easily, others hardly ever appear anxious. When we use one of these adjectives, terms such as “extrovert,” “calm,” “active,” or “nervous,” to describe individuals around us, we are trying to describe their “personality” - which is defined as the “individual differences in characteristic patterns of thinking, feeling and behaving” (American Psychological Association).

1.3.1 – BEHAVIOURAL ECONOMICS

Personality captures a person's essence. It determines how a subject reacts to the world, in general terms. It builds up with age, from birth through adult life, and it is considered fairly stable from the age of approximately 30 (McCrae & Costa, 2003, p.96).

A person’s personality helps describe and forecast the choices that an individual takes and what a person will do. (Fung & Durand, 2014, pp. 99-115) More and more economists perceive personality as a type of noncognitive competence that may have significant impact on the economic decisions that people make and the results they obtain. This point of view gave rase to an increasing interest in the process of personality change. (Cobb-Clark & Schurer, 2011, p.11)

Personality includes hundreds of various degrees of traits and qualities. The sum of all these traits determines the individual as a person and influences how she will behave in diverse contexts or which type of decision she will take. In addition to other circumstances, her personality will suggest whether she is going to be cautious or impulsive in her decision-making process, whether she will behave on an emotional or rational basis, whether her decisions are intentional or spontaneous, etc. It is important for some people to retain a certain moral value when making decisions, while others are strongly guided by anxiety in everything they do. (Gustavsen & Hegnes, 2019, p. 2)

Experts claimed that the best way to capture differences among people is to understand their personality traits. The concept of personality traits has been defined as the sequences of thoughts, feelings and behaviors that are relatively enduring, and reflect the tendency to act in a certain way according to the circumstances (Brewer, 2019, p. 279).

Personality traits are characterized by three criteria: (1) consistency, (2) stability, and (3) individual differences. (Brewer, 2019, p. 280)

1. In order to talk about a personality trait, people need to have a behavior coherent enough across different situations. For instance, if they tend to be talkative at home, they should show the same tendency also at work and other contexts. Most people would accept that an individual's behavior naturally varies from occasion to occasion, but it should maintain a core of consistency which defines the individual's "true nature": the unchangeable spots of the leopards. In other words, stability distinguishes personality traits from more transitory humors of the person, such as temporary mood states.

2. A personality trait should be stable also over time. If an individual is precise, for example, at 30 years old, he will also tend to be precise at the age of 40.

3. Individuals are different from each other just on behaviors which are connected to a trait. Speech ability is not a personality trait, and neither is walking on two feet—since basically all human beings are able to do these activities, and there cannot be differences. But people can have a different frequency of conversations and they differ on how energetic they are.

For many years psychologists generated so many new traits, that it became soon difficult to record and comprehend them. For example, one expert might concentrate in analyzing personal differences in "friendliness," while another might focus on the highly related concept of "sociability." The problem is that there is a huge number of words which may be used to describe personality. A lot of these words have quite the same meaning: precise, cautious, scrupulous, and painstaking they all appear to be connected to a certain common quality of conscientiousness. (Matthews et al., 2003, p. 5)

Scientists began to look for methods that would reduce the high number of traits. The way that Gordon Allport and his colleague Henry Odbert managed this issue was to look up all personality descriptors in the dictionary (Allport & Odbert, 1936). Their method was a lexical study guided by the following hypothesis: all important personality characteristics should be reflected in the words that people use to describe one another. They picked up every single personality descriptor they could get from the dictionary (they began with nearly 18,000 words but rapidly narrowed this list to

a number easier to manage) and then applied statistical techniques with the aim of establishing which words could “go together”.

For example, if everyone who use the adjective “friendly” to describe a personality, also use the word “sociable” or “gregarious”, then this suggest that personality psychologists probably need one single trait to investigate individual differences in this context. In this case, we can summarize this personality dimension with a unique word: “extravert”. Once we know she is an extravert, we can assume that she is sociable, friendly, gregarious and all other related synonymous.

In other words, overlapping traits can be grouped together as a broad aspect or dimension of personality. (Matthews et al., 2003, p. 5)

So, thanks to the lexical approach and the use of statistical techniques they could affirm that a small number of dimensions could underpin all the thousands of words we use to describe people. (Brewer, 2019, p. 281)

So, trait psychologists concluded that there are a limited number of dimensions like extraversion, conscientiousness, or agreeableness and every single person enter somewhere into each dimension, therefore an individual can be classified as low, medium, or high on any specific trait.

1.3.2 - THE BIG FIVE MODEL

Personality traits can be measured according to a range of different methods and scales. One of the most widely accepted system is the five factor model or the Big Five. This model and psychological theory assumes that personality may be described by five general factors. (Gustavsen & Hegnes, 2019, p. 2) A way to remember these five is with the acronym OCEAN (O is for Openness; C is for Conscientiousness; E is for Extraversion; A is for Agreeableness; N is for Neuroticism).

But is it possible to summarize your entire personality with scores based on just five personality traits? Obviously not. They will be never able to capture the complexity of your own characteristic patterns of thoughts, feelings, and behaviors. For example, there may be friendly and warm people that easily communicate with strangers but at the same time are terrified of performing or speaking in front of a large public. That is because there are different ways of being extraverted or conscientious which demonstrate the need for facets - lower-level units of personality that are more specific than the Big Five traits. Facets are used to provide more detailed descriptions of what a person is like.

Trait	Facets of Trait
Openness	• Fantasy prone • Open to feelings • Open to diverse behaviors • Open to new and different ideas • Open to various values and beliefs
Conscientiousness	• Competent • Orderly • Dutiful • Achievement oriented • Self-disciplined • Deliberate
Extraversion	• Gregarious (sociable) • Warm • Assertive • Active • Excitement-seeking • Positive emotionality
Agreeableness	• Trusting • Straightforward • Altruistic • Compliant • Modest • Tender-minded
Neuroticism	• Anxious • Angry • Depressed • Self-consciousness • Impulsive • Vulnerable

It is important to stress that even if psychologists and personality experts generally agree about the value of the Big Five traits as a method to outline people's personality, a broadly accepted list of facets does not exist. The list in figure n.3, based on work by researchers Paul Costa and Jeff McCrae, represents only one possible list amongst many.

1.4. - THE FASHION INDUSTRY

“Call it ‘Eco Fashion’ if you like, but I think it’s just common sense.”

Livia Firth

In the following pages this study aims at finding out a relationship between each personality trait and the willingness to pay of consumers for sustainable products. But in detail, we will focus our attention on one specific category of products, we will talk about sustainable fashion.

As an industry, textiles and clothing was the primary driver of the Industrial Revolution in Great Britain, and now the industry is once again at the forefront of a revolution.
In fact, in the process of ensuring sustainable consumption and production patterns, the fashion industry is one of the most important players. The reason is that there are many and severe social and environmental externalities connected to this sector.

The clothing production process consists of various stages, starting with the extraction of raw materials, production of fibers and yarns for obtaining fabric, assembly, packaging, transport and delivery, consumer use and final disposal. The entire procedure is sadly known to be characterized by high water usage, pollution derived from chemicals used in dyeing and the difficulty of recycling fashion products which eventually finish in landfills or are incinerated. (Peters et al., 2021, p. 2) (Long & Nasiry, 2022)

1.4.1 - “FAST FASHION” PHENOMENON

The increasing negative effects on the environment may be due to a significant growth in clothing consumption and, consequently, textile production. Data shows that fashion brands produce nearly double the amount of clothing today compared to before the 2000s.

From 2000 to 2014, the US textiles and clothing waste increased 70%, to 16 million tonnes. Companies such as H&M have also come under fire for incinerating leftover stock, highlighting the over-production problem in the industry. (Long & Nasiry, 2022)

Behind the drastic intensification in textile manufacturing and consumption there is the advent of the so called “fast fashion” phenomenon which has revolutionized the clothing industry over the past decade. (McNeill & Moore, 2015, p. 213)

Its business model is characterized by short product life-cycles, so consumers have new styles of clothing available very week in the form of low-priced. This scenario determined the success of brands such as Zara, H&M, Mango which were able to provide reinterpretations of runway clothes as fast as possible in order to stay on top of the latest trends (Zamani et al., 2017). Fast fashion has led to a culture of impulse buying and recurring consumption, trying to generate a feeling of urgency when purchasing.

This business model has been hugely successful, especially because the rising efficiency in production has driven the price of clothing very low. Low costs further exacerbate the phenomenon of buying more and the less frequent use of articles, encouraging the fast-fashion model.

How can prices be so low? Prices of traditional products that negatively impact the nature do not include all environmental costs of their production. Externalities linked to their production are usually absorbed by society, resulting in lower prices for customers. Conversely, in the production of more sustainable goods all costs are transferred to the consumer in the form of higher prices.[17]

Research suggests that the phenomenon of fast fashion is particularly salient amongst young female consumers, who have little awareness of the social impact of their fashion consumption but exhibit the highest level of demand for new fashion items.

Generally, in recent years, research has demonstrated is that consumer knowledge about environmental issues resulting from the production, distribution, and consumption of clothing and textiles is low (Colasante & D’Adamo, 2021, p.5).

1.4.2. - ENVIRONMENTAL FOOTPRINT OF FASHION

Given the global proliferation of fast fashion and the volume of items produced (and wasted), the fashion industry represents a key environmental threat. In the following pages, we will analyze in detail the main environmental problems related to that sector.

Carbon footprint

According to a United Nations' report, the fashion industry accounts for 10% of global greenhouse gas emissions because of its long supply chains and energy intensive production process. Essentially, this sector consumes more energy than aeronautics and maritime transport industry put together. (United Nations, 2018)

High levels of energy and CO2 emissions derive from different phases: textile manufacturing, consumer use (namely, laundering) and shipping. However, during the entire life cycle of an article, the highest level of energy consumption and CO 2 emission is registered during initial fiber extraction, in particular for synthetic fibers, like acrylics, since they come from fossil fuel.

In order to reduce the greenhouse-gases impact of the fashion industry, we should decrease production volumes and non-renewable energy consumption, polyester should be replaced by renewable plant-based textiles and sustainable shipping should be encouraged.

Water use

The majority of water usage in fashion is connected with cotton cultivation and all the wet procedures involved in the textile manufacturing, such as bleaching, dyeing, printing and finishing.

Data from United Nations show us that to produce one pair of denim jeans, 10,000 liters of water is required to just grow the one kilo of cotton needed for the pair of jeans. To make a comparison, it would take 10 years for a person to drink the same quantity of water. Overall, the fashion industry is responsible for about 20% of the world's wastewater. (United Nations, 2018)

Notable denim maker Levi Strauss & Co. (2015b) released a life cycle assessment (LCA) report on its products, indicating that about 3781L of freshwater was consumed and 33.4kg of CO^2 of greenhouse gas was emitted throughout the lifetime of a pair of cotton jeans. (Luo et al. 2022)

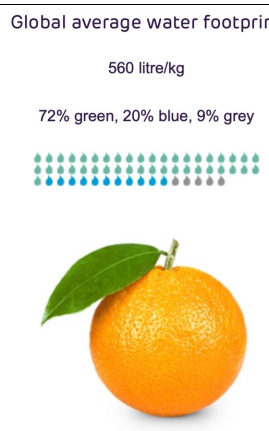
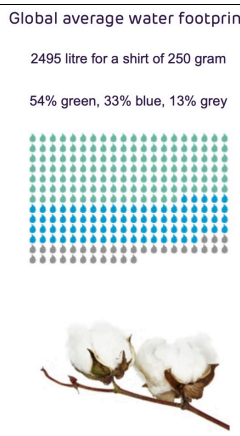
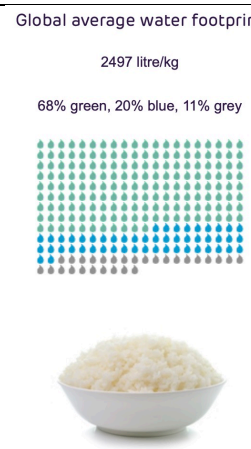
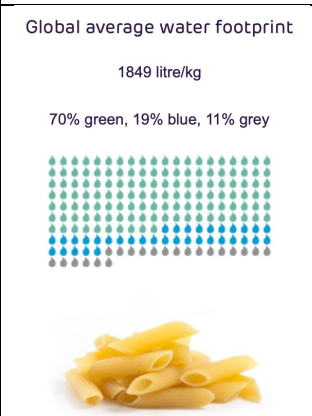
ORANGE	COTTON	RICE	DRY PASTA
On average, one orange (150 gram) has a water footprint of 80 litres of water. Orange juice costs 1020 litres of water per litre of orange juice. One glass of orange juice (200 ml) costs about 200 litres of water.	The global average water footprint of cotton fabric is 10,000 litre per kilogram. That means that one cotton shirt of 250 gram costs about 2500 litre.	Paddy rice (the rice as harvested from the field) requires 1670 litres of water per kg	The global average water footprint of wheat is 1827 litre/kg. About 80% of this amount is allocated to the flour that is derived from the wheat; the rest is attributed to wheat pellets, the by-product.
			

Table n. 1: this table compares the global average water footprint of different goods/products that we commonly use in our everyday life. It has been created using data collected by the website www.waterfootprint.org

It is evident that among those selected goods, cotton is the one which require the highest amount of litres of water per kilogram.

Apart from worsening water shortage, clothes production has consequences on local water supplies by generating wastewater. Since some chemicals used during manufacturing are toxic, they might enter local groundwater and contribute to the degradation of the entire ecosystem, if wastewater is treated improperly.

Chemical use

Starting from the moment of fiber production, a lot of pesticide, insecticide, herbicides, growth regulators, desiccants and defoliants are used. Agrochemicals infiltrate the soil causing a reduction

of soil biodiversity and fertility, the interruption of biological processes and the destruction of microorganisms, plants and insects.

Many chemicals used in textile manufacturing are associated with other production phases such as spinning, weaving and wet processing (solvents, bleaches, softeners, dyestuffs, and many others). They represent a significant environmental risk since they can spread at global level and bioaccumulate (have a gradual intensification in organisms) resulting in higher cancer risk, allergic reactions, and other diseases.

In 2011, Greenpeace released the "Dirty Laundry" report, exposing hidden links between textile manufacturing facilities in China that discharge hazardous chemicals into the water, and several international leading brands. (Grappi et al. 2017, p. 1165)

Some improvements have been made inside the EU: member States have agreed some regulations and laws with the aim of reducing chemicals usage. However, a great percentage of garments consumed in European countries have been effectively produced outside of the EU, making it difficult to establish the total chemistry use.

It's become clear and known that fashion brands try to reduce production costs by moving manufacture activities in areas where environmental regulations are weak and where there is no need for pollution-mitigating technologies. This kind of unethical behavior and production practices causes not just high environmental impacts from chemical usage but also increases health problems of plant employees, cotton farmers and final consumers.

Textile waste

Finally, clothes production and consumption contribute to increase the amount of global solid waste. The Environmental Protection Agency (EPA, 2006) reported that annually the American fashion industry generates 12 billion tons of textile waste, included both pre- and post-consumer waste.

European countries historically faced the problem of textile waste by exporting old garments to developing countries, for example in Africa. But nowadays because of the huge amount of waste production, this practice is not sustainable anymore. Many developing countries do not allow textile waste to be imported for mainly 2 reasons: to defend their domestic production (that's the case of Turkey and China) or because markets are oversaturated by second-hand clothes, which have substituted local manufacture.

- Pre-consumer waste in textile sector is also known as production waste since it is generated during the manufacturing phase, for example it can derive from the cutting phase of garments. It comprises fibre, yarn and fabric waste, the latter represents the largest waste of resources. In order to reduce the quantity of pre-production waste, output levels must be reduced, and they companies should improve communication between design and manufacturing. (Niinimäki, 2018, p. 181) Recently, a particular consideration was also given to the so-called deadstock - a type of pre-consumer waste. They consist of new and unworn garments that have not been sold or which have been returned (which often happens in online shopping). A stinking example concerns the well-known Swedish fast-fashion brand H&M: in 2018 The Financial Times reported that the company is struggling with a mounting stack of unsold inventory which worth $4.3 billion. (Paton, 2018)

  And on top of that, the incineration of deadstock also generates additional emissions and air pollutants than reuse or recycling.

- Post-production waste comprises garments discarded by consumers. Birtwistle and Moore have conducted a study among fashion consumers which further indicates that fast fashion promotes a “throwaway culture”. That is because impulsive buying driven by momentary trends lead us to forget the intrinsic value of products and the impact they will have on the environment. Consumers are encouraged to substitute and dispose of goods before their actual life-cycle is completed. (Birtwistle & Moore, 2007, p.214) The result is that our wardrobes are overflowing with purchased objects which have been worn only one time and then not used anymore.

Social consequences

Besides environmental problems, the textile industry is guilty of many negative social consequences: instances of long hours, low wages, unhealthy and unsafe working conditions, child labor, emotional or physical abuses from supervisors, locked dormitories, and the exploitation of pregnant workers (Peters et al., 2021, p. 8) (Kim et al. 2012, p. 245)

In conclusion, today’s business logic in the fashion sector relies on steadily growing production and sales, fast manufacturing, items with poor quality and short life cycles, which all together cause unsustainable consumption, a lot of waste and huge negative environmental impacts.

That's enough! This whole mechanism must change and slow down. In this way we could benefit from superior quality products which demonstrate an ethical, environmental, and social engagement, enabling us to appreciate and value them even over time.
The future is green: the modern consumer is ready to switch to a more conscious buying which satisfies his ethical and moral identity. (Legere & Kang, 2020, pp. 2-11) Indeed, consumers are usually prone to buy goods which make them feel better, because by fulfilling a set of values, they can enhance their self-image. Psychological human needs involve affection, empathetic, involvement, creation, identity and freedom. Clothing is considered a prominent tool used to create one's expressed identity or personal style, (Niinimäki, 2018, p. 44) but it also enables participation in social groups and class, and creativity.

For example, Kirsi Niinimäk in his study came to the conclusion that moral, ethical and personal ideology represent a potent value in clothing buying decisions (Niinimäki, 2009, pp. 150-151). If a consumer has a strong ethical commitment, it means that he cares about issue such as protecting the environment or making sure that companies' employees are paid fair wages. For him, wearing slow fashion clothes may represent a way of achieving ideal self-concept since he conveys an image that emphases both aesthetic uniqueness and concern for sustainability matters.

As we already stated, "everyone's attitudes and behaviors are influenced by personality." That is the reason why I have chosen to analyze the relationship between WTP and the Big Five. Personality is mistakenly not always taken into consideration by companies' strategies. Economists should be interested in understanding the impact of individual preferences, personal constraints on consumers' decisions. Knowing which personality trait guides particular behaviors may help Marketing managers to improve their strategies of communications, adapting and customizing them according to it.

The Big-Five representation is the most used model in studies that aim to investigate the effects of personality in specific actions or lifestyles. Due to its widespread use, this approach gained a good reputation in terms of reliability.

Many studies already came to important conclusions about the relationship between the Big Five and environmental concern and/or attitudes in general. For example, according to the literature, people who demonstrate to have personality traits of openness and agreeableness are more concerned about the environment. This may be due to the fact that agreeableness implies a higher level of empathy, care for others and cooperation.

Others concentrate on the willingness to pay for green products as a whole category of goods. the study conducted by Gustavsen and Hegnes (2020), instead, concentrate just on the consumption of organic food, concluding that agreeable and open people are more willing to buy organic food, while extraversion is negatively correlated.

But little research has been done in the field of sustainable apparel. Other studies related to fashion analyzed secondary personality traits such as local identity (Ng et al., 2021), skepticism (Kwong & Balaji, 2016), and frugality (Wang et al., 2021).

Through this study, I will try to fulfill the gap I found in the literature: trying to determine the relationship between each personality trait and the WTP of consumers for sustainable apparel.

These are just some of the studies on which my research is based, and which have been fundamental for the formulation of my key research question.

Table n. 2 The most significant scientific articles related to sustainable fashion, consumers' willingness to pay and personality traits

Title, author, year, scientific journal	**Main topic**	**Type of analysis**	**Content and purpose**	**Results and conclusions**	**ΔP WTP in %**	**ΔP WTP in €**
Personality predictors of Consumerism and Environmentalism : A preliminary study Hirsh J.B, Dolderman D. (2007) Personality and Individual Differences	Big five personality trait as predictors of consumerism and environmentalism	Quantitative research: a survey submitted to 106 undergraduate students from the University of Toronto (age from 17 to 45)	The study assessed the personality, consumer goals, and environmental attitudes of students in order to predict two opposite notions: environmentalism and consumerism	The big five resulted significant for the analysis: agreeableness negatively predicted consumerism, while both agreeableness and openness positively predicted environmentalism	WTP is not covered.	WTP is not covered.

Linking green skepticism to green purchase behavior Kwong Goh S., Balaji M.S. (2016) Journal of Cleaner Production	Skepticism and its influence on green purchase behavior	Quantitative research based on a survey submitted to 303 respondent s in Malaysia	Firms are increasingly communicatin g false or ambiguous environmental information which lead customers to become skeptical towards the benefits of green products. So, this study aims at investigating how skepticism influence green purchase behavior.	The study demonstrated that skepticism has an indirect negative effect on green purchase intentions: customers with high level of skepticism towards green products, are likely to have lower concern and lower knowledge about environmental issues.	WTP is not covered.	WTP is not covered.
Individuals' personality and consumption of organic food Gustavsen G. W., Hegnes A. W. (2019) Journal of Cleaner Production	Big five personality trait and consumption of organic food	Quantitative research which makes use of the Graded Response Model to estimate the latent Big Five personalities.	This paper adds to the debate on sustainable food consumption by probing the relation between individuals' personality and choice of organic foods.	The results indicate that openness to experience is positively related, while extraversion is negatively related, to the attitudes of organic foods. Some of the tests showed positive relations between agreeableness and attitudes towards organic foods. In addition, individuals high in conscientiousn ess have a lower willingness to pay for organic foods compared with conventional foods.	WTP is not covered.	WTP is not covered.

Influence of personality on ecological consumer behaviour Fraj E., Martinez E. (2006) Journal of Consumer Behaviour	Analysis of the variables that shape the ecological consumer	The study conducted a survey with a random sample of 573 individuals	The study uses a theoretical model which included the Big-Five Factor Structure scale and the environmental attitude dimension referred to as ''actual commitment'' to measure personality and ecological behavior, respectively.	Findings reveal that personality is a multifaceted concept, which is positively related to ecological behavior. Firms should focus on those people who are characterized by personality features such as extroversion, agreeableness and conscientiousness in order to persuade them to demand their products.	WTP is not covered.	WTP is not covered.
Fashion clothing where does it all end up? Birtwistle G. & Moore C. (2007) International Journal of Retail and Distribution Management	How consumers dispose of fashion products	Qualitative study: exploratory examination of the experiences of UK consumers and charity shops managers.	Increasing volumes of textiles are being produced, purchased and disposed of in landfill sites, which affect the environment. Research has identified the influences in increased purchase behaviour and the tendency to keep clothing for a shorter time. The purpose of this paper is to investigate how consumers dispose of fashion products and how it might be possible to	This qualitative study identifies consumers' lack of understanding of how their behaviour affects the environment and key informant interviews explore how clothing can be re-used and recycled.	WTP is not covered.	WTP is not covered.

			increase sustainable consumption of textiles.			
Consumers' preferences, attitudes and willingness to pay for bio textile in wood fibers Notaro S., Paletto A. (2021) Journal of Retailing and Consumer Services	Consumers' willingness to pay	Quantitative research: data were collected face-to-face to a sample of 696 consumers through Contingent Valuation.	This study estimates Italian consumers' willingness to pay for three bio textile products made from certified wood (socks, T-shirt and shirt).	The results show a significant premium price, ranging from 64% to 128% depending on the products, and that respondents with a higher environmental concern are more willing to pay for bio textile products.	Consumers' WTP for bio textile product +64% or +128% It depends on the product	WTP is expressed just in %.
A study of the willingness of Spanish drivers to pay a premium for ZEVs Rosales-Tristancho A., Carazo A.F., Brey R. (2021) Energy Policy	Consumers' willingness to pay	Quantitative research based on a survey submitted to 1474 Spanish drivers	The aim was to assess Spanish drivers WTP for ZEVs (Zero Emission Vehicles).	Purchase prices emerge as a major obstacle for most of the sample. The results reveal the existence of different subpopulations with different profiles and willingness to pay. Earlier adopters are those with a higher level of education, higher income level, more extensive knowledge of ZEVs, and greater awareness of the negative consequences of the use of fossil fuels in transportation in terms of environmental pollution and economic dependence.	WTP is expressed just in €.	The 50% of the sample is willing to pay, on average, +2500 €

The circular economy and bioeconomy in the fashion sector: Emergence of a "sustainability bias" Annarita Colasante, Idiano D'Adamo (2021) Journal of Cleaner Production	Consumers' willingness to pay for bio-based clothes and second-hand clothes.	Quantitative research based on an online survey administered to a sample of 402 Italian consumers	The study aimed at assessing consumer attitudes towards the fashion sector, particularly with respect to the bioeconomy and the circular economy.	In the secondhand market representing a pillar of the circular economy respondents were reluctant to purchase used clothes because perceived as poorquality products. In. fact, respondents were willing to pay a lower price for a second-hand tshirt, resulting in a negative premium (−57%). Instead, it was positive for bio-based clothes (+23%).	Negative premium (−57%) for a second-hand tshirt. Positive premium for bio-based clothes (+23%).	WTP is expressed just in %.
The Big Five personality traits as antecedents of eco-friendly tourist behavior Olga Kvasova (2015) Personality and Individual Differences	Big Five personality traits and eco-friendly tourist behaviour.	Quantitative research based on a survey administered to a sample of 227 foreign tourists who visited Cyprus.	This article aimed at identifying the relationships between the Big Five personality dimensions and tourists' environmentalism.	Structural equation modeling revealed that Agreeableness, Conscientiousness, Extraversion, and Neuroticism are positively associated with pro-environmental tourist behavior. In contrast, no significant relationship was observed between Openness and ecological action.	WTP is not covered.	WTP is not covered.

Price premium of organic salmon in Danish retail sale Isaac AnkamahYeboah, Max Nielsen, Rasmus Nielsen (2016) Ecological Economics	Price premium for organic salmon	Consumer scanner data were used to determine the existence and magnitude of the retail price premium for organic labeled salmon products.	This study identifies the price premium for organic salmon in Danish retail sale using consumer panel scanner data from households.	A price premium of 20% was identified for organic salmon. The magnitude of this premium is comparable to organic labeled agricultural products and higher than that of eco-labeled capture fishery products, such as the Marine Stewardship Council. This indicates that the organic label also used for agricultural products may be better known and trusted among consumers than the eco-labels on capture fishery products.	A price premium of 20% was identified for organic salmon.	WTP is expressed just in %.
Influence of perceived value on purchasing decisions of green products in Brazil Janine Fleith de Medeiros, Jose Luis Duarte Ribeiro, Marcelo Nogueira Cortimiglia (2016) Journal of Cleaner Production	The influence of perceived value on purchasing decisions of green products, applied in the automotive and furniture sectors.	Quantitative experimental approach was employed. The research was conducted in the city of Porto Alegre, Brazil. A total of 100 subjects were interviewed.	The study investigates the relationship between consumer perceived value for green products and their WTP, in the automotive and furniture sectors.	It was found that perceived value of green products increases willingness to pay in the purchasing decision. It was also observed that demographical variables, such as gender, age and revenue positively impact perceived quality and the consequent purchase intention. Respondents were willing to	Those with high declared environmental awareness are willing to pay a 10% premium on average. Circa 7%, for green automobiles, which are more expensive. Circa 12% for a cheaper product (green furniture).	WTP is expressed just in %.

				pay, on average, a 10% premium for green products in the studied product categories.		
Effects of quality claims on willingness to pay for organic food Marin Cagalj, Rainer Haas, Ulrich B. Morawetz (2016) British Food Journal	Influence of claims about organic products (environmental impact, health effects and taste) on the WTP	For estimating the WTP under different claims the authors used an experimental auction. Participants (258) bid for real food products (organic and conventional tomatoes and apples) and are endowed with cash at a location where they usually go shopping.	The purpose of this paper is to quantify how much environmental claims and health claims would change the willingness to pay (WTP) for organic products in Croatia.	For the sample the authors find that consumers are willing to pay on average a premium of 42 percent for organic apples and 59 percent for organic tomatoes. On top of that, WTP increases between 16-20 percent for environmental claims and 12 percent for health claims.	Average premium price of 42% for organic apples and of 59% for organic tomatoes. WTP increases 16-20% for environmental claims and 12% for health claims.	WTP is expressed just in %.
A theoretical investigation of slow fashion: sustainable future of the apparel industry Sojin Jung and Byoungho Jin (2014) International Journal of Consumer Studies	Dimensions of slow fashion	Quantitative research based on two surveys: one student sample (121 valid answers) and one nonstudent sample (122 valid answers).	The purpose of this study is to explore the dimensions of slow fashion through measuring consumer orientation to slow fashion.	The identified five dimensions clearly show that slow fashion is a broader concept than environmental sustainability alone, encompassing (1) caring for producers and local communities for sustainable life (equity and localism); (2) connoting history for sustainable perceived value of the product	WTP is not covered.	WTP is not covered.

				(authenticity); (3) seeking diversity for the sustainable fashions world (exclusivity); and (4) maximizing product lifespan and efficiency for a sustainable environment (functionality).		

2 – KEY RESEARCH QUESTIONS

Taking into consideration the literature about sustainable fashion and environmental concern, I derived the hypotheses for how each of the Big Five personality traits may affect consumers' WTP for sustainable apparel. In the following section we introduce the personality traits that I assumed to be relevant for the purpose of my study and discuss their impact on buyers' WTP.

Table 2 summarizes the studies and scientific articles that I have considered in the formulation of my hypotheses thanks to their focus on some of the fundamental elements of my research, namely, consumers' point of view, personality traits, sustainable products, environmental concern and sustainable fashion.

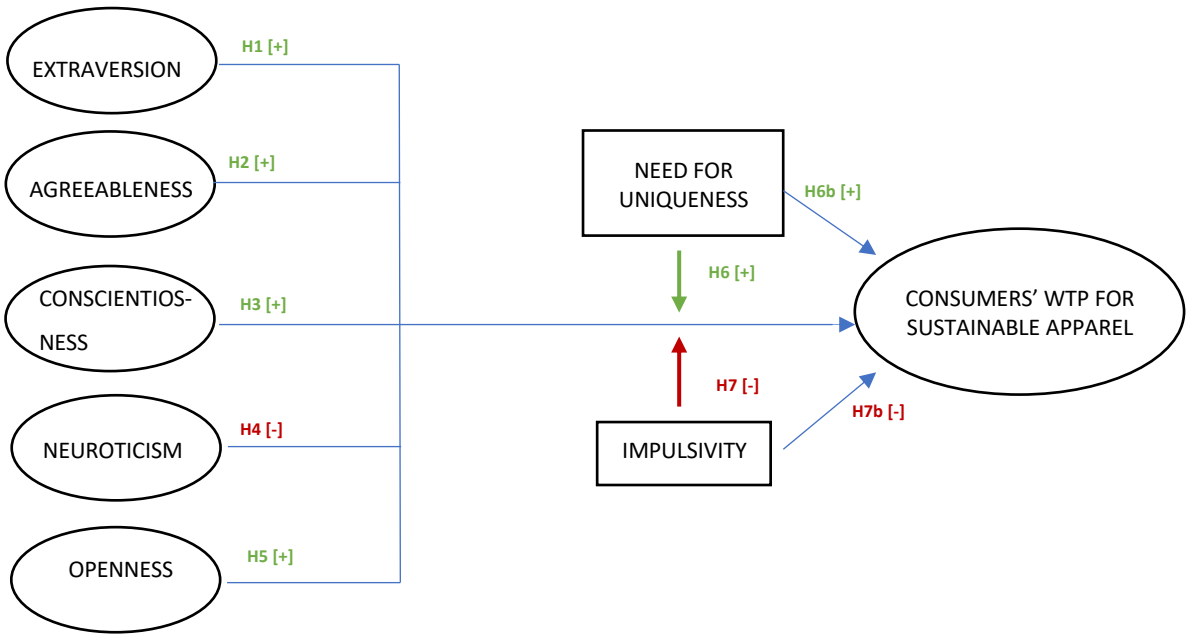
Table n. 3 - The most relevant scientific articles for my study and how they differ from my key research question

		Personality traits		***Sustainable products***		
Author and year of publication	***Consumer' WTP***	***Big 5***	***Others***	***Sustainable apparel***	***Others***	***Environmental concern***
Hirsh J.B, Dolderman D. (2007)		★				★
Gustavsen G.W., Hegnes A. W. (2019)	★	★			Organic food	
Quintelier E., (2014)		★				★
Kwong Goh S., Balaji M.S. (2016)			Skepticism		Green products	★
Notaro S., Paletto A. (2021)	★			★		★
Fraj E., Martinez E. (2006)		★				★
Legere A., Kang J. (2020)	★		Moral self-identity Proximity of clothing to self	★		
Biswas A., Roy M. (2015)	★				Green products	
Colasante. A., D'Adamo I., (2021)	★			★		

de Medeiros J. F., Ribeiro J. L., Cortimiglia M. N., (2016)	★				Automobiles Furniture	
Kvasova O. (2015)		★			Eco-friendly tourist behavior	

Before analyzing each single personality trait individually and discursively, the following model (Graph n.1) present the hypothesized research model. It summarizes graphically the assumptions made about all five personality traits, in order to globally understand the model that we are going to test.

Exhibit n. 1 - hypothesized research model



2.1. - FORMULATION OF BIG FIVE HYPOTHESES

First of all, it is interesting to point out that each of the five personality traits consists in an interval that goes from one extreme to another. For example, extraversion represents an ongoing series between extreme extraversion and extreme introversion. In the real world, most people lie somewhere in the middle of the two polar extremes of every dimension.

EXTRAVERSION

To most people, the term “extravert” quickly conjures up an image of one who seeks out and enjoys the companionship of others – one who is poised, confident, and facile in social situations.

Indeed, individuals with high score in extraversion usually enjoy being socially involved. They are characterized by warmth, excitability, positive emotionality, high energy, assertiveness, and an outgoing nature (Giluk & Postlethwaite, 2014, p. 60). Extraversion implies behaviors like adventuring without hesitation into unknown territory and being notably attracted by people and events in the external world. (De Raad, 2000, p. 88)

McCrae and Costa (1999) noted that extroverts tend to have a lot of friends, they usually enterprise vocational interests, and social skills (Witt, 2002, pp. 835-851) since being around other people helps them feel energized and excited.

On the other side of the coin are introverts - people who are low in extraversion. Conversely, introverts can be broadly sketched as more quiet and reserved, less exuberant and energetic than extraverts. Introverts are likely to be more reserved, they have a deep interest in their own psyche, and they often prefer to be alone (De Raad, 2000, p.88). Social events are perceived as exhausting and make them feel draining; in these occasions, introverts often require a period of solitude and quiet in order to "recharge."

Since extraverts are sociable people with an extensive social circle, we can derive that they have a higher probability to come in contact with people who cares about the environment and buy green products. (Quintelier, 2014, p. 344) This does not automatically mean that they actively purchase sustainable goods for themselves, but at least, they have the opportunity to conversate about natural and environmental issues, which could make them more likely to buy eco-friendly products.

Some environmental studies are inconclusive about the relationship between extraversion and environmental concerns (Hirsh & Dolderman, 2007) did not find any association between these two variables.

However, other authors (Markowitz et al., 2012), (Fraj & Martinez, 2006) have been able to find a significant positive relationship between extraversion and environmental engagement and pro-environmental behavior. Markowitz affirmed that individuals with high levels of extraversion are people-oriented and tend to have a positive environmental attitude. (Markowitz et al., 2012, pp. 81–111)

High levels of extraversion also tend to be associated with self-expression. As we stated before, clothing is considered a fundamental tool used to create one's expressed identity or personal style and it also enables participation in social groups and class – which are fundamental characteristics of this personality trait.

Consequently, we can apply those findings to the textile industry in our study and hypothesize that:

(H1): There is a positive relationship between extraversion and the willingness to pay for sustainable clothes

AGREEABLENESS

Among all dimensions in the Big Five method, agreeableness is probably the most misunderstood. Some researchers have complained about the label “agreeableness” because it is considered a term too simplistic for such a large, ubiquitous concept. (Graziano et al. 1996, pp. 820–835)

The agreeableness dimension is about how people deal with interpersonal relationships. Individuals who have agreeable personalities probably appreciate the company of other people and have a better ability to communicate and relate with others. In addition, they generally tend to have an optimistic view of human nature. Consequently, those factors make it easier for them to create and maintain relationships. (McAdams et al., 2018, p. 177)

Agreeableness denotes an overall inclination toward cooperation and altruism, as opposed to exploitation and lack of concern for others. The agreeableness trait normally includes characteristics such as compassion, compliance, politeness, empathy, and humility.
Like the other traits in the Five Factor Model, agreeableness is a bipolar trait. Low levels of agreeableness imply a predisposition to aggressivity, hostility, manipulation, cruelty, and inflexibility. (Graziano & Tobin, 2009, pp. 46–61) Those individuals normally consider their own interests above those of others, they tend to be distant, unfriendly, and uncooperative.
Instead, high levels of agreeableness denote individuals which are helpful, warm, trusting, friendly, supportive, and sympathetic. Agreeable people have the propensity to be altruistic, enthusiastic to facilitate others, they are able to regulate interaction problems between groups and enable the connection among people. (Parra et al., 2022, p. 655)

In previous research, greater environmental concern was related to higher levels of the Big Five personality trait of agreeableness. (Hirsh & Dolderman, 2007), (Tang & Lam, 2016) .
Agreeableness, in fact, is associated with being a ‘good citizen’, which lead agreeable individuals to support pro-environmental actions, because they believe that such behavior is socially adequate and contributes to the welfare of the society.
For them, it is easier to be concerned and take actions about environmental problems since they hold a selflessness orientation, they are cooperative towards others and are willing to compromise their own interests. So, we can assume that even during their purchasing decision process they take

into consideration the well-being of our planet and of future generations, choosing to buy sustainable products of different kind. In our case, we can apply the same reasoning to the textile industry, for example, agreeable people will probably be willing to pay more for a t-shirt with natural dyeing which avoid the dispersion of chemicals on the Earth and on organisms.

Individuals who are lower in agreeableness, instead, tend to be more selfish generally speaking, and are less concerned about the welfare of others. They only cares about their personal interests and even during their shopping time they will consider more superficial aspects such as the external beauty and the current mode.
From these conclusions, we can derive the following hypothesis related to the Big Five personality trait of agreeableness:

(H2): There is a positive relationship between agreeableness and the willingness to pay for sustainable clothes

CONSCIENTIOUSNESS

Conscientiousness has been defined as “the tendency to be organized, responsible, and hardworking” and as “the propensity to follow socially prescribed norms for impulse control, to be goal directed, to plan, and to be able to delay gratification and to follow norms and rules”. (Roberts et al., 2009, pp. 369–381)

A conscientious individual is characterized by the following adjectives: systematized, careful, goal-directed, responsible, punctual, trusty, self-disciplined. To cite a few synonyms, they are: “organized, punctual, and reliable,” while the opposite – who have low scores of conscientiousness – can be defined “unreliable, negligent, and careless”.

Conscientiousness is characterized mainly by 2 aspects:

- Industriousness: which involves self-discipline and the tendency to work hard and effectively without being distracted before tasks are completed. This aspect is characterized by a high degree of organization, persistence, and motivation in non-immediate goals. McCrae and Costa (1999) suggested that conscientious individuals usually have long-term plans and technical expertise (Witt, 2002, pp. 835-851) which explain their ability to plan for the distant future.

- Orderliness: which includes neatness and perfectionism. This aspect mainly reflects variation in the mechanisms that allow people to follow explicit rules.

This particular dimension of the Big Five approach, does not seem to have any direct correlation with environmental concern. However, if conscientious people consider the nature preservation as their duty, then in this case they may be more incline to consume sustainable products. (Quintelier, 2014, p. 344)

Moreover, individuals who score high in conscientiousness are expected to carefully follow social guidelines and norms, which obviously include also pro-environmental actions. Whereas less conscientious individuals might be more willing to ‘‘cut corners’’ when it comes to environmentally responsible behavior.

Besides the tendency to follow social norms, conscientious individuals might also have a higher concern for future outcomes. Thinking about the well-being of future generations is a fundamental

topic in the Brundtland definition of sustainable development. Indeed, conscientiousness has been shown to be positively related to future time perspective. Since they tend to act dutifully and show self-discipline, they are able to obtain better outcomes in the future, including better environmental outcomes.

After all that have been declared before, we can formulate the following hypothesis:

(H3): There is a positive relationship between conscientiousness and the willingness to pay for sustainable clothes

NEUROTICISM

The opposite of neuroticism is emotional stability, which means being relaxed, calm, self-satisfied, and secure. While the adjective neurotic or unstable refers to individuals which are passionate and nervous. (Parra et al., 2022, p. 656)

Neuroticism is a personality trait that reflects the tendency to be interpersonally sensitive and the tendency to experience high levels of anxiety, irritability, fear, sadness, anger, vulnerability, guilt, insecurity, and self-pity (Leary & Hoyle, 2009). Neurotic individuals tend to experience such negative emotions because they are more susceptible to psychological stress, as they ‘‘are likely to interpret ordinary situations as threatening and can experience minor frustrations as hopelessly overwhelming’’ (Leary & Hoyle, 2009, pp. 129-146). Indeed, it has been affirmed that the neurotic cope poorly with stress, they tend to adopt coping strategies such as denial, withdrawal, and wishful thinking (Wood et al., 2022, p. 2).

A clear example has been provided by an early study of Campbell (1933). He found out that neurotic students cheated more frequently on exams, adopting strategies like making use of prepared or the textbook, or suggesting answers with each other’s (Giluk & Postlethwaite, 2014, p. 60). Such behavior is not surprising. Those who have high score in neuroticism are likely to perceive a difficult test or exam as a threat and may be easily overwhelmed by the questions. Unfortunately, their misbehavior may represent just a temporary way out of stress but it’s not effective on the long run.

So, what influence might neuroticism have on the inclination to go green?

The literature about the relationship between neuroticism and eco-friendly behavior is plenty of contradictory findings. For instance, Hirsh and Dolderman (2007) and Fraj and Martinez (2006) did not find any relationship between Neuroticism and ecological concerns. The study of Kvasova (2015) assumed and confirmed a positive relationship between neuroticism and pro-environmental tourist behavior. This result can derive from the fact that more neurotic individuals tend to respond more emotionally to all kinds of negative scenarios, and they are more worried about any

phenomenon with negative consequences (including increasing environmental degradation), therefore they try not to contribute to environmental degradation.

Nevertheless, considering what have been affirmed before about the characteristics of neurotic individuals, we will go against the grain. Neurotic people generally are less trusting, it means that they do not easily believe to the positive effects of sustainable products and therefore are reluctant to buy them. People high in neuroticism tend to perceive negative situations in general, as impossible to solve. If we apply this vision to our context, we obtain that according to neurotic people, purchasing sustainable apparel will be useless because the environmental degradation cannot be solved by simply changing our consumption habits.
This suggest that the neurotic consumer characterized by high level of impulsivity may not be willing to pay for sustainable clothes:

(H4): There is a negative relationship between neuroticism and the willingness to pay for sustainable clothes

OPENNESS

The last trait of the Big Five model is “openness”, also called “intellect” or “openness to experience”. It involves the tendency to be imaginative, intelligent, creative, curious, flexible and broad-minded (Parra et al., 2022, p. 655).

This category includes intellectually curious and imaginative individuals who are likely to enjoy the process of exploring and discovering new activities, ideas or methods. They are characterized by the willingness to immerse themselves in atypical experiences. Openness to experience describes people who are not rigid in their own views, they embrace universalistic positions with a high degree of tolerance for all people. (Quintelier, 2014, p. 343-344)

For those reasons people high in openness/Intellect usually are able to elaborate more complex and extensive interpretations of the world than others, (Giluk & Postlethwaite, 2014, pp. 59-67) and they are therefore likely to use more creative and innovative strategies to achieve their objectives. The adoption of flexibility in thought can help open people to afford a greater aesthetic appreciation of natural beauty. It has been demonstrated that individuals who are intellectually curious, appreciative of art, and sensitive to beauty are more likely to hold unconventional beliefs, such as those related to the environmental movement and environmental protection. This may be due to the aesthetic sensibilities of individuals with high levels of openness which may enhance their experience of nature and increase their personal valuation of the natural environment. Less open individuals, in contrast, are likely to have a narrower and more conservative perspective on nature’s value

Different studies in fact, affirm that people who are open to experience have a greater concern for the environment and display more environmentally friendly behavior. [(Hirsh & Dolderman, 2007); (Markowitz et al., 2012)].

They enjoy trying new experiences and ideas, it means that they also appreciate, and they are willing to pay more for innovative products, including sustainable apparel. Sustainability in the fashion industry can be considered a novelty: experts in this field are continuously researching for alternative materials to realize sustainable garments.

Given all these considerations, it can be assumed that:

(H5): There is a positive relationship between openness and the willingness to pay for sustainable clothes

2.2. - MODERATOR VARIABLES

Moderation describes a situation in which the relationship between two constructs is not constant but depends on the values of a third variable, called moderator variable. The moderator variable usually changes the strength or sometimes even the direction of a relationship between two constructs in the model.

I chose to include in my hypothesized research model two moderator variables: the need for uniqueness and impulsivity.

NEED FOR UNIQUENESS

The concept of "need for uniqueness" derives from the "theory of uniqueness" described by Snyder and Fromkin (1980) which deals with people's emotional, cognitive and behavioral responses to information about their similarity to others. According to this theory, people seek to establish and maintain a sense of moderate self- distinctiveness, because perceptions of either extreme similarity or extreme dissimilarity to others are experienced as being unpleasant. (Snyder & Lopez, 2002).

It has been successively defined as "pursuing of differentness relative to others through the acquisition, utilization and disposition of consumer goods" (Tian et al., 2001, p. 52)

The "need for uniqueness" seems to be strictly connected in particular with one personality trait: openness to experience since it involves proactive seeking and exploration of the unfamiliar. But we can apply it to all Big Five personality traits since the desire for novelty and newness has been defined as inherently embodied in the human nature.

I have chosen to include this moderator variable in my model because it perfectly fit in the fashion environment: in this industry the consumer's need for novelty and newness has a great impact. Many qualities associated with creativity can be observed in the fashion context, for example inventiveness, boldness, and imagination since the consumer constantly renovates, modifies, and reinvents the self through the use of fashion goods.

Being creative in dressing styles can be considered a non-verbal way to show individuality, but it is sometimes the most immediate. As we evidenced before, clothes and fashion world help people to construct a self-image and to express their personality. As a result, avoiding similarity and being

creative in dressing styles are considered to be important factors for consumers who prefer to be different from others (Tian et al., 2001).

Generally speaking, people would associate this need for novelty to an increase in apparel purchase rate, because it implies the necessity of constantly having something that differentiates you from others.

But if we apply the logic of "need for uniqueness" to sustainable fashion, we obtain a completely different result. Customers with higher levels of "need for uniqueness" will be more prone to buy slow-fashion products even if they usually have simple shapes and inconspicuous colors. That is because they will appreciate more the uniqueness of the garment and the social value associated with it rather than the originality of the design and/or the pattern. (Legere & Kang, 2020, pp. 2-11) People with a high need for uniqueness tend to make unconventional choices, and since having an eco-friendly behavior is not yet common enough, the adoption of an environmental-friendly lifestyle and wearing sustainable clothes can be a way to satisfy their need to be different from others.

Fashion clothes at affordable prices that can be found in big shopping center, and which are distributed identical all over the world, cannot satisfy the needs of this consumer's category. On the contrary, they are likely to pay a higher price to obtain just a few items which allow them to stand out from the crowd. Consumers are more likely to find unique products in non-traditional outlets: second-hand stores, antique stores and swap meets. (Nonetheless, the second-hand market is a situation that should be studied separately).

After all that have been said, we can conclude that:

(H6): Need for uniqueness positively moderates the effect of the Big Five on WTP for sustainable apparel

IMPULSIVITY

Impulsivity is among the most ubiquitous personality traits and for this reason, also one of the most frequently examined constructs in psychology, and rightly so. It characterizes the dilemma per excellence of human nature: the challenge of finding a balance between long term objectives and immediate impulses (DeYoung & Rueter, 2016).

An impulsive individual reacts fast without thinking; Impulsivity applied to consumers' purchasing behavior is defined as a sudden, unplanned, and powerful temptation to purchase in response to both the internal and external stimulus whereby a consumer will make an instant decision to please his or her desire as a prompt self-reward without considering the actual needs and financial consequences of the procurement (Prashar, Parsad & Vijay, 2015, p. 404) (Taghikhah et al. 2021).
Even if neuroticism seems to be the one more strictly related to impulsivity, due to their volatile moods, impulsive buying tendency may also act as a circumstantial factor rather than a stable personality trait. It means that people with high score on each of the Big Five personality traits, could find themselves in such situation.
They are characterized by completely unplanned action, opposed to the conscious and premeditate purchasing behavior typical of sustainable clothing, which suggest a negative relationship with sustainability concern. The urge to buy might stimulate people to buy products in more quantity and impulsively without considering its impact on the environment.

In addition, price is the factor that mostly influences the impulsive shopper; consumers' impulsivity is stimulated by promotions, times sales, strategic product placement and in-store advertising. Since sustainable clothes are usually more expensive than the others, we assume that impulsivity negatively will decrease the consumers' WTP for sustainable apparel.

(H7): Impulsivity negatively moderates the effect of the Big Five on WTP for sustainable apparel

Even if I chose impulsivity and need for uniqueness as moderators, according to the literature they seem to have a direct relationship on the willingness to pay for sustainable clothes. So, I have decided to treat them as independent variables and make two new assumptions maintaining the same sign of relationship. I have obtained the new following hypotheses:

(H6b): Need for uniqueness has a positive relationship with the WTP for sustainable apparel

(H7b): Impulsivity has a negative relationship with the WTP for sustainable apparel

3. RESEARCH METHODOLOGY AND DATA COLLECTION

3.1. METHODOLOGY

To verify the existence of a relationship between WTP and personality traits, a modeling tool of the structural equation based on variance, named Smart-PLS has been used.

Smart-PLS adopts a method called Structural Equation Modeling (SEM) which is not a single technique, but 'a collection of statistical techniques that allow a set of relations between one or more independent variables (IVs), either continuous or discrete, and one or more dependent variables (DVs), either continuous or discrete, to be examined'. According to Byrne (1998, p. 3), the term "structural equation modeling" communicates two fundamental characteristics of this approach:

(a) that the causality processes investigated are represented by a series of structural equations, and (b) that these structural relations can be modeled graphically to improve the understanding and conceptualization of the theory under study.

Structural equation modeling (SEM) first appeared in the marketing literature in the early 1980s, but in recent years, its application has become quite widespread (Hair et al., 2011, p. 139).
PLS-SEM is considered an emerging data analysis tool widely used not only in management research: it has recently received considerable attention in a variety of contexts including marketing, accounting and virtually all social sciences disciplines (Hair et al., 2014, p. 106).
Its popularity can be explained by a series of advantages over other methods that it offers: in particular, it provides researchers with more flexibility regarding data requirements, it is useful for complex models and the specification of model relationships. In fact, much of the increased application of PLS-SEM can be attributed to the method's capability to cope with problematic modeling issues that occur commonly in the social sciences, even highly complex models.

3.2 - DATA COLLECTION

The hypotheses formulated in this study derive from existing theories that I found on scientific research related to the attitudes of eco-conscious consumers and environmental concern in general. But their application to sustainable apparel is the results of my reasonings and interpretation of different perspectives on this topic.

The personality traits that I assumed to be pertinent for my research are the famous Big Five personality traits: extraversion, agreeableness, consciousness, emotional stability, and openness to experience. All the hypotheses assume a positive relationship between each personality trait and the dependent variable – the willingness to pay for sustainable apparel, except for neuroticism which has been assumed to be negatively related.

I have decided to introduce two elements that play the role of moderators, which usually changes the strength or sometimes even the direction of a relationship between two constructs in the model.

The first one is “need for uniqueness”, which is an important a widely spread trait especially in the fashion industry.

I have assumed a positive moderator effect since people with high scores on this trait tend to make unconventional choices and are willing to pay more for innovative products.

In the case of extraversion, agreeableness, consciousness and openness to experience for which I have already assumed a positive relationship with WTP for sustainable apparel, the moderating effect of “need for uniqueness” will strengthen even more that relation. Conversely, since neuroticism was assumed to be negatively related with WTP for sustainable apparel, the need for uniqueness effect will counterbalance this negative relation.

The second moderator is impulsivity which is strictly related in particular with neuroticism but can be easily applied to all five personality traits. Impulsivity implies unplanned actions, opposed to the conscious and premeditate purchasing behavior typical of sustainable clothing. For these reasons, I have assumed that impulsivity negatively moderates the relationships between the Big Five and the WTP for sustainable apparel.

Data about these variables were collected through a survey, which was issued to relatives, friends, and acquaintance. But the specific target population for this study consisted of Italian female with an age comprised between 19 and 35 years old.

Data have been collected through the compilation of a survey, distributed by means of the Qualtrics software, an online tool used to create, distribute surveys and to analyze the responses obtained from them.
The questionnaire is written both in English and Italian with the aim of reducing the misunderstandings derived from the interpretation of the questions, since I suppose that most participants will be Italian-native speakers.

The survey is composed by four different blocks. The first block consists in a presentation of my research in order to communicate its objectives to all participants; it includes also a filter question regarding their interest in sustainable fashion. It has been designed to exclude the respondents who do not have the appropriate features to be part of my sample, namely people who are not at all informed, nor interested in it. Indeed, I wanted my sample to include all those people that are informed or at least interested in learning more about sustainable fashion.
Since knowledge and environmental concern are the factors that mostly affect sustainable purchasing behavior, the complete lack of them will not lead to the purchase or willingness to pay for sustainable apparel. That is the reasons why I decided to limit my sample to the respondents who are at least interested in sustainable fashion or concerned about the environment and consequently are probably willing to engage in sustainable apparel consumption.
The second block contains questions related to the dependent variable, namely purchase WTP for sustainable apparel measured according to a 5-point type Likert scale. The third block is the one related to personality traits which include questions related to the Big Five and the two moderator variables, namely “need for uniqueness” and “impulsivity” (see **table 4**). The fourth and last block contains some demographic questions about the age, sex, and country of origin.

3.3 - MEASURES AND SCALES

In the present study, all of the 38 measurements items were borrowed from existing research. However, little modifications were made in the wording of the items to align them with our context. The questionnaire employed a five-point Likert scale ranging from "1" meaning "strongly disagree" to "5" meaning "strongly agree." Sources of measurement instruments are reflected in Table 4.

Table 4: variables and measurement scales.

MEASURES	ITEMS	SOURCES
Willingness to pay more	[1] I am willing to pay a higher price for sustainable apparel than non-sustainable apparel. [2] I would like to keep buying sustainable apparel even if non-sustainable apparel were cheaper. [3] For the advantages obtained from sustainable apparel, I would be willing to pay a higher price.	3 items. 5-points Likert-type scale. (Habel et al. 2016)
Extraversion	[E1] In unclear situations, I usually take control of things [E2] It is easy for me to get to know other people [E3] I usually let others make the decisions (R) [E4] Can talk others into doing things	4 items 5-points Likert-type scale (Mahlamäki et al. 2019)
Agreeableness	[A1] I trust other people [A2] I trust what people say	4 items 5-points Likert-type scale

	[A3] I like to help others [A4] I believe people usually have good intentions	(Mahlamäki et al. 2019)
Consciousness	[C1] I am conscientious about the things I do [C2] I finish my work on time [C3] I am deliberate in my decisions [C4] I obey the rules the best I can	4 items 5-points Likert-type scale (Mahlamäki et al. 2019)
Neuroticism	[ES1] I feel that I can handle any situation (R) [ES2] It is hard for me to take criticism [ES3] It is easy to hurt me emotionally [ES4] I get very nervous before important meetings	4 items 5-points Likert-type scale (Mahlamäki et al. 2019)
Openness to experience	[OE1] I have a vivid imagination [OE2] I greatly appreciate poetry [OE3] I enjoy wild flights of fantasy [OE4] I see beauty in things that others might not notice	4 items 5-points Likert-type scale (Mahlamäki et al. 2019)
Impulsivity	[I1] I often buy things spontaneously.	9 items 5-points Likert-type scale

	[I2] "Just do it" describes the way I buy things. [I3] I often buy things without thinking. [I4] "I see it, I buy it" describes me. [I5] "Buy now, think about it later" describes me. [I6] Sometimes I feel like buying things on the spur of the moment. [I7] I buy things according to how I feel at the moment. [I8] I carefully plan most of my purchases. (R) [I9] Sometimes I am a bit reckless about what I buy.	(Rook and Fisher, 1995)
Need for uniqueness	[NU1] I am very attracted to rare objects. [NU2] I tend to be a fashion leader rather than a fashion follower. [NU3] I am more likely to buy a product if it is scare. [NU4] I would prefer to have things custom-made than to have them ready-made. [NU5] I enjoy having things that others do not.	8 items 5-points Likert-type scale (Lynn and Harris 1997)

	[NU6] I rarely pass up the opportunity to order custom features on the products I buy. [NU7] I like to try new goods and services before others do. [NU8] I enjoy shopping at stores that carry merchandise which is different and unusual.	

*(R) = Reversed coded item

Nowadays, researchers have not yet found a scale that is capable of measuring WTP; usually, they opt for a single-item scale in which respondents are asked how much they would pay for a product. The dependent variable willingness to pay for sustainable fashion has been measured through an attempt of measurement scale. The "Willingness to pay more scale" (Habel et al. 2016) has been developed by the authors considering different variables – that is, customers' perceived price–value ratio, quality, price sacrifice, and willingness to pay more. They conclude that willingness to pay more represents an outcome of perceived price fairness.

The items of the original scale have been slightly modified in the wording in order to adapt it to our topic, namely sustainable fashion.

As regards the Big Five, the original International Personality Item Pool (IPIP) includes 50 items - 10 items for each of the five dimensions of the model. But for simplicity and in order to create a smoother questionnaire I decided to use the scale in the short-form composed by 4 items per trait and developed by Mahlamäki, T., Rintamäki, T., & Rajah, E. (2019).

The scale includes both positively keyed items, where a high score indicates a high level of the trait, and negatively keyed items, where a high score indicates a low level of the trait, which are denoted by the symbol (R = Reverse).

The first moderator "need for uniqueness" has been measured though the DUCP scale (desire for unique products). Specific consequences of a high DUCP include an increased tendency to acquire and use products that are scarce, innovative, customized, and/or outmoded, as well as a desire to shop at small, unique retail outlets.

Impulsivity is evaluated through the “Buying impulsiveness scale” (Rook and Fisher, 1995) which is the impulsive consumer’s tendency to buy spontaneously, immediately and without planning the action.

The responses have been collected using a five-point Likert scale ranging from “1” meaning “Strongly disagree” to “5”, “Strongly agree”. I have chosen to adopt this type of scale because respondents have more answer options, so it is easier to capture their true evaluation; moreover, a good Likert scale always includes a symmetry of Likert items about a middle option (Neither likely nor unlikely or neutral).

The reliability of the answers is confirmed through attention checks inserted between the questions in the survey. I have decided to introduce 2 types of attention check:

- one question which asks to select a specific number on a scale going from 1 to 9, with the aim of deleting respondents who choose the wrong option
- one redundant question which, in this case, is the one about the age – repeated at the beginning and at the end of the questionnaire. In this type of attention check, the respondents should select the same option in both identical questions.

The intent of both these questions is to ensure that we have got humans taking the survey and that individuals are actually responding to questions and not just randomly clicking responses. So, we want to eliminate or reduce as much as possible this kind of respondents from clogging up the results. If the attention checks are not passed and/or the redundant question register a different answer than the original one, the survey will not be considered valid, and the responses will be excluded from the analysis.

After having inserted the right filter questions and attention checks, on Tuesday the 20th of September, the survey was published and distributed thanks to an anonymous link created by the platform “Qualtrics”. The link has been published on my Instagram account and has been forwarded to friends and relatives via Whatsapp starting a chain diffusion online. This data collection method is called “snowball sampling”.

Snowball sampling gets its name from a distinct feature of snowballs during the winter: theoretically, once you have a small ball and you set it rolling, it will proceed picking up more “snow” along the way and will become increasingly larger. Snowball sampling method completely rely on

referrals in the generation of the researcher's sample. That is the reason why it is also called "chain-referral" sampling method.
The same happens in survey distributions that adopts this method: the researcher starts identifying a small group of participants that will, in turn, recruit other participants. In this way, the sample population or snowball grows bigger until you have enough data to work with.

The snowball sampling method presents many advantages: it allows to reach particular or rare categories of people; it decreases searching costs significantly and it faster increase the sample size without too much effort.
At the same time, this distribution approach has some disadvantages: it could increase the sampling bias and margin error. Since people refer those whom they and have similar traits, this could reduce the probability that the survey has a good representativeness for the population.
In addition, without proposing any compensation, there are fair chances that people might not be cooperative and refuse the participation in the study. Another risk is that participants could fill out the survey many times instead of distributing it, obtaining responses provided by the same person.

I have decided to adopt this method despite its disadvantages because I was able to minimize the risks explained above. I have directly contacted most people that constitute my sample, composed mainly by friends and family members which I trust and who were happy to help me out to ensure the success of my study.

On Thursday the 22nd of September the questionnaire was closed after reaching 183 responses.

3.4. - SAMPLE

Missing data are often a problem in such types of studies, because sometimes a respondent could purposely or inadvertently fail to answer one or more question(s) and in this case you should eliminate the whole interaction. The use of Qualtrics platform allowed me to reduce this risk because it is possible to prevent respondents from going to the next question if they do not answer the previous one.

The survey is composed by four different blocks. The first block consists in a presentation of my research in order to communicate its objectives to all participants; it includes also a filter question regarding their interest in sustainable fashion.

At first, the questionnaire obtained 183 interactions. Among them, 17 were excluded from the analysis because they did not pass the initial filter question (**table 5**).

It has been designed to exclude the respondents who do not have the appropriate features to be part of my sample, namely people who are not at all informed, nor interested in it. Indeed, I wanted my sample to include all those people that are informed or at least interested in learning more about sustainable fashion.

Table n. 4 - Filter question: "Regarding sustainable fashion, you think you are:"

Option	N.	%
Not at all informed, nor interested	17	9,3%
Slightly informed but interested in learning more	103	56,3%
Moderately informed	48	26,3%
Informed	15	8,1%
TOTAL	**183**	**100%**

17 respondents did not satisfy the requirements, so the number of interactions that we take into considerations drops to 166. Most people (56,3%) selected the option "slightly informed about sustainable fashion but interested in learning more".

Then, we continue the skimming of our sample with the aid of attention checks. I have decided to introduce 2 types of attention check:

- one question which asks to select a specific number on a scale going from 1 to 9, with the aim of deleting respondents who choose the wrong option. 8 respondents have failed to select the required number. So, the number of valid interactions decrease again to 158.
- one redundant question which, in this case, is the one about the age – repeated at the beginning and at the end of the questionnaire. In this type of attention check, all respondents selected the same option in both identical questions, therefore the number of valid interactions remains fixed at 158.

The percentage of respondents that failed the attention checks is the 4.82%.

The demographic characteristics of the sample are revealed by the answers collected in the last block of questions. The sample is composed mostly by people with features similar to mine, probably as result of the snowball technique, since I have forwarded the survey mostly to friends and peers. In fact, most people consist in young Italian female.
The percentage of women is more than 3 times the percentage of men; this result confirms the trend of other research about fashion, where women are usually more interested and involved in this topic.

As far as the age is concerned, the vast majority of respondents belong to the age group between 19 and 25 years old (75%) and between 26 and 35 years old (16,5%). The composition of my sample is in line with results of other studies in the field of sustainability, according to which Millennials (18-24 years old) are known for their environmental consciousness, compared to older generations (Heo & Muralidharan, 2017, p. 243).

Table n. 6 - Demographic data

	N.	**%**
Place of origin		
Italy	154	97,5%
Other countries	4 (France, Ireland, Netherlands)	2,5%

Gender		
Male	29	18,3%
Female	124	78,5%
Prefer not to say	5	3,2%
Age		
< 18	5	3,1%
19-25	120	76%
26-35	26	16,5%
36-45	5	3,1%
46-55	2	1,3%
55-65	-	0%
> 66	-	0%

For the reasons explained above, the specific target population for this study consisted of Italian female with an age comprised between 19 and 35 years old.
So, I have decided to include some additional filter questions regarding the place of origin, gender, and age. 47 answers have been deleted because respondents were male, because they were not in the right age group or because they were not resident in Italy.

After having applied all filter questions, I came up with 111 valid interactions. Since the software PLS-SEM, that I am going to use for the elaboration of data, support maximum 100 interactions, I have decided to eliminate the extra 11 responses of speeders respondents. I have calculated the average response time (equal to 7,5 minutes) and I have discarded the answers that registered a time of response 50% below the average.

4. DATA ANALYSIS AND RESULTS

After having collected the questionnaire results by means of Qualtrics platform, it is necessary to elaborate and test the validity of the hypothesized model more specifically.

For the development of my quantitative study, I have decided to employ Smart-PLS, a modeling tool of the structural equation based on variance. Smart-PLS adopts a method called Structural Equation Modeling (SEM) which allows researchers to introduce unobservable variables measured indirectly by indicator variables and to facilitate the accounting for measurement error in observed variables. There are two types of SEM: covariance-based SEM (CB-SEM) and partial least squares SEM (PLS-SEM; also known as PLS path modeling). CB-SEM is mainly employed with the aim of confirming or rejecting theories. On the other hand, PLS-SEM is basically used to develop theories in exploratory research by explaining the variance in the dependent variables in the examination of the model.

The first and fundamental thing that PLS-SEM allows you to do is to visually display the hypotheses and variable relationships that are examined, generating the so-called path model. The PLS path model of this study is presented in **Exhibit 1.**
In this model, the variables that are not directly measured – called constructs - are represented as circles (in our case, constructs on the left consist in the Big Five personality traits, namely extraversion, agreeableness, consciousness, neuroticism, openness to experience; while the construct on the right is the dependent variable).
The indicators, also called items or manifest variables, are the directly measured and they are represented in path models as rectangles. Relationships between constructs as well as between constructs and their assigned indicators are shown as single-headed arrows, representing directional relationships.

Path models are developed according to the hypotheses formulated on the basis of scientific studies, aiming to predict and explain specific outcomes.
A PLS path model consists of two elements: a structural model and a measurement model.

- **Structural model**, also called the inner model. It represents the constructs and tests the relationship among them.

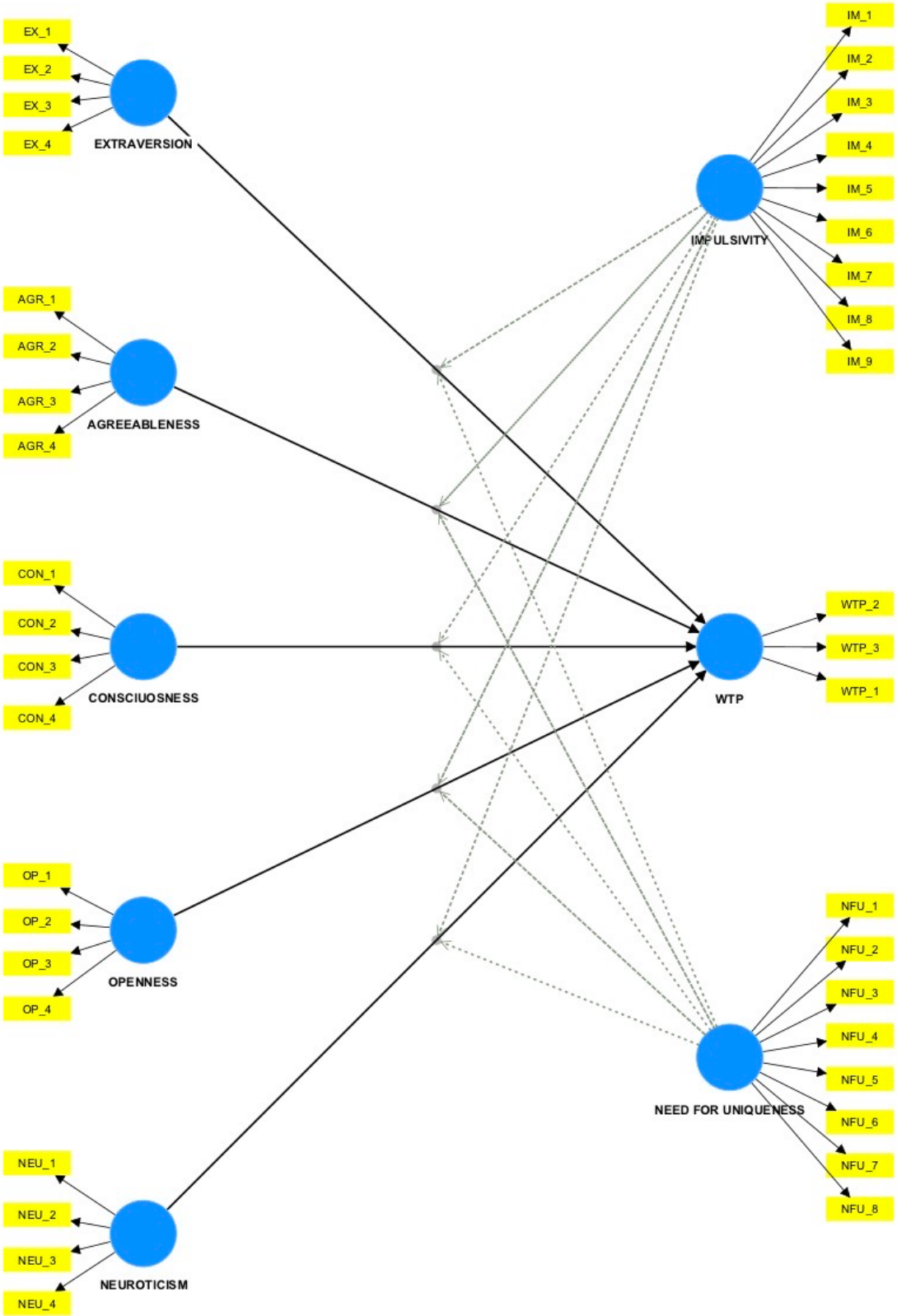
- **Measurement model,** also referred to as the outer model. It displays the relationships between the constructs and their indicator variables (rectangles). It also identifies the quality of criteria, in fact, it helps to assess the reliability and validity of constructs.

Measurement theory specifies how the latent variables (constructs) are measured. Generally, there are two different ways to measure unobservable variables, depending on the relation they have with the items:

FORMATIVE MEASUREMENT = in a formative measurement model, the directional arrows will point from the items to the construct indicating a causal (predictive) relationship in that direction. REFLECTIVE MEASUREMENT = with reflective indicators, the direction of the arrows is from the construct to the items, indicating that the construct causes the measurement of the indicator variables. The path model of this study (**Exhibit 2**) presents only reflective measurement models.

Exhibit n. 2 - Path model presentation representing the relationship among variables using Smart-PLS

Source: Smart-PLS



4.1 Measurement model analysis

The first step in the analysis is to assess the reliability and the validity of the constructs, which actually corresponds to making an evaluation of the measurement model. Reliability and validity are two different concepts; the first one is related to consistency, while the second one is linked to accuracy.

4.1.1. RELIABILITY

There are 2 main measures of reliability. According to Cronbach's alpha, in order to be reliable, the variables should present a value that is greater than 0.70. But it is considered a conservative measure of reliability, resulting in relatively low reliability values. Therefore, is more appropriate to apply a different measure of internal consistency reliability: composite reliability.

Composite reliability values of 0.60 to 0.70 are acceptable; values higher than 0.70 are excellent but values higher than 0.95 are not desirable because it means that the indicators are measuring the same phenomenon. As opposed to Cronbach's alpha, composite reliability tends to overestimate the internal consistency reliability, thereby resulting in comparatively higher reliability estimates.

We conclude that we should consider and report both criteria, the true reliability usually lies between the two.

The results of our study support exactly the theory explained above (see **table n. 7**).

Table n. 7 - Descriptive coefficients of the measurement model developed in Smart-PLS

	Cronbach's alpha	**Composite reliability**
AGREEABLENESS	0.718	0.791
CONSCIOUSNESS	0.625	0.726
EXTRAVERSION	0.691	0.749
IMPULSIVITY	0.891	0.909
NEED FOR UNIQUENESS	0.699	0.784
NEUROTICISM	0.576	0.720
OPENNESS	0.660	0.766
WTP	0.774	0.867

Values of Cronbach's alpha – which is the more conservative measure – stand between 0.576 and 0.891. Four of them are written in red because they do not satisfy the requirement of being > 0.70. This suggest that we should eliminate these 4 variables (consciousness, extraversion, neuroticism and openness) from our model. But we should consider also the results of the second measure, composite reliability. Composite reliability values are quite high, they range between 0.720 and 0.909.

Since we have affirmed that normally the true reliability usually lies between the two, I have decided not to eliminate the 4 variables with Cronbach's alpha values below 0.70 because they were just a bit below the threshold, and they will be compensated by the effect of a high composite reliability, obtaining a quite good reliability anyway.

4.1.2 - CONVERGENT VALIDITY

There are two types of validities: convergent validity and discriminant validity. Now we will focus on the first type. It has been called "convergent" validity because all items should work together to represent the underlying construct. In other words, they should converge in measurement of the latent construct.

To evaluate convergent validity of reflective c structs, researchers consider the outer loadings of the indicators and the average variance extracted (AVE).

The factor loading indicates how well a particular item is actually representing a latent construct. The greater the loading value, the better the representation. A common rule states that the standardized outer loadings should be 0.708 or higher.

Generally, indicators with outer loadings between 0.40 and 0.70 should be considered for removal from the scale only when deleting the indicator leads to an increase in the composite reliability (or the average variance extracted) above the suggested threshold value.

Indicators with very low outer loadings (below 0.40) should, however, always be eliminated from the construct.

A common measure to establish convergent validity on the construct level is the average variance extracted (AVE) (i.e., the sum of the squared loadings divided by the number of indicators). We can conclude that items are properly converging if AVE value is greater than 0.50.

	Cronbach's alpha	Composite reliability	Average variance extracted (AVE)
AGREEABLENESS	0.718	0.791	0.497
CONSCIOUSNESS	0.625	0.726	0.422
EXTRAVERSION	0.691	0.749	0.442
IMPULSIVITY	0.891	0.909	0.532
NEED FOR UNIQUENESS	0.699	0.784	0.319
NEUROTICISM	0.576	0.720	0.421
OPENNESS	0.660	0.766	0.461
WTP	0.774	0.867	0.685

The first step is to eliminate indicators with very low outer loadings (below 0.40). In our model, we have just 2 indicators that do not satisfy the requirement and that will be therefore deleted.

CON_2 = 0.377

NEU_4 = 0.249

Indicators with outer loadings between 0.40 and 0.70 should be considered for removal from the scale only when deleting the indicator leads to an increase in the composite reliability or AVE. I have decided to eliminate the following indicators (below 0.60): EX_1, EX_2, EX_4, AGR_4, OP_3, CON_3, CON_4, NFU_1, NFU_2, NFU_3, NFU_4, NFU_7.

In doing this operation, I have obtained better results in terms of composite reliability and AVE as shown in table 8.

Table n. 8 - Descriptive coefficients of the measurement model developed in Smart-PLS after the removal of indicators with outer loading values lower than 0.600

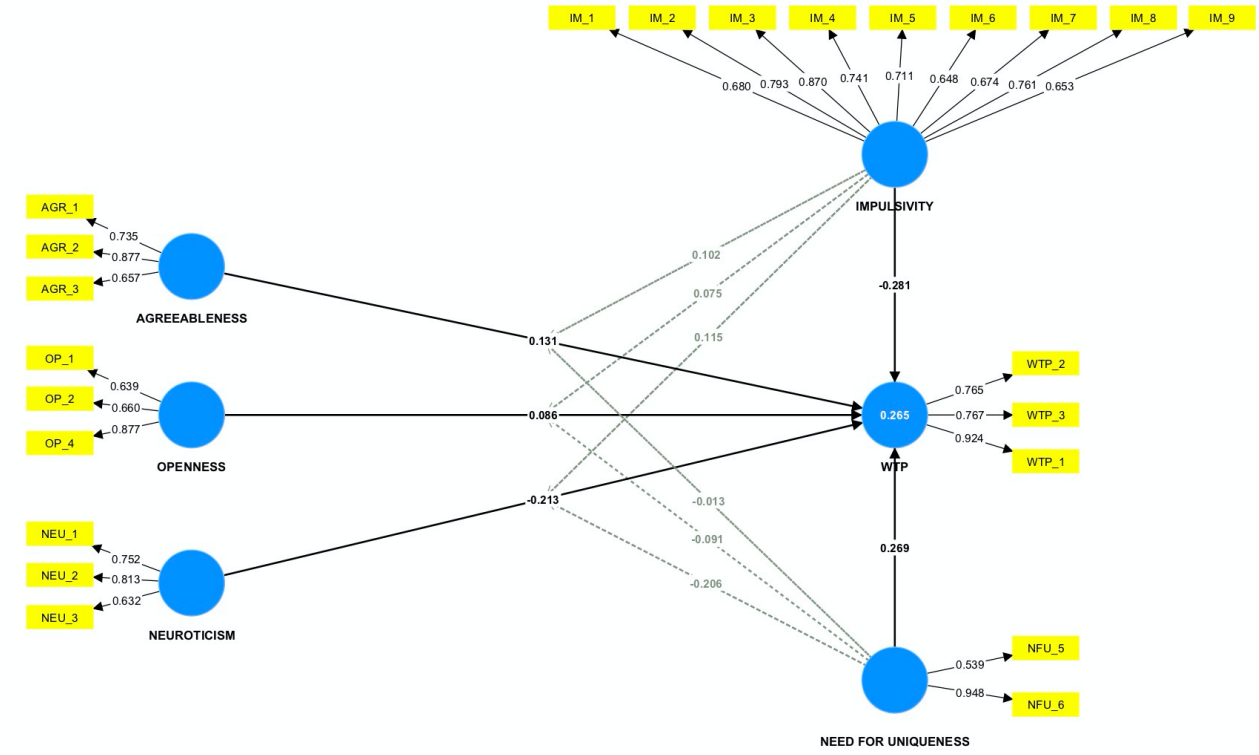
	Composite reliability	Average variance extracted (AVE)
AGREEABLENESS	↑ 0.805	↑ 0.583
IMPULSIVITY	0.910	0.531
NEUROTICISM	↑ 0.778	↑ 0.541
NFU_	↑ 0.734	↑ 0.596
OPENNESS	↑ 0.774	↑ 0.539
WTP	0.864	0.680

Moreover, I decided to remove completely from the analysis, and consequently as a variable of my study the extraversion and consciousness variables since, after the elimination of non-acceptable indicators, they both became a single-item scale. A study from Diamantopoulos, Sarstedt, Fuchs et al. (2012), establishes that adopting a single-items scale might be risky, it could raise a problem of credibility since an observable measure cannot fully explain the complexity of a construct. McIver and Carmines (1981, p.15) support this theory affirming that, "It is very unlikely that a single item can fully represent a complex theoretical concept or any specific attribute for that matter". On the contrary, multiple-item scales normally tend to increase the construct's reliability and validity.
In addition, I have run the model even including these two single-items scale and they resulted to be not significant in the analysis, just one more reason not to consider them from the beginning.
As a consequence, the hypotheses linked to extraversion and consciousness (H1 and H3) cannot be demonstrated.

The new current path model is displayed in **Exhibit 3.**

Exhibit n. 3 - Path model after the deletion of the non-reliable indicators and the "extraversion" and "consciousness" variables, and the inclusion of 2 new direct relationship hypotheses

Source: Smart-PLS



4.1.3 - DISCRIMINANT VALIDITY

After having measured the convergent validity, we will take into consideration the second type: discriminant validity. Discriminant validity is about differentiation in the constructs; obviously questions that measure the various constructs in the model are different. Discriminant validity make sure than they are statistically different as well. So, it ensures that each construct in the study has got its own individual entity and captures unique features.

In order to check/assess/evaluate this type of validity, there are three different options:

- The cross-loadings
- The Fornell-Larcker criterion
- The heterotrait-monotrait ratio (HTMT)

The cross loadings are typically the first approach to assess discriminant validity. This method consists in verifying that an indicator's outer loading on the correspondent construct, is greater than any of its cross-loadings on other constructs.

Table n. 9 displays all construct and all indicators that have been used to describe each of them. Obviously, we will obtain high values if we associate an item with the variable that it intends to measure. For example, AGR_1 is an indicator for agreeableness, and it loads better in this particular construct (0.735). But if we analyze the same item (AGR_1) for a different construct, (e.g. neuroticism), its loading will decrease significantly (-0.130). So, AGR_1 as an indicator for agreeableness is performing better in comparison to an indicator of neuroticism.

All items for a particular construct (highlighted in yellow), are loading well only into their own factor, in comparison to all other factor in the study, demonstrating that the variables are statistically different from one another.

Table n. 9 clearly shows that the same occurs for all the indicators, so we can conclude that the model reports a correct discriminant validity.

Table n. 9 - Cross Loadings of the items of the variables in the proposed model

	AGREEABLENESS	IMPULSIVITY	NFU	NEUROTICISM	OPENNESS	WTP
AGR_1	0.735	0.021	0.106	-0.130	0.067	0.064
AGR_2	0.877	0.066	0.169	-0.088	0.024	0.137
AGR_3	0.657	-0.012	0.032	0.024	0.157	0.110
IM_1	0.172	0.680	0.075	0.082	0.003	-0.285
IM_2	0.087	0.793	0.233	0.194	-0.065	-0.115
IM_3	0.007	0.870	0.195	0.127	-0.060	-0.225
IM_4	-0.077	0.741	0.170	0.118	-0.024	-0.108
IM_5	-0.018	0.711	0.275	0.109	0.034	-0.103
IM_6	-0.072	0.648	0.120	0.058	-0.001	-0.103
IM_7	-0.038	0.674	0.143	0.165	0.112	-0.260
IM_8	0.014	0.761	0.170	0.270	-0.028	-0.180
IM_9	0.041	0.653	0.102	-0.003	0.007	-0.170
NEU_1	-0.134	0.115	0.079	0.752	-0.132	-0.201
NEU_2	0.041	0.212	0.114	0.813	-0.011	-0.166
NEU_3	-0.054	0.058	0.164	0.632	0.173	-0.169
NFU_5	0.036	0.173	0.539	0.112	0.179	0.072
NFU_6	0.147	0.177	0.948	0.141	0.216	0.191
OP_1	-0.000	0.083	0.266	0.005	0.639	0.076
OP_2	0.008	-0.055	0.138	0.052	0.660	0.087
OP_4	0.164	-0.002	0.174	-0.031	0.877	0.143
WTP_2	0.175	-0.070	0.169	-0.131	0.153	0.765
WTP_3	0.105	-0.132	0.144	-0.083	0.046	0.767
WTP_1	0.105	-0.359	0.163	-0.304	0.143	0.924

The Fornell-Larcker criterion is the second approach used to assess discriminant validity. It compares the square root of the AVE values with the correlation among the latent variables. In detail, the square root of each construct's AVE should be greater than its highest correlation with any other construct. The logic behind this method derives from the idea that a construct should share more variance with its associated indicators than with any other construct.

Table n. 10 gives a visual exemplification of the Fornell-Larcker approach. The values place in the principal diagonal, which are highlighted in yellow, correspond to the square root of their AVE of each variable. The values below the diagonal represent the correlation among the latent variables; these values should be lower than the one in the diagonal. For example, the correlation between

agreeableness and impulsivity (0.038), has to be lower than the agreeableness AVE square root which is 0.762.

As can be concluded by looking at table n. 10, the discriminant validity of our model is demonstrated also through the Fornell- Larcker criterion.

Table n. 10 - Fornell-Larcker coefficients

	AG	**IM**	**NFU**	**NEU**	**OP**	**WTP**
AG	0.762					
IM	0.038	0.729				
NFU	0.140	0.210	0.771			
NEU	-0.074	0.174	0.159	0.736		
OP	0.104	0.005	0.247	0.002	0.733	
WTP	0.146	-0.273	0.189	-0.246	0.146	0.822

It is a new method to assess discriminant validity, always based on correlation. HTMT is the mean of all correlations of indicators across constructs measuring different constructs, relative to the mean of the average correlations of indicators measuring the same construct. In other words, the HTMT method tries to estimate the true correlation between two constructs, if they were perfectly measured (perfectly reliable).

The exact threshold level of the HTMT is debatable; normally we say that an HTMT value above 0.90 suggests a lack of discriminant validity. So, in order to establish discriminant validity using HTMT, the ratio of the values should be less than 0.90.

In this case, the discriminant validity is established because all values are below the threshold as shown in **table n. 11**.

Table n. 11 - HTMT Coefficients

	AG	IM	NFU	NEU	OP	WTP
AG	1					
IM	0.144	1				
NFU	0.294	0.406	1			
NEU	0.221	0.276	0.346	1		
OP	0.255	0.160	0.560	0.262	1	
WTP	0.217	0.243	0.316	0.308	0.220	1

4.2 - STRUCTURAL MODEL ANALYSIS

Now that we have established the reliability and validity through the analysis of the measurement model, the next step is to identify the structural model, namely how the variables are related to each other.

4.2.1. - COLLINEARITY ASSESSMENT

The first thing to do is examine the structural model for collinearity (VIF). VIF estimates above 5 indicate collinearity issues, if such a case is present the construct should be removed. The results displayed in table n. 12 show the VIF values of the combinations of the dependent variables and the corresponding predictor variables. Since the values are all below the threshold level of 5, we can conclude that the structural model has no critical collinearity issues.

Table n. 12 - Inner VIF values to assess the presence of collinearity issues

	AGR	IM	NFU	NEU	OP	WTP
AGREEABLENESS						1.081
IMPULSIVITY						1.138
NEED FOR UNIQUENESS						1.238
NEUROTICISM						1.223
OPENNESS						1.118
WTP						

4.2.2. - COEFFICIENT OF DETERMINATION, THE R^2 VALUE

The most commonly used measure to evaluate the structural model is the coefficient of determination (R^2 value). This coefficient is a measure of the model's predictive power; it represents the amount of variance in the dependent variable explained by all of the constructs connected to it. The R^2 value range from 0 to 1, the higher the value, the higher the level of predictive accuracy. It is difficult to provide a threshold for which the R 2 can be considered acceptable or not. According to Hair, Hult G. Tomas M., Ringle, Sarstedt (2017, p.199), R^2 values of 0.20 are considered high in disciplines such as consumer behavior, like in our case.

In this study, the value of R^2 obtained from Smart-PLS corresponds to 0.265 for the dependent variable "Willingness to pay" for sustainable apparel. After what has been stated previously, we can affirm that the value of R^2 is good enough, and it demonstrates an efficient predictive power.

Despite this satisfactory result the R^2 value should not be the only coefficient taken into consideration in assessing the model's predictive power.

4.2.3. - THE EFFECT SIZE f^2

The f^2 effect size measures the possible impact of an omitted construct on the endogenous latent variable. The effect size takes into consideration the R^2 values when a construct is included or excluded from the model; an f^2 value that is lower than 0.02 indicates that there is no effect.

Table n. 13 represents the effect size and how constructs impact on endogenous latent variables. According to the results, openness to experience has no effect on consumer's willingness to pay.

Table n. 13 - f^2 effect size

	AGR	IM	NFU	NEU	OP	WTP
AGREEABLENESS						0.022
IMPULSIVITY						0.094
NEED FOR UNIQUENESS						0.079
NEUROTICISM						0.051
OPENNESS						0.009
WTP						

4.2.4. - STRUCTURAL MODEL PATH COEFFICIENTS

The path model also indicates the path coefficients which represent the hypothesized relationships among the constructs. Path coefficients values fall between -1 and +1; a value close to +1, represents a strong positive relationship, while when values are close to -1, there will be a strong negative relationship. Estimated coefficients close to 0 represent instead weaker relationships.

When initially assessing the PLS-SEM results for the structural model, the first issues to examine are the significance and the relevance of coefficients. In order to test whether these relationships are significant we need to apply the bootstrapping routine and examine the t values, p values, or bootstrapping confidence intervals. Bootstrapping procedure randomly amplifies the existing data to a number of samples (5,000 bootstrap samples in this case).

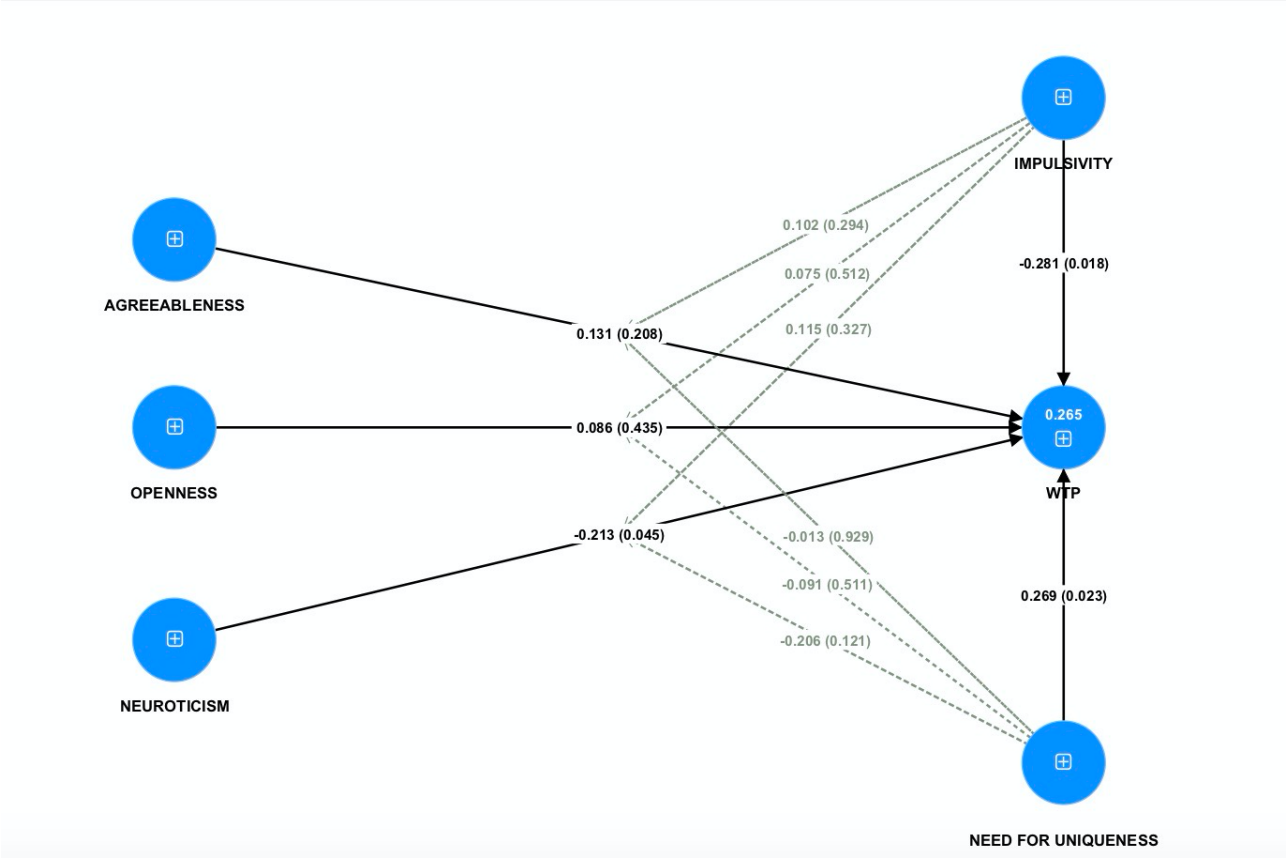
In the advanced settings, we choose Bias-Corrected and Accelerated (BCa) Bootstrap, two-tailed testing, and a significance level of 0.05.

The bootstrap function allows to determine the empirical t and p values for all structural path coefficients; if the t value is larger than the critical one, we can affirm that the coefficient is statistically significant at a certain error probability.

If, for example, we assume a significance level of 5%, the p value must be smaller than 0.05 to affirm that the statement under consideration is significant at 5% level.

Exhibit n. 4 - Path coefficients and p values for the structural model relationships as resulting from the bootstrapping procedure.

Source: Smart-PLS



The bootstrapping results are presented in **table n. 14**, together with the p values, t values and the Original sample, or Beta value, which indicates the weight that an independent variable has on a dependent variable; the relationship between two variables is significant when the Beta value is higher than 0.20.

If we consider a 5% significance level, we will obtain the following significant relationships in the structural model:

IMPULSIVITY → WTP with a p value of 0.018

NEED FOR UNIQUENESS → WTP with a p value of 0.023

NEUROTICISM → WTP with a p value of 0.045

The other p values, related to AGREEABLENESS and OPENNESS have levels higher than 0.05 and therefore are not significant.

Table n. 14 - Results of the hypothesis testing

	Direction	Original sample (O)	Standard deviation	T statistics (|O/STDEV|)	P values	Significance (p<0.005)
AGREEABLENESS -> WTP	+	0.131	0.104	1.259	0.208	NO
IMPULSIVITY -> WTP	-	-0.281	0.119	2.363	0.018	SI
NFU -> WTP	+	0.269	0.118	2.282	0.023	SI
NEUROTICISM -> WTP	-	-0.213	0.106	2.004	0.045	SI
OPENNESS -> WTP	+	0.086	0.111	0.780	0.435	NO

4.3 - MODERATION

Moderation describes a situation in which the nature of the relationship between two constructs is not constant but differs depending on the values of the third variable, referred to as a moderator variable. The moderator variable can change the strength or even the direction of a relationship between two constructs in the model.

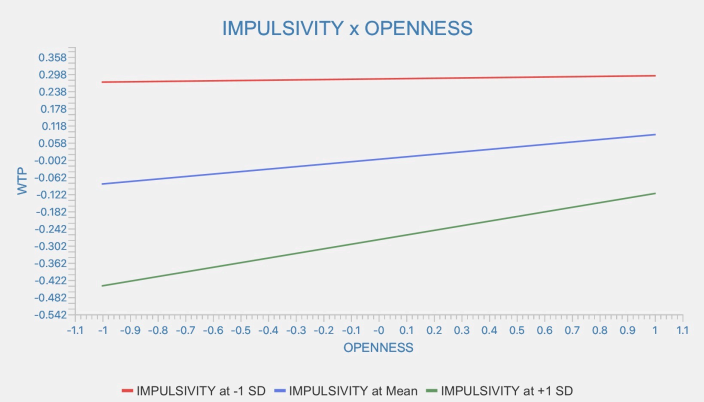
There are multiple types of moderation variables: they can represent observable or unobservable traits; they can be measured with a single item or multiple items. The most important differentiation regards the moderator's measurement scale, which can be categorical or continuous moderators. In this study I have included two "continuous moderator variables", meaning that they can affect the strength of the relationships between two constructs. If this moderator effect is not present, we would assume that the strength of the relationship between constructs is constant.

In detail, our study tries to evaluate the moderator effect of impulsivity and need for uniqueness in the relationship between the Big Five personality traits and WTP for sustainable apparel. Smart-PLS give us the opportunity to visualize graphically the impact of a moderator variable on the relationship between each personality trait and WTP.

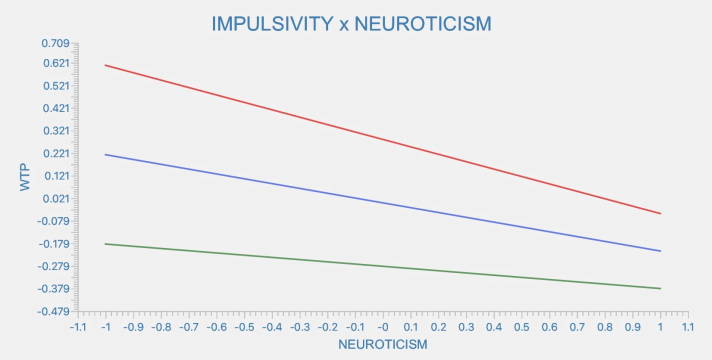
IMPULSIVITY AS MODERATOR VARIABLE

Red line = 1 standard deviation (SD) below the mean
Blue line = mean
Green line = 1 SD above the mean

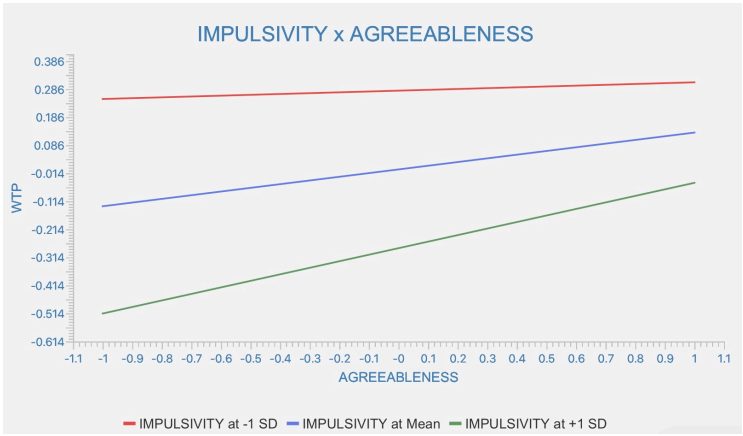
From this graph we can derive that there is a positive relationship between openness and WTP, since the mean is sloping upward. The mean line shows us the regular effect, not considering the moderating variable.



This relationship is strengthened by the moderator variable "impulsivity". The red line has a less steep positive effect, it is almost flat. We can affirm that impulsivity amplifies the positive effect between openness and WTP because the positive effect has a steeper slope when there is more impulsivity (green line).



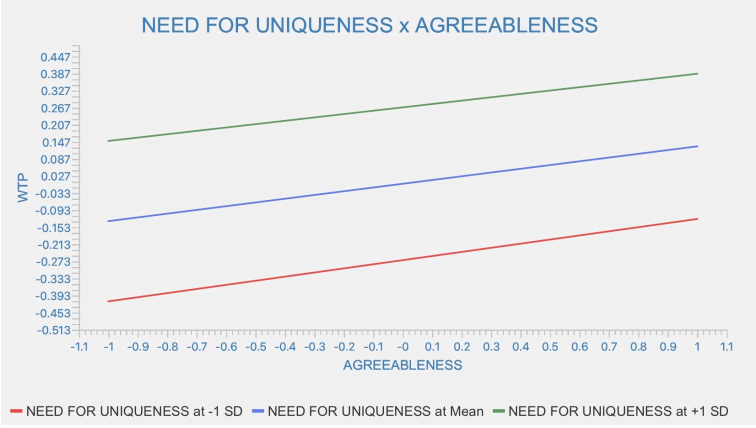
The negative relationship between neuroticism and WTP (the slope is negative) is lightened by the role of impulsivity as moderating variable. The steepest line is the red one, characterized by low values of impulsivity. It means that low levels of impulsivity emphasize the negative relationship between neuroticism and WTP; while high levels of impulsivity (green line) are always on the same direction (negative) but with a less steep slope.



The slope of the mean is increasing, so we can state that there is a positive relationship between agreeableness and WTP. This relationship is strengthened by the moderator variable "impulsivity". The red line is characterized by lower level of impulsivity, while the green line has more impulsivity.

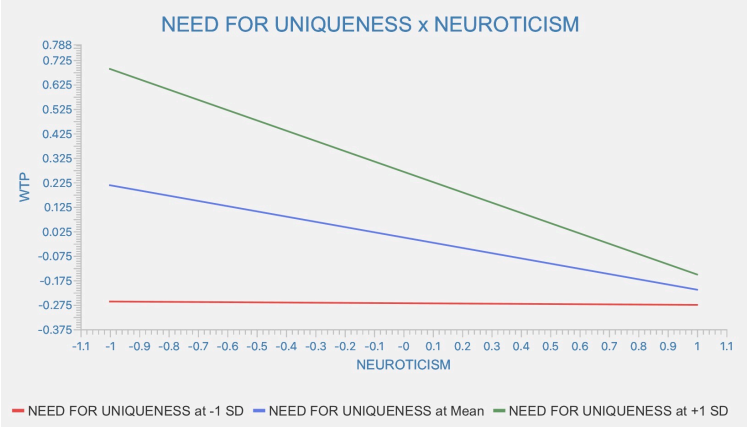
We can affirm that impulsivity amplifies the positive effect between agreeableness and WTP because the positive effect has a steeper slope when there is more impulsivity.

NEED FOR UNIQUENESS MODERATOR VARIABLE

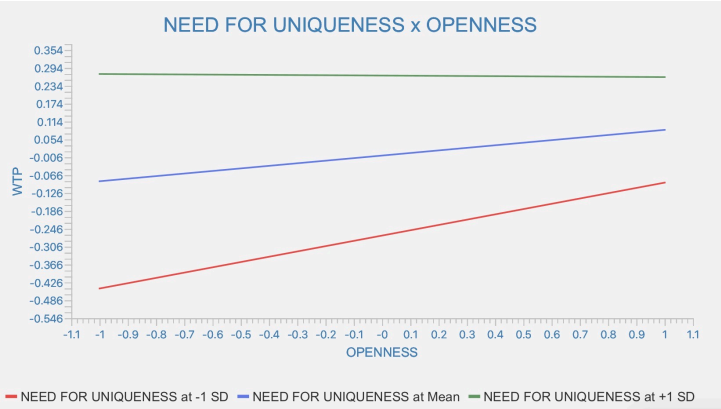


In this case, we can see all three lines parallel which means that there is no real moderating effect.

So, the moderator variable "need for uniqueness" does not influence the positive relationship between agreeableness and WTP for sustainable apparel.



There is a negative relationship between neuroticism and WTP, since the mean is represented by a decreasing line. The "need for uniqueness" will amplifying even more this negative relationship because the red line which represents 1 SD below is completely flat, as you go up the slope gets more steeply negative.



From this graph we can derive that there is a positive relationship between openness and WTP, since the mean is sloping upward. The mean line shows us the regular effect, not considering the moderating variable.

The green line, when there is more NFU is almost flat, while we ca identify the steepest slope in the red line, characterized by low levels of NFU. It means that the moderating variable NFU negatively moderates the positive relationship between openness and WTP.

The graphical representation allows us to make general statement about the effect of moderating variables on specific relationship. But in order to assess whether the moderator variables are significant or not, we should look at values of t-statistics and p-values.

Table n. 15 - Results of hypothesis testing with the moderation effect

	DIRECTION	**Original Sample)**	**t Statistics (|O/STDEV|)**	***p* values**	**Significance (p<0.005)**
IMPULSIVITY x OPENNESS -> WTP		0.075	0.656	0.512	NO
IMPULSIVITY x NEUROTICISM -> WTP		0.115	0.980	0.327	NO
NFU x AGREEABLENESS -> WTP		-0.013	0.089	0.929	NO
NFU x NEUROTICISM -> WTP		-0.206	1.553	0.121	NO
IMPULSIVITY x AGREEABLENESS -> WTP		0.102	1.049	0.294	NO
NFUS x OPENNESS -> WTP		-0.091	0.657	0.511	NO

We can conclude that if a neurotic/opened/agreeable buyer is also impulsive or has a high need for uniqueness, this will not affect his/her WTP for sustainable apparel. Both the moderator variables that we assumed, turned out to be not significant.

Instead, they are significant if we assume a direct relationship with WTP. In this case, impulsivity will have a negative relationship with WTP for sustainable apparel; and “need for uniqueness” will increase the WTP.

	Direction	Original sample (O)	Standard deviation	T statistics (|O/STDEV|)	P values	Significance (p<0.005)
IMPULSIVITY -> WTP	-	-0.281	0.119	2.363	0.018	SI
NFU -> WTP	+	0.269	0.118	2.282	0.023	SI

4.4. - HYPOTHESES TESTING

The confirmation of the hypothesized relationships is inferred from the results obtained through the partial least squares structural equation modeling technique and based on the interpretation of the path coefficients reported in table 14.

for what concern the significance test, the acceptance region in a two-tail test with significance level equal to 5%, is in the interval [-1.96; + 1.96]. If the t-value falls within this region it means that relationship between the two variables is significant, otherwise it will be not significant.
Another method to assess the significance of variables is the p-value approach. It compares the probability associated to the observed t-value with the probability of error that I can tolerate. In this case, with a significance level of 5%, we can state that only the relationships with p-values lower than 0.05 will be significant.

First of all, it is important to remember that the hypotheses linked to extraversion and consciousness (H1 and H3) **cannot be demonstrated**.
(H1): There is a positive relationship between extraversion and the willingness to pay for sustainable clothes

(H3): There is a positive relationship between conscientiousness and the willingness to pay for sustainable clothes

This is because I decided to remove completely from the analysis, and consequently as a variable of my study the extraversion and consciousness variables since, after the elimination of non-acceptable indicators, they both became a single-item scale. A study from Diamantopoulos, Sarstedt, Fuchs et al. (2012), establishes that adopting a single-items scale might be risky, it could raise a problem of credibility since an observable measure cannot fully explain the complexity of a construct. McIver and Carmines (1981, p.15) support this theory affirming that, “It is very unlikely that a single item can fully represent a complex theoretical concept or any specific attribute for that matter”. On the contrary, multiple-item scales normally tend to increase the construct’s reliability and validity.

Now, we proceed with the following hypotheses. Hypothesis number 2 assumes that:

(H2): There is a positive relationship between agreeableness and the willingness to pay for sustainable clothes

	Direction	Original sample (O)	Standard deviation	T statistics (|O/STDEV|)	P values	Significance (p<0.005)
AGREEABLENESS -> WTP	+	0.131	0.104	1.259	0.208	NO

The hypothesis H2 is **not confirmed** since the variable "agreeableness" is resulted not significant in the analysis (p-value higher than 0.005). The same result is confirmed by looking at the t-statistic: in order to be significant with a 5% level of significance, the t-statistic should be in absolute value greater than 1.96; while in this case is equal to 1.259.

The fourth hypothesis suggest that the neurotic consumer may not be willing to pay for sustainable clothes, affirming that:

(H4): There is a negative relationship between neuroticism and the willingness to pay for sustainable clothes

	Direction	Original sample (O)	Standard deviation	T statistics (|O/STDEV|)	P values	Significance (p<0.005)
NEUROTICISM -> WTP	-	-0.213	0.106	2.004	0.045	SI

Neuroticism has resulted as a significant variable presenting a p-value < 0.005 and t-statistics equal to 2.004. Then we look at the beta value, which is negative and > 0.2, and allow us to **confirm the hypothesis**.

The fifth hypothesis (H5) assumes that the independent variable openness to experience positively influences the dependent variable WTP for sustainable fashion.

(H5): There is a positive relationship between openness and the willingness to pay for sustainable clothes

	Direction	Original sample (O)	Standard deviation	T statistics (|O/STDEV|)	P values	Significance (p<0.005)
OPENNESS -> WTP	+	0.086	0.111	0.780	0.435	NO

The hypothesis H5 is **not confirmed** since the variable "openness to experience" is resulted not significant in the analysis (p-value higher than 0.005). The same result is confirmed by looking at the t-statistic which should be in absolute value greater than 1.96; while in this case is equal to 0.780.

The hypotheses number 6 and 7 were related to the effect of the two moderating variables: impulsivity and need for uniqueness. In particular, it has been assumed that:

(H6): Need for uniqueness positively moderates the effect of the Big Five on WTP for sustainable apparel

(H7): Impulsivity negatively moderates the effect of the Big Five on WTP for sustainable apparel

But, the results of hypothesis testing with the moderation effect gives us not even one significant effect. We can conclude that if a neurotic/opened/agreeable buyer is also impulsive or has a high need for uniqueness, this will not affect his/her WTP for sustainable apparel. Both the moderator variables that we assumed, turned out to be not significant.
Therefore, H6 and H7 are **not confirmed.**

Instead, they are significant if we assume a direct relationship with WTP as we have hypothesized in H6b and H7b.

(H6b): There is a positive relationship between need for uniqueness and WTP for sustainable apparel

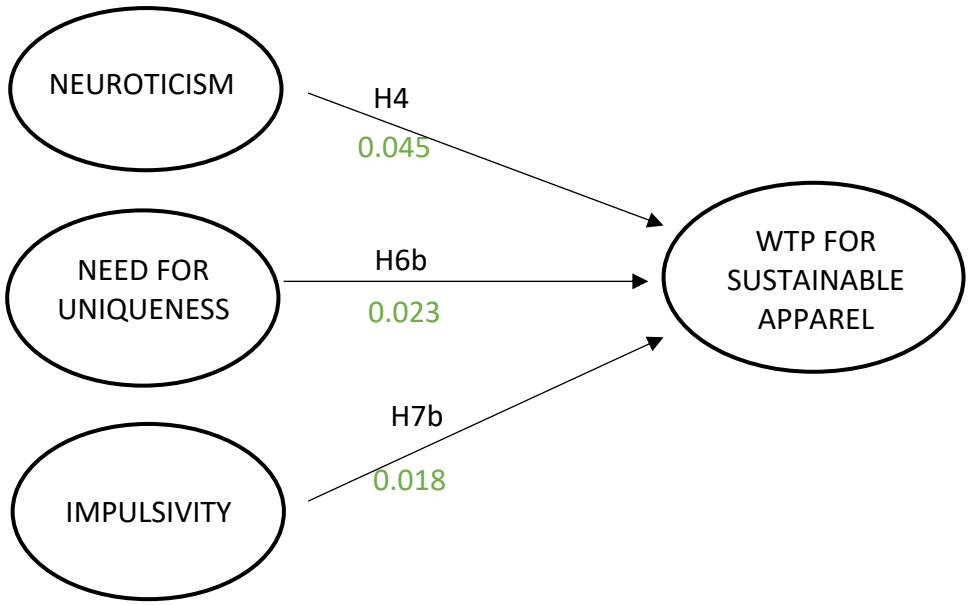
(H7b): There is a negative relationship between impulsivity and WTP for sustainable apparel

	Direction	Original sample (O)	Standard deviation	T statistics (|O/STDEV|)	P values	Significance (p<0.005)
IMPULSIVITY -> WTP	-	-0.281	0.119	2.363	0.018	SI
NFU -> WTP	+	0.269	0.118	2.282	0.023	SI

Impulsivity has resulted significant with a p-value < 0.05 and t-statistic > 1.96. It has been assumed to be negatively related to WTP for sustainable clothes, and its beta value has indeed a negative sign, which allows us to **confirm the hypothesis** H7b.
Also "need for uniqueness" is turned out to be significant with a p-value equal to 0.023 and a t-statistic equal to 2.282. Therefore, I have been able to **confirm the hypothesis** related to NFU for which it has been assumed a positive relationship with WTP.

In the end, I have been able to confirm three hypotheses (H4), (H6b) (H7b).

Exhibit 5 - graphically represents all the confirmed hypotheses with the relative p values.



5. CONCLUSIONS

The current study aims to establish a relationship between the individual's personality traits and willingness to pay for sustainable apparel.

Recently, sustainability has become one of the most discussed topics globally, due to the environmental degradation of the last decades which includes global warming, rising seas, declining air quality, shrinking animal habitats, increasing droughts, and spreading of newly diseases. Everyone - government, businesses, and individuals - have become increasingly aware of the need to reduce our environmental footprint. Companies should adopt more sustainable manufacturing processes, be transparent and be able to communicate the "identity" of the product. Governments and international organization have the responsibility to develop strict certification and eco-label that would easily drive consumers towards sustainable consumption; and they should design regulations that will prevent companies from polluting and damaging nature in their production activities. As a result, the consumer is considered the key player in green market since the approval of sustainable products depend mostly on his decisions, but he/she should first learn how to purchase in a more ethical way (Laroche et al, 2001, pp. 503 - 520), (Bigliardi et al. 2022)

In particular this study will focus on the fashion industry since it is known for its high-water usage, overproduction, large use of chemicals and the unfair working condition of the employees in the factories.

In order to be sustainable, the fashion industry should move toward the so-called slow fashion. It consists in emphasizing more sustainable practices, prizing craftsmanship, good stewardship, and quality products. Therefore, they promote sustainability through more ethical sourcing and production techniques as well as by using organic, recycled, or more durable materials. Further, the labor involved in the production of such garments receives higher wages and greater protection than its counterparts in the supply chain of the fast fashion industry (Colasante & D'Adamo, 2021, pp. 1-2).

Consumers will be willing to buy and to pay for sustainable apparel as long as they perceive the value offered by this alternative. The more consumers have concern about the environment, the more they will be willing to pay for sustainable apparel (Notaro, Paletto 2021). Their purchasing decision are therefore affected also by emotions, moral obligations, and personality traits.

Clothes and fashion world help people to construct a self-image and to express their personality, sometimes it is the most immediate way to communicate it to others.
For this reason, the aim of this study is to establish a relationship between the individual's personality traits and willingness to pay for sustainable apparel. The personality traits examined are the famous Big Five: extraversion, agreeableness, consciousness, neuroticism and openness. I additionally supposed that impulsivity and need for uniqueness play the role of moderators, influencing the relationship of each Big Five and the WTP.

The study is based on a quantitative research model, therefore, data have been collected through the compilation of a survey.
The questionnaire obtained very quickly 183 interactions, thanks to the adoption of the "snowball sampling method" according to which the researcher starts identifying a small group of participants that will, in turn, recruit other participants.
They survey has been designed to exclude the respondents who do not have the appropriate features to be part of my sample, namely people who are not at all informed, nor interested in it (the number of respondents fell to 166). The specific target population for this study consisted of Italian female with an age comprised between 19 and 35 years old. So, I have decided to include some additional filter questions regarding the place of origin, gender, and age (47 answers have been deleted). I have continued to skim the sample with the aid of attention checks, eliminating 8 respondents. After having applied all filter questions, I came up with 111 valid interactions. Since the software PLS-SEM supports maximum 100 interactions, I have decided to eliminate the extra 11 responses of speeders respondents (I have discarded the answers that registered a time of response 50% below the average).

5.1 - DISCUSSION

To verify the existence of a relationship between WTP and personality traits, a modeling tool of the structural equation based on variance, named Smart-PLS has been used which employs a method called Structural Equation Modeling (SEM).

PLS-SEM is considered an emerging data analysis tool widely used not only in management research: it has recently received considerable attention in a variety of contexts including marketing, accounting and virtually all social sciences disciplines (Hair et al., 2014, p. 106).

Its popularity can be explained by a series of advantages over other methods that it offers: in particular, it provides researchers with more flexibility regarding data requirements, it is useful for complex models and the specification of model relationships (Hair et al., 2014). In fact, much of the increased application of PLS-SEM can be attributed to the method's capability to cope with problematic modeling issues that occur commonly in the social sciences, even highly complex models.

Findings in this study give a contribution to the literature since the Big Five personality traits have never been used to predict the WTP for sustainable products in the textile sector. The Big-Five representation is the most used model in studies that aim to investigate the effects of personality in specific actions or lifestyles. Due to its widespread use, this approach gained a good reputation in terms of reliability. Many studies already came to important conclusions about the relationship between the Big Five and environmental concern and/or attitudes in general, but this study takes a step forward and analyze the impact on WTP.

Others concentrate on the willingness to pay for green products as a whole category of goods, instead I focused on the fashion industry which is one of the most polluting ones. Most studies related to fashion analyzed secondary personality traits such as local identity (Ng et al., 2021), skepticism (Kwong & Balaji, 2016), and frugality (Wang et al., 2021). So, through this study, I will try to fulfill the gap I found in the literature: trying to determine the relationship between each personality trait (extraversion, agreeableness, consciousness, neuroticism, openness) and the WTP of consumers for sustainable apparel.

As a consequence of the results obtained from the analysis concerning the convergent validity of the constructs, I removed the extraversion and consciousness independent variables and the hypotheses associated with them.

Results related to the Big Five traits, revealed that the variables agreeableness and openness to experience are not significant, causing the inability to confirm the related hypotheses (H2) (H5). Considering this study, the lack of statistical significance could be determined by the small size of the sample which included just 100 respondents. I assume that if I had more data, I would probably have obtained a p-value that would have allowed me to confirm more hypotheses.

In previous research, greater environmental concern was related to higher levels of the Big Five personality trait of agreeableness (Hirsh & Dolderman, 2007), (Tang & Lam, 2016), (Olga Kvasova, 2015). Agreeableness, in fact, is associated with being a 'good citizen', for them, it is easier to be concerned and take actions about environmental problems since they hold a selflessness orientation, they are cooperative towards others. Indeed, it is logical to expect that individuals who are altruistic, empathetic, and compassionate would make more environmentally friendly choices. These are the reason why we assumed a positive relationship between agreeableness and WTP for sustainable apparel. Surprisingly, despite the many articles which confirmed this positive relationship, our study found the variable "agreeableness" as non-significant.

Even if people with high scores on agreeableness exhibit a high level of environmental concern, this is not automatically translated into higher willingness to pay for sustainable apparel. This could be a possible reason to explain why the positive relationship between agreeableness and WTP for sustainable apparel (H2) is not supported.

Generally consumers affirm to be concerned about the environmental and social impacts of the products they buy. But when it comes to actually buying green goods, words and deeds often part ways. So, it seems to be a significant gap between consumers' explicit mentality about sustainable products and their concrete actions in the purchasing decision process (United Nations, 2005) (Joshi et al., 2021).

Among all possible pro-environmental behaviors, green purchasing behavior was the least popular activity. People tend to be engaged more frequently in daily activities such as switching off lights and recycling paper, rather than considering environmental factors when purchasing products (Caeiro et al., 2012, p. 73).

The variable openness to experience also resulted to be non-significant. We can observe the same conclusion in the study by Olga Kvasova (2015) in the field of eco-friendly tourist behavior.

Other studies instead, (Fraj and Martinez, 2006), (Markowitz et al., 2012) encouraged us to assume a positive relationship between openness to experience and WTP for sustainable apparel.

Markowitz, Goldberg, Ashton affirmed that "facets of Openness to Experience, such as aesthetic appreciation and intellectual curiosity, might influence one's interest in nature and environmentalism".

Opened people enjoy trying new experiences and ideas, it means that they also appreciate, and they are willing to pay more for innovative products. We also stated that sustainability in the fashion industry can be considered a novelty: experts in this field are continuously researching for alternative materials to realize sustainable garments. But for sure it is not the industry in which opened people can satisfy at maximum their need for innovation. Innovation is not always translated into sustainability: it is often applied to technological tools such as household appliances, smartphones, tablets which rarely possess sustainable features, on the contrary are very difficult to be disposed.

In some cases, innovation contribute to a more sustainable lifestyle: zero emission vehicles, renewable energy technologies… people who score high on openness to experience might be willing to pay more for sustainable products in these sectors, rather than in the textile industry. This could be a reason that justifies the lack of support for H5.

The literature about the relationship between neuroticism and eco-friendly behavior is plenty of contradictory findings. For instance, Hirsh and Dolderman (2007) and Fraj and Martinez (2006) did not find any relationship between Neuroticism and ecological concerns. The study of Kvasova (2015) assumed and confirmed a positive relationship between neuroticism and pro-environmental tourist behavior. This result can derive from the fact that more neurotic individuals tend to respond more emotionally to all kinds of negative scenarios, and they are more worried about any phenomenon with negative consequences (including increasing environmental degradation), therefore they try not to contribute to environmental degradation

On the contrary, the findings in our study, confirm the theories according to which neurotic people generally are less trusting (Leary & Hoyle, 2009, pp. 129-146), they do not easily believe to the positive effects of sustainable products and therefore are reluctant to buy them. In fact, the results allow us to confirm the hypothesis H4 according to which there is a negative relationship between neuroticism and the WTP for sustainable apparel. People high in neuroticism tend to perceive

negative situations in general, as impossible to solve, as they ‘‘are likely to interpret ordinary situations as threatening and can experience minor frustrations as hopelessly overwhelming’’ (Leary & Hoyle, 2009, pp. 129-146). If we apply this vision to our context, we obtain that according to neurotic people, purchasing sustainable apparel will be useless because the environmental degradation cannot be solved by simply changing our consumption habits.

In order to stop and reverse this negative trend, companies should gain the trust of consumers, by being transparent. The consumer always faces the information asymmetry problem with regard to the environmental performance or greenness of the properties.

Companies should be able to provide clear information regarding the origin of the materials, production processes and their environmental footprint and the benefits derived from the purchase of a specific green product. For that purpose, some steps forward have been taken in recent years thanks to the introduction of eco-labels certified by the EU which help consumers in making more responsible purchases. An eco-labeled product meets high environmental standards, from the material extraction to its disposal chemical (European Commission).

The results of hypothesis testing with the moderation effect gave us not even one significant effect. We can conclude that if a neurotic/opened/agreeable buyer is also impulsive or has a high need for uniqueness, this will not affect his/her WTP for sustainable apparel. Both the moderator variables that we assumed, turned out to be not significant. Instead, they turned out to be significant as independent variables affecting directly the WTP for sustainable apparel.

The findings related to the “need for uniqueness”, confirm the theories according to which an individual who feels the urge to differentiate from others and to enhance his/her self-image, will be more willing to adopt sustainable behaviors (H6b) (Tian et al., 2001).

In support of this, it has been affirmed that being creative in dressing styles is considered a non-verbal way to show individuality, but it is sometimes the most immediate. People usually express their uniqueness by showing a personal style, rejecting fashion trends typical of fast fashion movement. Fashion clothes at affordable prices that can be found in big shopping center, and which are distributed identical all over the world, cannot satisfy the needs of this consumer’s category. On the contrary, they are likely to pay a higher price to obtain just a few items which allow them to stand out from the crowd (Legere & Kang, 2020, pp. 2-11). The limited availability of sustainable

clothes makes them exclusive, generating a superior value for the customer who seeks for uniqueness.

Sales strategies should be designed taking into account these aspects in order to attract consumers with higher need for uniqueness. For example, they could underlie the uniqueness of the item on the label. In addition, it could be profitable try to customize the product as much as possible. The customer will perceive the product even more unique, made-to-measure, and he/she will be willing to pay even more for it. Since usually sustainable clothes are handmade by small firms or even by single individuals, it could be easy to include some custom-made features.

The results regarding impulsivity as independent variable, confirm that it has a negative impact on WTP for sustainable apparel (H7b). An impulsive individual reacts fast without thinking; Impulsivity applied to consumers' purchasing behavior is defined as a sudden, unplanned, and powerful temptation to purchase in response to both the internal and external stimulus (Taghikhah et al. 2021). This kind of unplanned action is opposed to the conscious and premeditate purchasing behavior typical of sustainable clothing, thesis which reinforce our findings. The urge to buy might stimulate people to buy products in more quantity and impulsively without considering its impact on the environment. In addition, price is the factor that mostly influences the impulsive shopper; consumers' impulsivity is stimulated by promotions, times sales, strategic product placement and in-store advertising. Since sustainable clothes are usually more expensive than the others, this will even more influence negatively the relationship between impulsivity and WTP for sustainable apparel.

To conclude, from this study it was found that the personality traits "neuroticism", "impulsivity" and "need for uniqueness" affect consumers' WTP for sustainable apparel. In particular, people who present high scores on neuroticism are not willing to pay more for eco-clothes because they do not trust companies and they do not easily believe to the positive effects of sustainable products. Moreover, according to them, purchasing sustainable apparel will be useless because the environmental degradation cannot be solved by simply changing our consumption habits.

Impulsivity also constitute an obstacle to consumers' WTP for sustainable apparel. Responsible and sustainable purchasing is characterized by conscious and premeditate behavior, opposite characteristics respect to the impulsive consumer. The urge to buy stimulate people to buy and accumulate big quantities of cheap clothes from fast-fashion chains, instead of making few responsible choices.

Need for uniqueness, on the other hand, contributes to increase the consumers' WTP for sustainable garments. People usually express their uniqueness by showing a personal style, rejecting fashion trends typical of fast fashion movement. On the contrary, they are likely to pay a higher price to obtain just a few items which allow them to stand out from the crowd.

In addition to the contribution to the literature in the economic and psychological field, the findings in this study have also some practical implications. It could help marketing and sales manager to develop more effective strategies to attract as many consumers as possible. Once they know which characteristics the consumers value and for which they are willing to pay a higher price, they can reinforce them. But also being aware of the reasons why these consumers do not purchase sustainable clothes, will help managers to enhance their sales strategies. They can eliminate the features that consumers do not appreciate in order to attract people with different personalities. Implications for practice are presented in the following section.

5.2 - IMPLICATIONS FOR PRACTICE

The interpretation of results obtain through Smart-PLS software is a fundamental section of the study.

The study concludes that the personality traits “neuroticism”, “impulsivity” and “need for uniqueness” significantly affect consumers’ WTP for sustainable apparel. In detail, neuroticism and impulsivity negatively influence the WTP; while there is a positive relationship between need for uniqueness and WTP for sustainable apparel.

These findings represent a contribution to the literature and also a practical instrument for companies. In particular, with their help, companies could develop new and effective marketing or sales strategies focused on attracting consumers with different personality characteristics.

A good marketing manager should be able to create and communicate the value of the product, but then it will be perceived differently by people, according to the different personality trait of the buyer.

Once they know which characteristics the consumers value and for which they are willing to pay a higher price, they can reinforce them. That is the case of “need for uniqueness”. For individuals who have high scores on that trait, the value of a piece of clothing is determined by its exclusivity. The more the product is unique, the more the consumer is willing to pay for it.

Therefore, managers could use this information to better communicate the peculiarities of their goods. They should convince people that a particular item will distinguish them from the crowd. To enhance the uniqueness of the product, companies could describe the origins of the raw materials, the process of production and the benefits derived from the purchase.

The customization of sustainable pieces of clothing could be another method to increase the value perceived by customers with a high need for uniqueness. Since usually sustainable clothes are handmade by small firms or even by single individuals, it could be easy to include some custom-made features.

Also being aware of the reasons why consumers do not purchase sustainable clothes, will help managers to enhance their sales strategies. They can eliminate the features that consumers do not appreciate in order to attract people with personalities that are not traditionally inclined to buy sustainable apparel.

In particular, results show that neuroticism has a negative relationship with WTP for sustainable apparel. One possible explanation for this result is that neurotic people generally are less trusting, they do not easily believe to the positive effects of sustainable products and therefore are reluctant to buy them.

It derives that one of the most important responsibilities of a company is to gain the trust of consumers by being as transparent as possible. They should communicate and guarantee the traceability of the product from the extraction of raw material to the manufacturing and shipping process, and even to the disposal of goods. For that purpose, some steps forward have been taken in recent years thanks to the introduction of eco-labels certified by the EU which help consumers in making more responsible purchases. An eco-labeled product meets high environmental standards, from the material extraction to its disposal chemical (European Commission).

Eco-labels are just one example; companies can easily communicate their values and benefits of their products even by reporting all the necessary information in their websites, with the aim to reduce the skepticism of neurotic consumers.

The last finding of our study is about impulsivity, which represents another obstacle to WTP for sustainable apparel. Impulsive consumers are characterized by completely unplanned action, opposed to the conscious and premeditate purchasing behavior typical of sustainable clothing.

Impulsive buying tendencies seem to be completely not related to the ethics of sustainability. Therefore, it is difficult even to formulate some advice for the implementation of more effective strategies.

One suggestion may regard advertising. Consumers' impulsivity trait is stimulated by promotions, time sales, strategic product placement and in-store advertising (Chen and Wang, 2016). Brands that produce garments ethically should advertise more their products in order to make a good first impression which is the main reason of purchase for impulsive buyers.

We can conclude that, in order to capture the interest of impulsive buyers, sustainable brands should focus on developing an attractive design and a strategical display of goods, rather than concentrating on communicating the "green" quality and advantages of their products.

The first pieces of eco-clothes were realized with simple shapes and inconspicuous colors, so people were attracted by them for the social value associated, rather than their design. Over time, huge strides have been made by popular fashion brand and in the future, ethics and aesthetics will go

hand in hand. Consumers now expect to wear clothes that are at the same time beautiful and "green". Thus, it is the duty of fashion companies to start moving in this direction.

Gucci, one of the world's most desirable fashion houses, is also of the most transparent brands: it guarantees the traceability of 95% of its raw material (www.equilibrium.gucci.it).

Another example is represented by Stella McCartney which is constantly striving to improve its environmental impact by looking for oil-free, plant-based materials. In 2018, they made the Falabella bag from Mylo™ – an innovative new material that looks and feels like leather, but is vegan and grown from mycelium, the underground root structure of mushrooms.

The French luxury brand Chloé declared that in the Autumn-Winter 21 debut collection, more than 80% of its cashmere yarn was recycled, with more than 50% of silk derived from organic agriculture.

So, we can conclude that some efforts have been already made by well-known luxury brands which have learned how to combine design and sustainability, proving that you can be both stylish and sustainable.

5.3. - LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

Besides the contribution to the present literature and the practical implication derived from our findings, this study presents some limitations that should be improved with future research.

First, the sample size is too small. Conducting the same survey on a bigger population would have probably obtained more significant variables and more reliable results.
I had to recruit a limited number of respondents for issues connected to the usage of the software Smart-PLS which supported maximum 100 interactions.
Moreover, I chose a specific and limited sample which included Italian females in the age between 19-25 years old. I have made this decision because the literature affirms that they represent the segment of the population who exhibit the highest level of demand for new fashion items. Another reason could be the adoption of the snowball sampling method: since I have forwarded the survey mostly to friends and peers, I have obtained a very homogenous sample.
This is not a problem, since personality traits do not depend on demographic characteristics, but it would be interesting to obtain more responses from people of different age, gender, origin and income classes to examine how these differences could impact the WTP for sustainable apparel.

Second, considering the "Big Five" model could be reductive since summaries all possible personality traits into just five categories. Future research could replicate and extend these findings by using other measures of personality traits that could better captures different shades of human personality.

Even if it may seem a discussed topic, there are not many scientific findings related to sustainable fashion consumption. The results from our survey confirm this trend: the vast majority of respondents were not at all informed nor interested in that topic (9,3%) or slightly informed but interested in learning more (56,3%). Instead, just the 8% of people affirmed to be informed about sustainable fashion in the questionnaire. Therefore, they might not be able to assess their willingness to pay for sustainable apparel because they are not aware of the advantages and benefits of this kind of purchase.

Another possible limitation can regard the assessment of the willingness to pay more. I chose to adopt a measurement scale, that helped me to determine whether or not a consumer was willing to pay a higher price for sustainable apparel than non-sustainable apparel. It would be interesting, in future research, to opt for a single-item scale in which respondents are asked how much they would pay for a product. Obtaining numerical answers which are more precise, could help managers to develop better and more direct strategies, addressed to people characterized by different personality traits.

Tables

Exhibits

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