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How the Big Five Personality Traits influence consumers' Willingness to Pay for sustainable coffee

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During the last few decades, sustainability has become a global topic and we witnessed an increasing concern and awareness around environmental issues. As a result, a growing number of consumers have changed their purchasing habits and started buying more sustainable products in their daily lives.

My thesis focuses on the analysis of sustainable coffee: over the years, the coffee industry has undertaken an intense campaign of collaborative initiatives along the supply chain, which has led coffee to become the first fully sustainably produced agricultural product. This industry has also been a pioneer in applying labels that indicate sustainable production.

This study aims to detect and examine the relationship between the Willingness to Pay for sustainable coffee and consumers' personality, analysed by means of the Big Five Personality Traits - Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism - and the construct of Product Involvement, treated as independent variables of my research model. This relationship has been supposed to be moderated by two variables: Impulsivity and Warm glow effect.

The hypotheses have been tested through a quantitative research model: the survey I created registered 97 valid answers, and the hypothesised relationships have been analysed through the SEM-PLS technique.

The results show how Openness to Experience and Conscientiousness are positively related to the Willingness to Pay more for sustainable coffee.

The last few decades have witnessed an increase in interest in the topic of sustainability, which can be defined as the balance between the environment, equity, and economy; the UN has described sustainable development as a development that is able to meet the needs of the present without compromising the capability of future generations to meet their own needs.

Across the decades, countries, industries, and individuals have understood the importance of reducing our impact on the environment and have tried to find ways to reduce environmental deterioration, for example by creating and applying new laws, new international agreements and conferences, modifying their production systems, and adopting more sustainable consumption behaviours.

Nowadays, several businesses have already started to create and implement green campaigns considering their impacts on society and the environment, following the concept of "Corporate Social Responsibility" (CSR).

Recently, we have experienced a substantial increase in the number of consumers who are more willing to purchase sustainable food. Events such as climate change, a limited quantity of water and land to cultivate, and a higher population are just some of the factors that influenced consumers and led to this new pattern of consumption. The modification of individuals' environmental attitudes and consumption practices is becoming more and more important in the common goal of coping with grand global challenges. Global research carried out by Nielsen in 2019 has found that almost three-quarters of the people interviewed are willing to change their consumption habits to reduce the impact on the environment.

One important way in which consumers can be effectively informed about the sustainable origin of the product they are purchasing is sustainability labels: they are specific marks that are positioned on the packaging of different products or in catalogues that allow consumers and/or institutional purchasers to easily and quickly identify those foods or items that meet specific environmental performance criteria; these labels can be issued and owned by government agencies, non-profit organizations, or private sector companies.

My thesis will focus on the analysis of one particular product: coffee.

Coffee is one of the most preferred and purchased beverages all over the world, with more than 400 billion cups consumed every year (Sachs et al., 2019). For example, the daily demand for speciality coffee in the U.S. increased by 27% between 2001 and 2017 (NCDT, 2017). The 2021 National Coffee Data Trend report described that around 60% of Americans have had coffee during the past day, and this is a higher value than any other beverage, including tea (47%), soda (39%), and even tap water (47%). Its consumption even rose due to several factors, including the trends and preferences of new generations and the increasing number of speciality coffees.

Over the decades, the coffee industry has undertaken an intense campaign of collaborative initiatives along the supply chain, which has led coffee to become the first fully sustainably produced agricultural product (Conservation International, 2020). This initiative is supported by the idea that coffee consumers are willing to pay more for certain characteristics related to sustainable development and environmental safeguards.

Throughout history, we can identify three main waves of coffee consumption. According to Manzo (2010), the "First Wave" started during the 1920s, a period that was marked by the spread of this product and the rise of different coffee corporations, including Maxwell House and Folgers. The "Second Wave" happened in the last years of the 1960s, and it was mainly characterised by the increasing number of small roasters, such as Starbucks, which emphasised the unique qualities of coffee flavours and tastes; a central aspect that characterised this period was the rise in concern about environmental and social issues related to coffee production. Finally, there is the current "Third Wave", which can be described as a movement mainly driven by the demand for high-quality coffee, that focuses at the same time on social and environmental issues.

Coffee has been a pioneer in applying labels that indicate its sustainable production. However, at present, the supply chain of coffee is experiencing a sustainability predicament due to an increasing demand from consuming countries and a crisis in supply from producing countries. The International Coffee Organization (ICO) deemed the coffee crisis as threatening for sustainable development, since it affects farmers' livelihoods as well as ecosystems. The crisis began with a constant decrease in the prices for international coffee, and this forced many

farmers to sell their farms, following rent-seeking activities such as illegal drug production and migration to industrialized countries (Osorio, 2002).

One of the main solutions that was adopted to reduce some of the various social, environmental, and economic issues in the coffee industry was the bloom of sustainability labelling.

Sustainability labels are becoming more and more common on our supermarket shelves. The idea behind this is that consumers might be willing to pay more for products with one or more sustainability labels than for those without any labels. The main aim of these certifications is to improve the conditions and revenues of farmers' and producers' communities and guarantee the preservation and safeguarding of the environment. At the same time, producers employ sustainability certifications to guarantee certain standards of social and environmental efforts to consumers. Among the most important and widespread sustainability labels, we find Fair Trade, Organic Trade, and Rainforest Alliance labels, which will be analysed in detail later in my thesis (Loureiro and Lotade, 2005). Other important sustainability labels in the coffee industry are 4C, UTZ, USDA, and OCIA.

The main goal of this thesis is to detect and, if existing, analyse the relationship between willingness to pay for sustainable products, in this case coffee, and consumers' personalities. In order to evaluate personality, the well-known Big Five Personality Traits model will be employed. According to this model, individuals' personality characteristics can be grouped into five wide traits, specifically, Openness to experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism.

Openness to experience refers to the ability of a person to be receptive to new ideas and approaches (McCrae and Costa, 1997a). People characterised by high Openness to Experience tend to actively search for new experiences (McCrae and Costa, 1987; Aluja et al., 2003; Giluk and Postlethwaite, 2015) and enjoy the process of exploring and discovering new ideas and methods. They are usually imaginative, intelligent, broad-minded, and artistically sensitive (McCrae and Costa, 1985).

This trait has been defined as a significant predictor for preferring, purchasing, and consuming organic food: people with the highest levels of Openness to experience tend to purchase organic food much more often than other individuals, as they perceive them as healthier and better than their "regular" counterparts, and they are willing to pay a higher price for them with respect to conventional food. According to what has been said, I have hypothesised that this trait is positively related to the consumption of sustainable coffee and the willingness to pay more for it.

Conscientiousness indicates the inclination for people to be responsible, goal-directed, organised, self-disciplined, and followers of rules and norms (McCrae and Costa, 1985; Roberts et al., 2009; Giluk and Postlethwaite, 2015). Generally, people who score high in this trait tend to be more determined, purposeful, systematic, and strong-willed. Furthermore, conscientious people tend to follow carefully social guidelines and 'do the right thing'; these characteristics can also be reflected in their environmental behaviour (Hirsh, 2010) and they are significantly associated with a higher future time perspective (Zimbardo and Boyd, 1999), which other researches have shown to be considerably related to a greater environmental engagement (Milfont, Wilson, and Diniz, 2012). So, I assumed that individuals who score high in Conscientiousness will be willing to pay more for sustainable coffee, which will contribute to enhancing the well-being of future generations.

Extraversion is about differences in preferences for social interactions and lively behaviours. Extrovert individuals tend to be affectionate, active, talkative, and fun-loving (Pervin, 2003; Costa and McCrae, 2006); moreover, they are usually described as assertive, outgoing, and energetic (McCrae and Costa, 1985).

Also, the influence of Extraversion on willingness to purchase and pay for green products has been largely investigated; studies have demonstrated how stronger and more positive attitudes toward green products lead consumers to a higher willingness to purchase and pay more for them. For these reasons, Extraversion is assumed to positively influence the WTP for sustainable coffee for my quantitative model.

The fourth Personality Trait in the Big Five model is Agreeableness: people who score high in this trait are usually more trusting, affectionate, altruistic, and generally display more prosocial behaviours than others (McCrae and Costa, 1987).

Its impact on WTP has been largely analysed in the existing literature: Fung and Lam (2016) found a positive relationship between Agreeableness and individuals' attitudes toward green products; people high in Agreeableness may be willing to purchase and pay more for organic foods with respect to so-called "ordinary food". Therefore, I presumed that a positive relationship between Agreeableness and WTP for sustainable coffee exists.

Finally, we find Neuroticism. Individuals who score high in this trait tend to be less able to control their impulses, find it hard to cope with stress, and respond emotionally to situations that would not influence most people; contrarily, low scores in Neuroticism may be translated into calm, hardy, relaxed, secure, self-satisfied, and unemotional personalities.

Literature about the relationship between Neuroticism and environmental concern and interest is full of contradictory findings. Starting from here, in this thesis, I cautiously hypothesised that higher scores in Neuroticism could be related to a smaller propensity to purchase and pay more for sustainable products, and so it is negatively linked to WTP for sustainable coffee.

Together with the analysis of Personality Traits, another independent variable that will be used in this model is Product Involvement.

Product Involvement can be defined as "an individual's perceived significance of the object, based on inherent requirements, values, and interests". Individuals characterised by a high level of Product Involvement will be more stimulated towards purchasing green products, and they will be more likely to make considerate choices among different products and brands, as they consider the differences that may arise among products very significant; high-involvement individuals will also be encouraged to pay more for products that are perceived as different, better, and highly valued with respect to the others—in our case, sustainable foods and "regular" foods. The relationship between Product Involvement and WTP for sustainable coffee is supposed to be positive.

This model also employs two moderator variables: by definition, a moderator variable is able to affect the direction and/or strength of the relationship(s) between a dependent and an independent variable.

The two moderators that I decided to include in my model are Impulsivity and Warm Glow effect.

We can describe Impulsivity, or impulsiveness, as the tendency of an individual to purchase something immediately, in an unintended and unreflective way. Buyers characterised by high impulsivity are usually more likely to experience spontaneous purchasing stimuli. Unplanned actions taken by impulsive consumers are opposed to the conscious and premeditated typical purchasing behaviour characterising people who tend to prefer sustainable goods; this aspect suggests a negative relationship with sustainability concerns. The need to buy something may lead people to purchase products in greater quantity and impulsively, without considering their impact on the environment or society.

Low prices have been proven to act as antecedents for impulsive shopping; as sustainable products are generally characterised by a higher price with respect to the others, it is highly likely that impulsivity will negatively influence the purchase of these foods and items and consequently consumers' willingness to pay more for them.

Finally, the second moderator variable is Warm Glow effect. The warm glow concept is a prosocial behaviour that causes the person to experience positive feelings associated with the act of giving (Andreoni, 1990). Warm glow is essentially the selfish gratification of individuals for having 'done the right thing' and helping other people. That is the reason why warm glow is also defined as "impure altruism".

Fuller, Grebitus and Schmitz (2022) showed how Warm Glow effect influences positively the attitude of consumers toward purchasing and paying more for those typologies of coffee that assure that the way in which they are produced takes care of social and/or environmental problems. Their findings have also suggested that consumers are willing to pay more for those coffee production methods that promise to tackle the temporal and social dimensions of sustainability.

So we can conclude that Warm Glow effect is highly likely to positively influence WTP for sustainable coffee.

The first part of my thesis will focus on an in-depth analysis of the most significant aspects of sustainability: I will start with a brief analysis of the general concept of sustainability, the main agreements and conventions that regulate it on a European and international level, and the concept of CSR (Corporate Social Responsibility). Following this part, there will be an analysis of the most significant sustainability labels in today's food market. After this, the focus will shift to the topic of sustainability in the coffee market, including the impact of the main sustainability labels and their position in today's world economy. The first chapter will conclude with a careful analysis of the main factors influencing willingness to purchase and pay for sustainable products and an introduction to the Big Five Personality Traits model.

The second chapter will focus on the description of the key research questions for my model and the hypotheses that have been developed.

After that, I will present the methodology that I have employed in my research, the collection of my data and the main characteristics of my final sample.

In the fourth chapter, I will proceed with the analysis of the results derived from the examination of my data, and finally, in the last chapter, I will discuss the results that I have obtained, their contribution to the literature, and their implications for practice, indicating the possible limitations of my study and giving suggestions for future research.

Chapter I

Literature review

1.1 Sustainability

According to the United Nations, sustainability can be described as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (United Nations, 2019).

A growing number of consumers have changed their purchasing habits over the last few decades, and have begun using more sustainable products in their day-to-day lives (Watts et al., 2005; Holloway et al., 2007). The great awareness of environmental degradation and the insufficiency of natural resources are among the factors that led to this new behaviour (Moisander, 2007).

There is also another factor that should be taken into consideration: a growing concern for food safety demonstrated by consumers, which has been sparked by the various food scandals that happened in recent years (Gan et al., 2016; Rampl et al., 2012).

Given the scenario, the consumption of organic foods is one of the most popular sustainable behaviour alternatives (Yin et al., 2010; Gan et al., 2016; Magistris and Gracia, 2016), because of their good image and the perception that, by their very nature, they help to solve the aforementioned problems (Gan et al., 2016; Nikodemska-Wołowik, 2009; Singh and Verma, 2017; Vega-Zamora et al., 2014).

The consumption of organic foods is a way for people to adopt more respectful behaviours for the environment (Laureti and Benedetti, 2018) and safeguard the current and future generations (Moser, 2016).

1.1.1 Main agreements

During the years numerous agreements and conventions have been signed at European and international level in order to try to safeguard natural environment and guarantee a certain level of sustainability.

One of the first treaty to be signed was the Stockholm Conference, also known as the "United Nations Conference on the Human Environment": this conference was held in 1972 and it is recognised as the UN's first major conference on international environmental issues; it marked a turning point in the development of international environmental politics.

On the 20th anniversary of the Stockholm Conference, the United Nations Conference on Environment and Development (UNCED) took place in Rio de Janeiro, Brazil. This conference, also known as "the Earth Summit", brought together many representatives from 179 countries all over the world: the main topic of discussion was "the impact of socio-economic activities on the environment" (United Nations).

This conference contributed to underline how different social, economic and environmental factors are connected to each other and move and change together, and how the achievements in one sector are only possible with the support of actions in one other or more sectors to persist over time.

The main goal of this Conference was to make a broad agenda and a new plan for international action on environmental and development issues that would help guide international cooperation and development policy for the 21st century.

On of the main results that was achieved with this Conference was Agenda 21: it is a detailed program of new plans and strategies to invest in the future to reach sustainable development for the 21st century. Its ideas covered a number of topics, such as education, preservation of natural resources and new ways of taking part in a sustainable economy.

In 1997 the Kyoto Protocol was adopted, but entered into force some years later, in 2005. Today, 192 Parties belong to the Protocol. Its main aim was to "reduce and limit greenhouse gases emissions in accordance with agreed individual targets".

The Kyoto Protocol is binding only for developed countries, and places a heavier burden on them, as it recognises the fact that they are largely responsible for the high levels of Greenhouse

Gases emissions. In the Annex B, this document explains in detail the targets of emission reduction for 37 industrialized countries in the EU. The targets aimed to a reduction of 5 percent of emissions for the period 2008-2012, with respect to 1990.

In 2002, the World Summit on Sustainable Development Summit was held in Johannesburg, South Africa. On this occasion, a Political Declaration and Implementation Plan were adopted: it included a number of provisions which covered different activities and measures to be taken to achieve a sustainable development, in terms of environment safeguard. This summit resulted in decisions related to the topics of "water, energy, health, agriculture, biological diversity and other areas of concern" (United Nations). Relatively to health, for example, the main focus was on the fight against HIV and AIDS, and for agriculture many negotiations on the WTO Agreement on Agriculture were made, including those related to the reduction of export subsidies.

Another important declaration for what concerns sustainability an environmental preservation was the UN Millenium Declaration.

"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": this is what the world leaders stated when the Declaration was adopted in September, 2000. This summit took place in New York and it was the largest-ever gathering of world leaders.

The Declaration reaffirmed Member States' faith in the UN, and the leaders stated how the focus was to "ensure that globalisation becomes a positive force for all, acknowledging that at present both its benefits and its costs are unequally shared".

The Summit Declaration mentioned some important values, such as freedom, tolerance, equality (among individuals and nations), solidarity and respect for nature.

During the UN Climate Change Conference (COP21), held in Paris in 2015, the Paris Agreement was adopted: it is a legally binding international treaty on climate change, adopted by 196 countries (it entered into force only one year later, in November 2016). The focus was to keep "the increase in the global average temperature to well below 2 °C above pre-industrial levels" and reach the goal "to limit the temperature increase to 1,5 °C above pre-industrial

levels" (United Nations). Recently, it has been said that in order to limit global warming to 1,5 °C, greenhouse gas emissions must peak before 2025 and decline 43% by 2030.

Finally, we find the Agenda 2030, that contains 17 goals related to both people and planet. The goals are specifically known as Sustainable Development Goals (SDGs), and they are universally recognised as measures to "end poverty, protect the planet and improve the lives and prospects of everyone, everywhere".

The 17 SDGs were adopted by all UN Member States in 2015, and they are part of the Agenda 2030 for Sustainable Development: it is a document that sets out a fifteen-year plan to achieve the SDGs. It spans 169 goals that are grouped in 17 main objectives. Among the others, we can find:

- No poverty (SDG 1);
- Gender equality (SDG 5);
- Responsible consumption and production (SDG 12).

Nowadays, we record some progress in many different areas of the world, but the actions needed to meet the Goals are not enough and are not happening at the necessary speed or scale.

In September 2019 the SDG Summit was established: some of the most important and influential world leaders gathered and called for a Decade of Action and delivery for sustainable development; they also committed to raise funds, improve national implementation, and fortify institutions in order to achieve the Goals by the target date of 2030 while leaving no one behind.

1.1.2 Corporate Social Responsibility

During the 20th century people started debating the necessity for corporate managers to operate and work not only in the interests of their shareholders, but also of other stakeholders.

The definition of Corporate Social Responsibility of businessmen was provided by Howard R. Bowen, who is universally known as the founder of the study on CSR. In his book *Social Responsibilities of the Businessman*, published in 1953, Bowen writes that CSR "refers to the obligation of businessmen to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of objectives and values of our society".

With the years, the definition of CSR has evolved. During the 1990s, researchers and scholars started to explore the extent to which CSR might provide the company with observable competitive benefits, which was known as 'strategic CSR' (Burke and Logsdon, 1996).

Companies today, especially the big ones, need to be conscious and aware of how their actions affect society and the environment.

In 2011 through a new Communication, the European Commission provided a new and simpler version of the CSR' definition: it is "the responsibility of enterprises for their impacts on society" and outlines what an enterprise should do to meet that responsibility.

Its previous definition was "a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis".

It was the first time in ten years that the Commission had modified the definition of CSR. This should give the businesses a higher clarity and contribute to a greater global consistency in the expectations on business, regardless the area they are operating in.

Even if there is not a "one-size-fits-all" and for small and medium business the Responsibility process remains informal, observing the law and agreements reached through social partnership negotiations is essential for a business to respect its social responsibility.

According to the Commission, the businesses should have "process in place to integrate social, environmental, ethical human rights and consumer concerns into their business operations and core strategy" in direct collaboration with the stakeholders.

The main goal is to maximise the creation of shared value, and at the same time identify, prevent and mitigate possible wrong impacts that businesses may have on society.

Three important elements of the new definition are:

- The recognition of the central role played by the "core business strategy";
- The concept of "shared value" and its constant development, linking CSR with the topic of innovation;
- The recognition of ethical principles, human rights, and social, environmental, and consumer concerns.

1.2 Sustainability labels

Information about the way how goods and services are produced, provided or bought can be given by sustainability labels (Hainmueller et al. 2015); they can be used as an instrument to overcome the problem of information asymmetry (McCluskey 2000) for goods and services related to sustainability attributes that cannot be verified by the consumer neither during, before or after the purchasing process.

This type of information provision ca be identified as a "critical success factor", particularly if the belief in the certifying organisations and/or labels is rewarded on the consumers side with an additional price premium (Jahn et. al 2005; McCluskey 2000).

1.2.1 Main sustainability labels

There are three main categories of sustainability labels: voluntary, mandatory and private (Ponte, 2004).

According to Ponte, voluntary standards are created as a result of formal coordinated processes where a sector seeks consensus, consumer requests, or NGO initiatives; two of the most known sustainability labels belonging to the private category are Fairtrade Certification and Rainforest Alliance Certification.

The approach of Fairtrade "enables farmers and workers to have more control over their lives and decide how to invest in their future". This association is recognised as a leader in the movement to make world trade fair; it supports businesses and governments and helps connecting farmers and workers with those people how buy their products.

Fairtrade is issued by Fair Trade Labelling Organisation International, a non-profit and multistakeholder association; it is considered one of the largest and most diversified global movements for change, and it is still the most common and dominant sustainability label for products in most areas of the world.

It works and collaborates with almost two million farmers and workers globally, with a supporter base of more than two thousand Fair Trade Towns in twenty-eight states and many schools, universities and other organisations and institutions.

Fairtrade global strategy mainly consists of three points:

- guaranteeing a decent livelihood to everyone, as human right;
- social justice drives sustainability;
- radical cooperation powers deep impact.

A product that carries a Fairtrade Certification means that a series of agreed standard have been internationally certified, for businesses and manufacturers.

Farmers and workers are extremely important in the Fairtrade system, even small-scale ones: they are at the heart of every aspect of the organisation, from the way in which money should be invested to how running their organisations.

We can find three regional producer networks: Asia and the Pacific, Middle East, Africa, and Latin America and the Caribbean. Moreover, there are almost twenty-five national Fairtrade organisations and marketing organisations which promote Fairtrade products in consumers' countries.

The Fairtrade standards enable producer groups' participation and open administration of the Fairtrade Premium while helping and supporting smallholders in their development. Furthermore, the organisation established a Fairtrade Minimum Price, in order to help farmers access the market by covering their production expenses (Fair Trade America, 2020).

This organisation is actively helping to deliver and meet the Sustainable Development Goals, described in the Agenda 2030. The goal to end poverty is one of the central points in the Fair Trade mission.

By aligning its indicators with the SDGs, Fair Trade is able to relate its actions to a movement on a global scale that addresses directly important problematics, such as inequality, social and environmental justice.

As carefully described in their official website, Fair Trade "wants to build a world where fairness is the norm. Where everyone benefits from quality products and enjoys quality of life".

Another important voluntary sustainability label is Rainforest Alliance.

The Rainforest Alliance is "an international non-profit organization working at the intersection of business, agriculture, and forests to make responsible business the new normal". This organisation issued the corresponding label.

The main aim of this organisation is to create an alliance to safeguard forests, make the lives of farmers and forest communities better, promote human rights, and help them mitigate and adapt to the climate crisis. They want to integrate productive agriculture, biodiversity conservation and human development (Rainforest Alliance, 2022).

The Alliance covers almost seventy countries and includes "farmers and forest communities, companies, governments, civil society, and millions of individuals".

As said, Rainforest Alliance is making an effort in making our planet a more sustainable place, using social and market forces in order to protect and safeguard the nature and improve livelihoods of farmers and forest communities.

As an international non-profit organisation with more than thirty years of experience in sustainability transformation, they are aware of the close relationship between ecosystem health and the social and economic well-being of rural communities. This knowledge has modelled their rigorous programs to improve sustainable land-use and commodities production.

After the voluntary labels, we find the private sustainability labels (Panhuysen & Pierrot, 2018). Private labels are developed and managed by individual companies.

One of the most known private certifications is Direct Trade.

Direct Trade is a relatively new initiative that "works by avoiding intermediaries, and establishing a direct connection between farmers and manufacturing companies". Its main goal is to create a "trusting, long-term relationship between both parties, in order to ensure the wealth-fare and success of the entire value chain".

This enables businesses companies to sell responsible products, that consumers can feel at ease of buying.

Note that the majority of the savings coming from avoiding the intermediaries' traditional fees, is reinvested in initiatives that provide technical and social support to farmers. Doing so, the quantity and quality of the products can be efficiently increased for both parts, while promoting the social and economic advancement of rural communities at the same time.

The Direct Trade project was initiated by CEOs of Latin American businesses who believed that the shared value model that some businesses were pursuing was not adequately represented by the current certifications on fair/direct/ethical trade. They believed that neither the farmers nor the manufacturers were truly benefiting from these certifications.

Other important sustainability labels are:

- USDA Organic: it is a voluntary sustainable label issued by the United States Department of Agriculture (USDA); it illustrates the application and use of agricultural methods to support on-farm resources, which promote ecological balance and biodiversity preservation.

  These practices include safeguarding and protecting wildlife, maintaining and improving soil and water quality, and avoiding – or at least minimizing - the use of genetic engineering, synthetic fertilizers, and irradiation (USDA, 2022).

- OCIA: OCIA International is recognised as one of the largest, oldest, and most trustworthy leaders in the global organic certification sector.

  Founded in 1985, OCIA is defined as a "nonprofit, member-owned, agricultural organization", and its main mission is to "provide the best quality organic certification services and access to global organic markets". (OCIA)

  In Article 1 of the OCIA Bylaws, the organization outlines the following purposes in order to reach this goal and maintain and enhance confidence in OCIA certifications:

  - offering technical assistance, education information, publications, and research, in order to help organic farmers and processors to reach an organic crop improvement;
  - creating and sustaining a farmer-owned and farmer-controlled organisation offering objective third-party certification as a requirement for certification license of organic food at all steps of production, processing and distribution;
  - guaranteeing the impartiality and integrity of an OCIA-certified organic certification label and/or mark;
  - establishing uniform standards and bylaws, that define the characteristics and quality standards of organic foods, and which regulate the phases of production, processing, manufacturing, and trade;
  - clarifying and promoting the image of organic products by using the OCIA-certified organic mark.

- UTZ: The UTZ label stands for "more sustainable farming and better opportunities for farmers, their families, and our planet". It was founded in the Netherlands in 2002 as a non-profit organization by Dutch coffee roaster Ward de Groote and Belgian-Guatemalan coffee producer Nick Bocklandt with the aim of adopting sustainability on a big scale in the global market. Its name comes from the Mayan term "*Utz Kapeh"*, that in Quiché translates 'Good Coffee' in English. This certification is applied to different products such as cocoa, hazelnuts, tea and coffee.

  Its certification program makes possible for farmers to use more efficient farming methods, grow better crops, and generate more revenue. Additionally, they learn new

skills and procedures to copying to climate change, improve working conditions, and preserve the environment.

It is not that easy for products to get the UTZ label: they need to be compliant with strict requirements, including good agricultural methodologies and farm management, safe and healthy working conditions, and environmental protection and preservation. The UTZ label on products represents the support of sustainable farming by the brand.

In 2018, the UTZ certification program became part of the Rainforest Alliance: the mission was to improve people's and nature's future and to be an even greater partner for their numerous stakeholders.

Following the merger, the two Certification programs have run in parallel. At the same time, the new agricultural standard was developed, which builds on the strengths of both organizations and decades of combined experience.

With the introduction of the 2020 Rainforest Alliance Certification Program in July 2020 and the launch of the new Rainforest Alliance seal, the UTZ certification program and its label are gradually being phased out.

For what concerns the coffee market specifically, and so directly linked to the main topic of this thesis projects, we find 4C (The Common Code for the Coffee Community): as an independent, stakeholder-driven, globally recognized sustainability standard for the whole coffee market, this certification seeks to establish sustainability in coffee supply chains across environmental, social and economic levels. In order to establish sustainable, reliable, ethical and fair coffee supply chains, 4C applies high standards on the economic, social and environmental conditions for coffee production, cultivation and processing.

The 4C Code of Conduct, a set of fundamental sustainable practices and principles for the production of green coffee beans, has been followed in the production of 4C certified coffee.

1.3 Sustainability in the coffee market

Sustainability governance mechanisms are in constant evolution: the coffee sector has historically been the pioneer of implementing private and multistakeholder approaches in order to address sustainability (Giovannucci & Ponte 2005, Daviron & Ponte 2005, Panhuysen & Pierrot 2014, Grabs 2018).

As it was described in detail earlier this chapter, in 2015 the United Nations member States adopted the 17 Sustainable Development Goals, to be reached before 2030. These goals, some more than others, are aligned with the efforts of the coffee industry along the supply chain.

The Sustainable Coffee Challenge, for example, is a collaborative effort of companies, governments, and NGOs that has been promoted by Conservation International and Starbucks during the 2015 Paris climate meetings with the goal to make coffee the first fully sustainable agricultural product (Sustainable Coffee Challenge 2022). Increased transparency, agreement on a shared sustainability vision, and cooperation among challenge partners are some of the efforts that have been made in order to pursue this mission. Starting from the initial 18 founding member, now the movement has grown to more than 155 partners worldwide.

Nowadays, the coffee market represents the main productive activity for more than sixty million people all around the world, especially in the developing areas. However, the low prices of coffee issued on an international level, the rising costs of production, and an increasing number of pests and diseases that affect plantations, force more vulnerable workers out of their farms.

This represents a major sustainability problem: as the farmers and workers face food insecurity, they might decide to “deforest their farms, employ underage workers or think about migrating to other countries” (Valkila & Nygren, 2010). Furthermore, the climatic conditions in areas of coffee production may be altered by dangerous phenomena, such as water pollution, soil degradation, and climate change (Lyngbæk et al., 2012).

Because of the number of challenges that the sector is facing, several efforts have been made, focusing on three important pillars of sustainability: Social, Economic and Environment (Moldan et al., 2012); the main focuses are on:

- Improving livelihoods by reducing poverty (SDG 1), improving the life conditions of farmers and workers (SDG 2) and reducing food insecurity (SDG 3). All these points are achieved by giving the farmers a fair price for their coffee and, doing so, helping them getting access to different services, including health care. Their livelihoods can also be improved by making education more accessible, as described in SDG 4, and promoting sustainable economic growth;
- Sustaining supply, by facilitating access to finance, inputs, technical assistance, and renovation of farms (SDG9);
- Conserving and preserving nature and natural environment, by guaranteeing farmers access to clean water and sanitation, tools for their plantations (SDG6), and affordable, clean, and sustainable energy (SDG7). For what concerns the fight against climate change (SDG15), efforts are directed towards forests restoration (SDG13) by recovering the natural ecosystem where coffee is cultivated;
- The WTP of conscious coffee consumers (SDG12), a crucial aspect in making the coffee industry sustainable. The education and level of awareness of consumers relatively to the consequences of their purchase decisions affect significantly sustainability efforts.

An example of this great effort that is being done to help farmers and workers is the rise of the Minimum Price for Fairtrade certified Robusta and Arabica coffee starting from August 1st, 2023 in order to "strengthen protections for coffee farmers worldwide among the rising impacts of climate change and growing economic volatility".

In order to reduce and mitigate the environmental and social effects of conventional coffee farming practices, some organizations are working to make these problems visible to coffee consumers: as they are not able to physically identify sustainability efforts when they buy or consume coffee, sustainability standards need to be communicated through labels.

Doing so, consumers can use sustainability labels to take informed decisions when they purchase coffee. These labels are issued by the food supply chain, third-party certifying companies, and the government, as for Fair Trade and Direct Trade. All sustainability labels indicate different ways to reduce sustainability problems in coffee production.

1.3.1 Differences between Fairtrade Certification and Direct Trade Certification in the coffee market

When we talk about sustainability labels applied to the coffee market, one of the first things that we need to emphasise is the relationship between the Fairtrade Certification and the Direct Trade Certification: although they might seem similar under certain aspects, they present a number of important differences.

The biggest one is probably the way coffee is bought: Fairtrade coffee is usually bought through cooperatives, which handle directly all the transactions with the roasters and coffee buyers, and in return they give some of the cash to the farmers at the Fairtrade Minimum Price or above. Only a portion of the money is put aside in a common fund, used by farmers and workers.

This is a fair system that works well and which represents a better solution than the usual way of purchasing coffee.

Contrarily, Direct Trade coffee is bought directly by the buyer from the farmer; in this case, the roaster (or customer) pays the farmer fort for the coffee beans, creating a direct relationship with them. The result is that farmers are able to get a better deal, as a bigger portion of each transaction is given them directly.

Roasters benefit too, as they have more control over the qualitative standards and typology of coffee beans they are supplied with.

Since it goes beyond the standard requirements of Fairtrade, Direct Trade coffee is also referred to as "beyond Fairtrade coffee".

1.3.2 Previous literature on coffee sustainability labels

Now we see the application of the three main sustainability labels that have been analysed (Fairtrade, Direct Trade and Rainforest Alliance) to the coffee market.

According to the existing literature, consumers tend to associate organic products with higher quality and see them as healthier with respect to the conventional and usual ones (Hughner et al., 2007; Grebitus et al., 2011; Schuldt & Hannahan, 2013).

Fairtrade label is a very well-known certification in the coffee market: in fact, in 2016 coffee was demonstrated to be the most favourite product among the Fairtrade consumers (Fairtrade International, 2016).

Through the use of conjoint analysis, Cranfield et al. (2010) found that consumers strongly value price and labelling claims. Similarly, De Pelsmacker et al. (2006) discovered that the Fairtrade label was a very important attribute for consumers when purchasing coffee. According to Trudel and Cotte (2009), consumers were willing to pay a premium of $1.40/lb. for Fairtrade coffee.

Researchers tend to agree on the general willingness of customers to pay a premium for coffee bearing the Fairtrade label (Basu & Hicks, 2008; Rousu & Corrigan, 2008).

Researches and studies conducted on Direct Trade Certification, on the other hand, have focused on the analysis of quality practices (Holland et al., 2015), governance and regulations (MacGregor et al., 2017), opportunities and constraints (Borrella et al., 2015), and motivations to source directly (Gerard et al., 2019). Hindsley and other scholars (2020), examining consumers' preferences for three attributes of directly traded coffee, discovered that "consumers are willing to pay more for social efforts involved with direct trade practices and their cultural worldviews affect their WTP".

More recently, in 2022, Fuller, together with other researchers, analysed preferences, motivations, and WTP for the aforementioned labels, by focusing on the effect of information, value orientations, and the warm glow effect on WTP for sustainable coffee.

Finally, we are focusing on the Rainforest Alliance certification.

The standards required by this certification – relatively to coffee - include that coffee grows under shade, the reduction of the use of agrochemicals to the minimum, and a fair treatment of and conditions for producers (Ponte, 2004).

For what concern this certification applied to coffee and its relationship with consumers' willingness to pay, some studies have been conducted: for example, Van Loo together with other researchers in 2015 discovered that consumers were willing to pay more for Rainforest Alliance coffee than Fair Trade coffee but less than for USDA Organic coffee.

1.4 Willingness to purchase sustainable products

In the last years we have seen a massive increase in the consumers' interest in sustainably grown and produced food worldwide.

With the term willingness to purchase we refer to the propensity of the consumer to buy a certain product or service.

Existing literature has addressed the fact that consumers' increased propensity to purchase organic and sustainable food may be due to different factors, including health consciousness (Pham et al., 2019) and rising food safety concerns (FSC) (Molinillo et al., 2020). Furthermore, the increasing levels of concern for environmental and ecological welfare related to the use of chemical, synthetic and genetically modified means of production may affect consumers' purchasing behaviour (Willer et al. 2020; Tandon et al. 2021).

Health consciousness

Health consciousness is related to a "consumer's propensity to identify with and actively take steps to protect their health" (Hansen et al., 2018) and has been evaluated as an egotistic motivation for purchasing and consuming organic and sustainable foods (Hansen et al., 2018). The results of earlier research on the impact and effects of health consciousness, however, have been inconsistent and limited to the analysis of its relationships with purchase intention and willingness to purchase.

For example, Husic-Mehmedovic et al. (2017) suggest that although health consciousness may create a positive inclination among people for the consumption of sustainable food, it may not be associated with a positive behavioural consequence. Similarly, Pino et al. (2012) found no connection between health consciousness and purchasing intentions. Michaelidou and Hassan (2008) attributed a minor indirect role of health consciousness in determining buying intentions for organic food; Shin and Mattila (2019) research, on the other hand, show how consumers' purchasing intentions are actively and positively affected by health consciousness. Finally, the study of Shin and Mattila (2019) revealed how this impact is influenced by the gender of the consumer.

FSC (Food Safety Concern)

Together with the rise in health consciousness and awareness, another factor that has become central as a predictor for organic food purchase is FSC (Food Safety Concern) (Michaelidou and Hassan, 2008). It can be defined as "the consumers' concerns about genetic modification or the presence of artificial, chemical and synthetic additives, growth regulators, or ingredients in food products" (Lee and Hwang, 2016). Prior studies suggest that consumers may perceive organic and sustainable food to be naturally healthy due to the absence – or at least the limited use - of chemical and synthetic constituents in its production process (Pham et al., 2019).

Existing literature has investigated the impacts of FSC on consumers' intentions to buy organic food; however, the results show small inconsistencies, focusing especially on the analysis of FSC as an antecedent of people's purchasing intentions and attitude. Michaelidou and Hassan (2008) and Pham et al. (2019), discovered that attitude is positively influenced by FSC; similarly, Hwang (2016) defined FSC as a significant predictor for consumers' purchase intention, both young and older ones. On the other hand, we have the findings of Pino et al. (2012), who claimed that FSC only has a significant impact on occasional consumers, but not regular ones.

Openness to change

Kushwah et al. (2019) claim that consumers' interest in seeking information and improve their knowledge about organic food can be increased by their concern in the safeguard of their personal or familial health.

People's concern about the potential impact of this type of food on their health can intensify due to the perceived negative effects of food made using chemical and synthetic methods, prevalent in the practices of modern agriculture (Qasim et al., 2019; Shamsi et al., 2020). This can encourage people to consider and develop their identities as organic food consumers (Hansen et al., 2018).

Researchers have found that Openness to Change is able to significantly affect consumers' purchase intention and can be defined as "an individual's value that stimulates and induces the

need for self-directed readiness to engage in independent thoughts, actions, or feelings for new experiences" (Mainardes et al., 2017); however, previous researches have only performed little investigation on its effect. According to Mainardes, openness to change influences positively consumers' purchase intentions toward organic food. Contrarily, Scalvedi and Saba (2018) discovered that openness to change is not significant for the consumption behaviours for organic and sustainable food. We can conclude that existing literature shows an inconsistent picture of the effect that openness to change has on organic food buying behaviour.

An important study (Shalini Talwar, Fauzia Jabeen, Anushree Tandon, Mototaka Sakashita and Amandeep Dhir, 2021) reveals that food safety concerns (FSC) and health awareness are positively correlated to openness to change. Additionally, Willingness to Purchase is strongly associated with openness to change and ethical self-identity, while there is a positive link between Stated Buying Behaviour (SBB) and willingness to purchase sustainable products.

Green scepticism

Another element that needs to be taken into considerations when dealing with the topic of willingness to purchase organic and sustainable products is the so-called "green scepticism". Despite the rise in green offerings, there is an increasing level of concern for consumers regarding the possible fake and misleading environmental information given by companies in order to improve their reputation and level of sales.

Relative to this topic, we find the study conducted by See Kwong Goh and M. S. Balaji in 2016, which focused on the role of consumers' "green scepticism" and environmental awareness in their intentions to purchase green products in an emerging economy.

Scepticism can be described as an individual's tendency or attitude to distrust or doubt others (Obermiller and Spangenberg, 1998). Given this definition, according to See Kwong Goh and M. S. Balaji "green scepticism" is the tendency or attitude to doubt environmental claims or performances of the so-called green products.

According to Yiridoe, Bonti-Ankomah, and Martin (2005), consumers' scepticism towards green products may be caused by inaccuracy in labelling, misrepresentation and

misinterpretation of products, as well as non-uniform standards and certification processes for organic products. Thus, even if customers may want to buy green products, scepticism about environmental performance may hold them back from it. Elving (2013) found that sceptical customers are more inclined to link environmental promises in advertisements or on product labels to external factors, including maximise revenues or improving the firm's image and reputation. This mistrust of a company's intentions leads to a negative attitude towards the firm and green products. Customer scepticism, according to the studies of Morel and Pruyn (2003), affects negatively the consumers' product judgment and decreases their purchase intentions.

The final conclusion is that "Green Scepticism" will affect negatively the consumers' green purchase intentions.

Environmental knowledge

With the term "Environmental knowledge" we refer to "a general knowledge of facts, concepts and relationships concerning the natural environment and its major ecosystems" (Fryxell and Lo, 2003, p. 45). It defines the level of knowledge or what customers know regarding the environment, emotional involvement in environmental issues, awareness of the environment concerns, and the possible consequences of human activity on the environment (do Paço and Raposo, 2009; Zhao et al., 2014). Another important aspect is the customers' perspectives of the ecological system and the understanding of their obligations to promote sustainable environmental development (D'Souza, Taghian, and Khosla, 2007).

Prior literature suggests that environmental knowledge is extremely important in the consumers' decision to purchase green products. Smith and Paladino (2010), for example, wrote that environmental knowledge will improve the customers' positive attitudes and intentions towards green products.

These studies indicate that customers' environmental knowledge enables them to differentiate the attributes of environmentally friendly products from conventional products and this leads to the development of positive and favourable attitudes towards the green products.

1.5 Willingness to pay for sustainable products

When we talk about willingness to pay (WTP), we are referring to the highest price a consumer is willing to pay for a good or service.

According to Anderson (1992), consumers' willingness to pay represents "the cornerstone of marketing strategy" that influences significant marketing decisions. First, consumers' WTP is the primary input for price response models, which helps determine the best prices and promotions. Second, a new product's introductory price must be carefully chosen; otherwise, a poorly considered introductory price may put the investments in its development at risk and threaten innovation failures (Ingenbleek et al. 2013).

Many recent studies have demonstrated how consumers are showing an increasing awareness for what concerns the environment and this translates into a higher willingness to purchase sustainable goods. One example is the research published in 2014 by Thong Meas, Wuyang Hu, Marvin T. Batte, Timothy A. Woods, Stan Ernst where they showed a positive WTP for organic and local attributes relative to jam production.

Another study that analysed the relationship between sustainability labels and WTP was carried out by a group of university professors in the UK in 2022. In their experiment, four different "green labels" were displayed on several product: 'Sustainably sourced', 'Locally sourced', 'Environmentally friendly', and 'Low greenhouse gas emissions'. The findings demonstrated how British consumers' preferences for sustainable products (those who carried one of the sustainability labels) were 344% higher more than non-labelled items. Furthermore, *sustainably sourced* and *Locally sourced* labels were chosen 20% more frequently. This study shows how 'green labels' may result in significant increases in consumer choices together with relatively small increases in willingness to pay for environmentally friendly and sustainable foods.

Another important element when evaluating consumers' WTP for sustainable products is Environmental Concern, which is viewed as "a general attitude that relates to consumers' cognitive and affective evaluations of the attitude object 'environmental protection'" (Bamberg 2003, Momberg et al. 2012). It reflects how aware consumers are of environmental issues, their

concerns about environmental risks and their consequences, and the lack of human action to preserve the environment for the future generations (Dunlap & Jones, 2002; Shen, 2012).

Prior literature shows that consumers who are environmentally concerned try to adapt their buying behaviour, seek products which have a smaller impact on the environment, and are willing to pay more for these goods (Cerri et al. 2018, Testa et al. 2020, Sadiq et al. 2021, de Canio et al. 2021). Eco-labels act as a fundamental source of information for environmentally concerned consumers during their process of decision-making when purchasing different products and also guarantee a certain level of assurance (Lee et al., 2020; Testa et al., 2015 and 2020). Therefore, the hypothesis of Singh, Sahadev, Wei and Henninger is that consumers with higher environmental concern are willing to pay more for eco-labelled food products.

Another significant predictor for green purchasing behaviour is Environmental Awareness (Thøgersen 2000, Haronet al. 2005, Sharma 2021). Consumers' specific knowledge about the product itself being produced in an environmentally friendly way enhances the ability of an individual in pursuing green purchase behaviour (Testa et al.,2015). Lee et al. (2020) found that to a higher consumer knowledge corresponds a higher willingness to pay.

Finally, a high level of awareness of specific eco-labels contributes to the creation of a consumer-specific knowledge (Leeet al., 2020; Testa et al., 2020), and it leads individuals to be willing to pay more.

As a result, it is assumed that customers who are aware of eco-labels will be willing to pay more for eco-labelled food items.

As previously said in this chapter, numerous studies relative to the WTP for sustainable coffee have demonstrated the presence of a willingness to pay more for those typologies of coffee that carry a sustainability label, with respect to those without it.

Relatively to coffee, we can find some confirmations of this relationship on an article published by Katherine Fuller, Carola Grebitus and Troy G. Schmitz in 2022: according to this study, consumers are willing to pay a premium of $2.57 for a 12oz coffee bag that carries the sustainability labels "Fair Trade" and "USDA Organic", while $2.04 for the label "USDA Organic", $1.71 for "Direct Trade", $1.96 for "Rainforest Alliance", and $1.79 for "Fair Trade".

Information about the labels' claims is generally well perceived by consumers: the result is a premium increase of roughly 55% for Rainforest Alliance coffee and 72% for Fair Trade coffee.

1.6 Personality traits

The personality of an individual describes the intensity of their thoughts, feelings, and patterns of behaviour in relation to other people. Personality defines the way in which a person tends to respond to the world, in a broad sense; it is thought to develop over time, from birth to adulthood, and to be quite stable from around thirty years of age (McCrae and Costa, 2003).

Personality includes hundreds of different degrees of traits and qualities.

1.6.1 Big Five Personality Traits

Personality traits can be measured according to different methods and scales: one of the most used is the Five-Factor Model or the Big Five.

The Big Five model assumes that personality may be described by five general constructs: Openness to experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism. This model is often written with its acronym OCEAN.

Openness to experience is usually associated to creativity, curiosity, and a general predilection for variety and novelty.

Organization, self-control, self-discipline and the capacity to work hard in order to achieve goals are all aspects of conscientiousness.

Assertiveness, friendliness, talkativeness, and the propensity to look for stimulation in the company of others are all aspects of Extraversion. People that score low in this personality trait are typically seen as reserved and reflective, and are categorised as introverts, while Extroverts are frequently authoritarian/dominant and seek attention.

People high in Agreeableness tend to be altruistic and compassionate towards and trusting of others. Contrarily, individuals who score low on Agreeableness are often suspicious and antagonistic towards others.

And finally, Neuroticism is linked to the degree to which an individual is responsive to psychological stress whether he or she is calm and stable or exhibits nervousness when faced with stress. People who score high in Neuroticism tend to be characterised by more anxiety, irritability, and vulnerability.

Although this model is widely used and generally recognised as a valid instrument to outline personality patterns, many researchers and scholars agree that is not possible to summarise all the different aspects of human's personality: no model will ever be able to capture the complexity of our own characteristic patterns of feelings, thoughts, and behaviours.

As it was for the relationship between WTP and sustainable products, even for the one between Big Five Personality Traits and consumption of sustainable and organic products we can find different studies. In the research conducted by Gustavsen G.W. and Hegnes A. W. in 2020 it was shown how Openness to Experience is positively related to the attitudes of purchasing organic foods, while Extraversion is negatively related with it. Some of the tests performed show a positive relationship between Agreeableness and attitudes towards organic foods. Finally, individuals characterised by a high level of Conscientiousness tend to have a lower WTP for organic foods with respect to conventional ones.

In this thesis, I will try to fulfil the gap that I found in the literature, i.e. I will try to find, if existent, the relationship between the consumers' willingness to pay for sustainable coffee and each personality trait of the Big Five model.

In the following table, there is a list of some of the most important studies that I have used for my quantitative research and on which my thesis is based.

Table 1: The most relevant scientific articles related to sustainable coffee, personality traits – specifically Big Five Personality Traits - consumers' willingness to pay, and sustainability

Title **Author(s),** **Year of publication,** **Journal of publication**	**Main topic**	**Main content and purpose**	**Type of analysis**	**Main results**
Substitutes or Complements? Consumer Preference for Local and Organic Food Attributes Thong Meas, Wuyang Hu, Marvin T. Batte, Timothy A. Woods, Stan Ernst American Journal of Agricultural Economics 2014	Consumers' preferences and WTP.	In this article we find an analysis that examines the consumers' preferences and compares their WTP for a host of value-added attributes of processed blackberry jam, and focuses on different organic and local production location designations.	The authors considered three levels of USDA organic: 100% organic, at least 95% organic, and made with organic ingredients (at least 70% organic). For local production, three levels are analysed: cross-state region (the Ohio Valley), state boundary (state-proud logos), as well as sub-state regions. Substitution and complementary effects between food attributes are also examined.	The analysis showed a positive WTP for organic and local attributes. Consumers were willing to pay more for jam produced locally in regions smaller than the border of a state compared to organic jam. For what concerns substitution and complementarity, strong substitution effects between organic and local production claims are found. Finally, the "small farm" attribute appears to be a substitute for organic and local attributes:

			Stated-preference data collected from a choice experiment in a mail survey in Kentucky and Ohio are used.	it is able to confirm the previous belief that one of the many reasons that leads consumers to buy organic or local goods is to support small or family-owned farms.
Consumer Demand for Ethical Products and the Role of Cultural Worldviews: The Case of Direct-Trade Coffee Paul Hindsley, David M. McEvoy, O. Ashton Morgan Ecological Economics, vol. 177 2020	Consumer demand for direct trade coffee.	The research estimates the value consumers place on direct trade coffee, which is defined by three attributes that differentiate it from the standard one: price premiums are paid directly to farmers, harvesting methods are sustainable, and the products' quality is enhanced.	Quantitative research method with 953 completed surveys.	Consumers are willing to pay significant premiums for each of the three attributes and are willing to pay slightly more for those attributes with social benefits. Consumers' WTP for different attributes of an ethical product changes significantly based on their cultural worldviews.

The Big Five personality traits and earnings: A meta-analysis Giammarco Alderotti, Chiara Rapallini, Silvio Traverso Journal of Economic Psychology, vol. 94 2023	Analysis of the relationship between Big 5 and earnings.	The main purpose of this article is to do a meta-analytical review of the empirical literature on the association between personal earnings and the Big Five personality traits.	62 peer-reviewed articles published from 2001–2020, from which the authors retrieved 896 partial effect sizes.	The literature offers a positive association between personal earnings and the traits of Openness, Conscientiousness, and Extraversion, while simultaneously revealing a negative and significant association between earnings and the traits of Agreeableness and Neuroticism. According to Meta-regression estimates, there is a positive relationship between Conscientiousness and Openness with earnings. Meta-regression showed how the results of the primary literature do not seem to be affected by the

				time when the Big Five are measured, or by the scale and number of inventory items; furthermore, they are not stable across cultures and gender, and that the ranking and academic field of the journal matter.
Willingness to Pay for Environmental Quality: The Effects of Pro-Environmental Behavior, Perceived Behavior Control, Environmental Activism, and Educational Level Paula Vicente, Catarina Marques, and Elizabeth Reis Sage Open 2021	WTP for environmental quality.	The aim of this study is to investigate citizens' willingness to pay for environmental quality and if this tendency differs with diverse education levels.	Data come from a survey on consumption and natural environment collected by means of household interviews in the southern area of Portugal: from the interviews a sample of 595 respondents resulted. The study uses a structural equation modeling to explore the links between different	The results show how WTP more for environmental quality and pro-environmental behaviour are positively associated with perceived behaviour control and environmental activism. The relationships between constructs are true for both groups of education.

			constructs; specifically, a multigroup analysis is conducted to evaluate the invariance of two segments of educational levels – individuals with a university education and those without university education.	
The impact of sustainability in coffee production on consumers' willingness to pay– new evidence from the field of ethical consumption Volker Lingnau, Florian Fuchs & Florian Beham Journal of Management Control, vol. 30, pp. 65–93 2019	Sustainability and WTP.	Although there are a lot of articles and papers dealing with the general relationship between sustainability and financial performance of businesses, the results often remain controversial concerning the measurement of business sustainability performance. Especially for concrete managerial purposes, a clearer focus on	They applied a vignette study. The approach used can be defined as "factorial survey method", "experimental vignette methodology" or "vignette analysis".	The results have shown that certification alone does not significantly increase the average consumer's WTP. It has also been found that sustainability measures do not necessarily have to pay off; on the other hand, bad conduct, particularly in the social dimension, is clearly punished.

		the product level as a major driver for corporate success seems useful. On such topic there is a high number of studies, but the majority of several questions remain not fully settled. The authors decided to conducted a study focusing on the topic of sustainability in coffee production with the aim to clarify some of the questions remaining open.		Finally, it is shown that bad behaviour is more punished than good behaviour rewarded.
Consumers' preferences and willingness to pay for coffee sustainability labels Katherine Fuller, Carola Grebitus Ecological Economics 2023	WTP and preferences for different types of coffee characterised by sustainability labels.	This research analyses the preferences of the consumers and their WTP for coffee labels representing sustainability efforts, such as the Direct Trade label, Fair Trade label, USDA organic label and Rainforest Alliance label.	The results come from 830 individuals taking part in an online survey, who were recruited from the United States. Before responding the questions, the participants were informed about the efforts reflected by	The highest WTP was found for coffee with both the Fair Trade and Organic labels, and the Direct Trade and Organic labels. Consumers are willing to pay more for those sustainability labels which are able to communicate

			each sustainability label and used a hypothetical online choice experiment to determine US consumers' preferences and WTP for coffee sustainability labels.	the efforts on solving social issues, followed by labels that address environmental problems. The consumers are also proved to support initiatives that aim to improve livelihoods (SDG1–SDG5) and sustain supply (SDG9).
The effects of values and information on the willingness to pay for sustainability credence attributes for coffee Katherine Fuller, Carola Grebitus, Troy G. Schmitz Agricultural Economics 2022	WTP for different products with sustainability labels.	The study focuses on the investigation of consumers' WTP for Fair Trade, USDA Organic, Rainforest Alliance, Direct Trade, and a combination of Fair Trade and USDA Organic labels on coffee. Furthermore, the underlying motivations of WTP for sustainable coffee are analysed, with a special focus on the altruistic, egoistic, and biospheric value orientation, and	Quantitative research performed on participants recruited via email lists and flyers to partake in the experiment in the Consumer Food and Agribusiness Research (CFAR) Laboratory at Arizona State University. Participants were invited over; the data were gathered in a laboratory setting and	Results show how consumers are willing to pay a premium of $2.57 for a 12oz coffee bag labelled for both, Fair Trade and USDA Organic, $2.04 for USDA Organic, $1.96 for Rainforest Alliance, $1.71 for Direct Trade and $1.79 for Fair Trade. Consumers are proved to react positively to information about the labels' claims.

		the warm glow effect.	their participation was anonymous. 15 sessions with an average of 9 participants in each were conducted. 114 subjects have taken part in the experiments.	Consumers react positively to information about the labels' claims, increasing the premium by approximately 55% for Rainforest Alliance coffee and 72% for Fair Trade coffee. Finally, the warm glow effect on consumers that like coffee influences bids for coffee that carries sustainability labels.
Influence of personality on ecological consumer behaviour Fraj Elena & Martinez Eva Journal of consumer behaviour, vol. 5, issue 3, pp. 167-181 2006	How personality influences the consumer behaviour.	The authors designed a theoretical model which included the Big-Five Factor Structure scale and the environmental attitude dimension referred to as "actual commitment" to measure and quantify	Quantitative research performed on 573 individuals.	The results have proved that personality can be defined as a multifaceted concept, that is positively related to ecological behaviour. According to this paper, firms should focus on those people who are

		respectively personality and ecological behaviour.		characterised by precise personality features such as extroversion, agreeableness and conscientiousnes s to persuade them to ask for their products.
Individuals' personality and consumption of organic food Gustavsen G.W., Hegnes A. W. Journal of cleaner production, vol. 245, pp. 1-10 2020	Big Five and consumption of organic food.	Investigation of the possible existing relationship between 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.	In the results openness to experience is positively related to the attitudes of organic foods, while extraversion is negatively related. Some of the tests performed show a positive relationship between agreeableness and attitudes towards organic foods. Furthermore, individuals characterised by a high level of conscientiousnes s tend to have a lower WTP for organic foods

				with respect to conventional foods.
The Big 5 Personality Traits and Willingness to Justify Unethical Behavior—A Cross-National Examination Aditya Simha and K. Praveen Parboteeah Journal of Business Ethics 2019	Relationship between Big Five and willingness to justify unethical behaviours.	Examination of the relationship between willingness to justify unethical behaviours and conscientiousness, openness to experience and agreeableness.	Collection of data on 38.655 respondents from 23 countries; four moderating variables are used: institutional collectivism, humane orientation, performance orientation, assertiveness (GLOBE cultural dimensions).	High conscientiousness is positively related to rule-following and negatively related to rule-breaking. Agreeableness is negatively associated with justification of unethical behaviours. The contention of openness to experience being positively associated with the willingness to justify unethical behaviour was not supported.
The Big Five personality traits as antecedents of eco-friendly tourist behavior Kvasova Olga Personality and Individual Differences, vol. 83, pp. 111-116	Big Five personality traits and eco-friendly tourist behaviour.	The main aim of the authors is to detect the possible relationship between eco-friendly tourist behaviour and the Big Five personality traits.	Quantitative research performed on 227 foreign tourists who have visited Cyprus.	In this paper Agreeableness, Conscientiousness, Extraversion, and Neuroticism are proved to be associated in a positive way with a pro-environmental tourist

2015				behaviour. On the other hand, we are not able to detect a significant relationship between Openness and ecological action.
Shifts in consumer behavior towards organic products: Theory-driven data analytics Firouzeh Taghikhah, Alexey Voinov, Nagesh Shukla, Tatiana Filatova Journal of Retailing and Consumer Services, vol. 61, pp. 1-12 2021	Analysis of consumer behaviour towards organic products.	The aim of the research is to explore the determinants of heterogeneity in organic food purchasing intentions and behaviours: cognitive, affective, normative and socio-demographical factors.	The authors explored choices among organic and conventional wine through quantitative research on 1003 Australian consumers living in Sydney: it consisted of 7 sections, each of them made of 35 questions. The data collected in the survey enable to quantitatively assess the impact of socio-demographics, shopping and wine consumption	The authors confirmed the presence of planned, unplanned, and impulsive behaviours when consumers shop for wine. There is an evident importance of considering impulsive and unplanned, as well as planned behaviour, in understanding food purchasing. Furthermore, the authors argue that organic purchasing decisions result from an interplay between these factors, as explained by

			patterns, and behavioural factors on consumers' stated intentions and behaviour for purchasing organic wine.	different social theories. When it comes to purchasing behaviour, health attributes were found to be an important motivator for purchasing organic wine.
Linking Green Skepticism to Green Purchase Behavior Kwong Goh S., Balaji M.S. Journal of Cleaner Production 2016	Analysis of the relationship between scepticism and willingness to purchase sustainable products.	This study examines the mediating roles of environmental knowledge and concern in the relationship between green scepticism and green purchasing intentions in a developing economy of Malaysia, based on the attitude-behaviour context theory.	The method used in this analysis is the "mall intercept method"; a total of 303 responses from actual retail customers were registered.	The results reveal how customers who are sceptical of green products have less environmental awareness and care, which has a negative effect on their intents to buy green items.

What drives willingness to purchase and stated buying behavior toward organic food? A Stimulus–Organism–Behavior–Consequence (SOBC) perspective Shalini Talwar, Fauzia Jabeen, Anushree Tandon, Mototaka Sakashita, Amandeep Dhir Journal of Cleaner Production 2021	Drivers of willingness to purchase organic food.	The main aim of the study is to identify the factors that may drive consumers' willingness to purchase (WTP) and stated buying behaviour (SBB) toward organic food through the Stimulus-Organism-Behaviour-Consequence (SOBC) paradigm.	The analysis was conducted through cross-sectional data collected from 928 Japanese consumers.	According to the results, openness to change and an ethical sense of self are positively associated with food safety concerns (FSC) and health consciousness. Additionally, whereas SBB is positively correlated with willingness to purchase, openness to change and ethical self-identity are positively correlated with willingness to purchase. Additionally, the relationship between self-identity and WTP and the relationship between WTP and SBB were positively mediated by purchase frequency.
Sustainability strategies by	Analysis of the strategies employed by	The main goal of this research analysing the	Analysis performed on a random sample	Only a third of the companies analysed have

companies in the global coffee sector Simon L. Bager, Eric F. Lambin Business Strategy and the Environment 2020	different companies regarding the topic of sustainability.	approach used by companies on sustainability and identifying the factors shaping the adoption of sustainability strategies.	of 513 companies.	shown a concrete concern and commitment to sustainability; large, risk-aware companies are the ones which are proved to be more prone to conduct 'hands-on' governances, implementing internal sustainability practices along their value chain. Different sustainability issues are still not highly taken into consideration by businesses and companies, such as climate change and deforestation.
Modelling the antecedents of consumers' willingness to pay for eco-labelled food products Pallavi Singh, Sunil Sahadev, Xinya Wei, Claudia E. Henninger	Model the antecedents for WTP in buying eco-labelled products.	The aim of this study is to model some of the main antecedents of consumers' willingness to pay for eco-labelled food products.	This study uses structural equational modelling and PROCESS macros, in order to test the moderated mediation model on a sample of 333	The results found the impact of consumers' environmental concerns and eco-label awareness on their WTP for eco-labelled food products is partially mediated by

International Journal of Consumer Studies 2022			online responses.	consumers' belief in the environmental ability of these eco-labels. This study establishes the value of consumers' perceptions of the eco-labels' environmental capabilities and suggests that communication strategies need to be carefully refined in order to give consumers more information about eco-labels and to underline the environmental capabilities of eco-labels used in the food industry, as this may have an impact on their WTP for these products.
Do front-of-pack 'green labels' increase sustainable food choice and willingness-to-pay in U.K. consumers? Jay J. Duckworth, Mark Randle,	Understand if the presence of a "green label" leads the consumers to buy sustainable foods.	In a series of pre-registered online studies, this study aimed to explain and clarify the scale and size of the effect generated by general	Four labels were displayed: 'Sustainably sourced', 'Locally sourced', 'Environmentally friendly',	Findings suggest that front-of-pack 'green labels' may yield substantive increases in consumer choice together with relatively

Lauren S. McGale, Andrew Jones, Bob Doherty, Jason C.G. Halford, Paul Christiansen Journal of Cleaner Production 2022		sustainability labels on the food choices taken by consumers in the United Kingdom.	and 'Low greenhouse gas emissions'. To guarantee reliable results, contingency valuation elicitation was used together with a new analytical approach in order to provide a triangulation of evidence: Multilevel-modelling compared each label vs. the 'no-label' option; Poisson-modelling compared different labels among each other. Other factors, such as Socioeconomic status, environmental awareness, health motivations, and nationalism/patriotism were included in these models.	modest increases in willingness-to-pay for environmentally-sustainable foods. Specifically, the references that could have the largest impact are those to 'sustainable' or 'local' sourcing.

Chapter II

Key research questions

Starting from the literature that deals with the topics of sustainability, environmental concern and willingness to pay more for sustainable products, I tried to make hypotheses on the possible effect that each trait in the Big Five model may have on the consumers' WTP for sustainable coffee.

Furthermore, another independent variable was used in the model, i.e. Product Involvement.

The following table summarises the main articles that I have analysed and used for the formulation of my hypotheses, with a specific focus on personality traits analysis (Big Five or others), sustainability, and Willingness to Pay.

Table 2: The most relevant scientific articles for my study and how they differ from my key research question

Title **Author(s)** **Journal of publication** **Year of publication**	**Personality analysis (Big Five personality traits or other personality traits)**	**Analysis of willingness to pay**	**Sustainability analysis** **(If yes, for which product)**
Substitutes or Complements? Consumer Preference for Local and Organic Food Attributes Thong Meas, Wuyang Hu, Marvin T. Batte, Timothy A. Woods, Stan Ernst	No	Yes	Yes Organic Food

American Journal of Agricultural Economics 2014			
Consumer Demand for Ethical Products and the Role of Cultural Worldviews: The Case of Direct-Trade Coffee Paul Hindsley, David M. McEvoy, O. Ashton Morgan Vol. 177 Ecological Economics 2020	No	Yes	Yes Direct-Trade Coffee
The Big 5 Personality Traits and Willingness to Justify Unethical Behavior—A Cross-National Examination Aditya Simha & K. Praveen Parboteeah Journal of Business Ethics 2019	Yes Big Five Personality Traits Four GLOBE cultural dimensions (institutional collectivism, humane orientation, performance orientation, and assertiveness)	No	No

The Big Five personality traits as antecedents of eco-friendly tourist behavior Kvasova Olga vol. 83, pp. 111-116 Personality and Individual Differences 2015	Yes Big Five Personality Traits	No	Yes Sustainable Tourism and Tourist Behaviour
Consumers' preferences and willingness to pay for coffee sustainability labels Katherine Fuller, Carola Grebitus Ecological Economics 2023	No	Yes	Yes Coffee With Labels Indicating Sustainability
Sustainability strategies by companies in the global coffee sector Simon L. Bager, Eric F. Lambin Business Strategy and the Environment 2020	No	No	Yes coffee

Do front-of-pack 'green labels' increase sustainable food choice and willingness-to-pay in U.K. consumers? Jay J. Duckworth, Mark Randle, Lauren S. McGale, Andrew Jones, Bob Doherty, Jason C.G. Halford, Paul Christiansen Journal of Cleaner Production 2022	No	Yes	Yes Sustainable and eco-labelled foods

Table 3: The most relevant scientific articles related to Personality Traits, willingness to pay and willingness to purchase

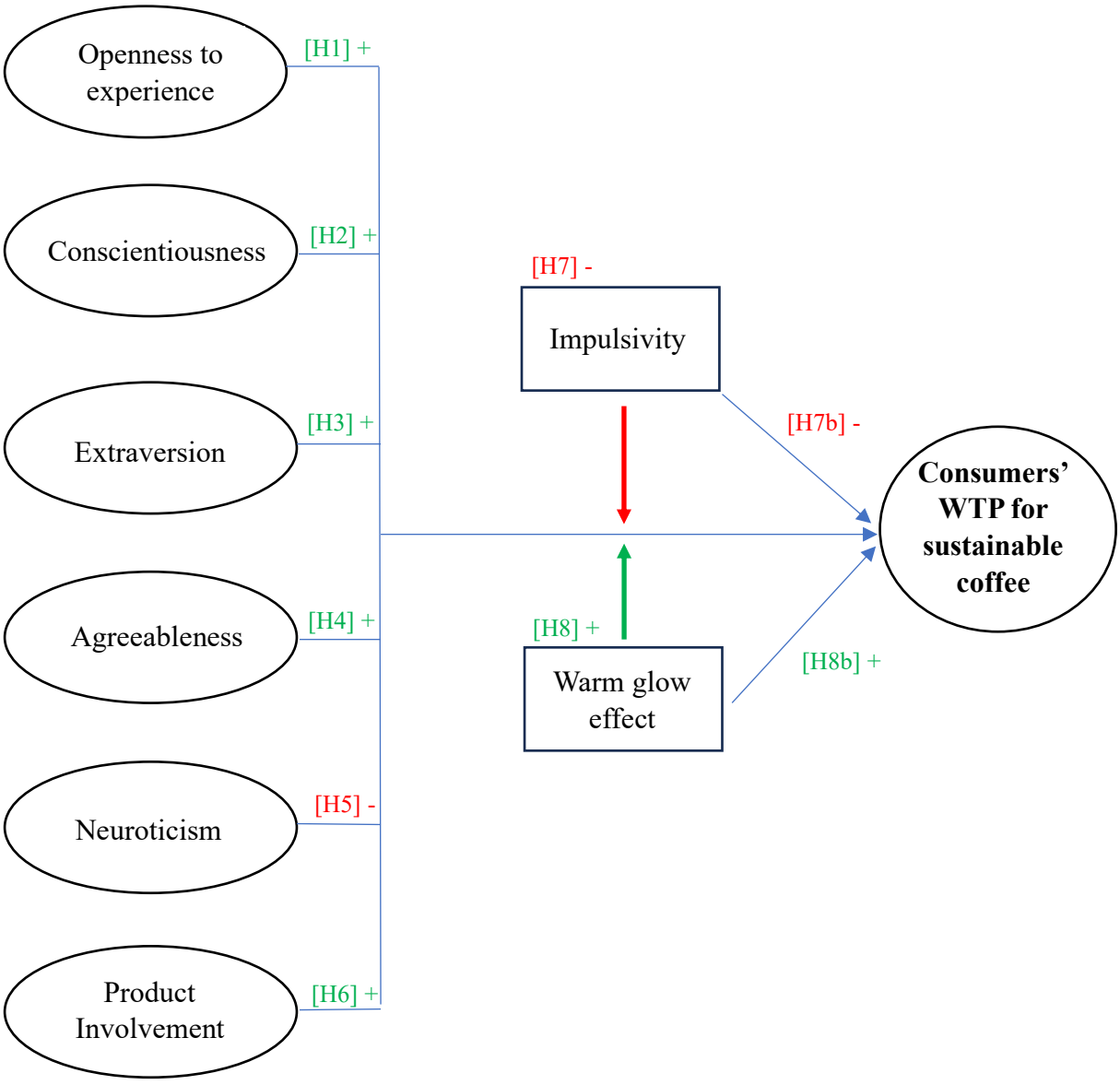
Title Author(s) Journal of publication	**Personality traits**		**Willingness to Purchase**	**Willingness to Pay**
	Big five Personality Traits	**Other Personality Traits**		
The effects of values and information on the willingness to pay for sustainability credence attributes for coffee Katherine Fuller, Carola Grebitus		X Altruistic, egoistic, biospheric value orientation, and the warm glow effect		X
What drives willingness to purchase and stated buying behavior toward organic food? A Stimulus–Organism–Behavior–Consequence (SOBC) perspective Shalini Talwar, Fauzia Jabeen, Anushree Tandon, Mototaka		X Stimulus–Organism–Behavior–Consequence (SOBC) analysis	X	X

Sakashita, Amandeep Dhir				
Individuals' personality and consumption of organic food Gustavsen G.W., Hegnes A. W.	X			X
Linking Green Skepticism to Green Purchase Behavior Kwong Goh S., Balaji M.S.		X Scepticism	X	

Advertising strategies and sustainable development: The effects of green advertising appeals and subjective business on green purchase intention Dai J. and Sheng G.		X Advertising appeals	X	
Does green brand positioning translate into green purchase intention?: A mediation–moderation model Mehraj D., and Qureshi I. H.		X Green brand positioning (GBP) and green brand knowledge (GBK)	X	X
The role of extraversion and agreeableness traits on Gen Y's attitudes and willingness to pay for green hotels Candy Mei Fung Tang, Desmond Lam	X Agreeableness Extraversion			X

Before proceeding with the analysis of each Personality Trait and the other variables used in my quantitative research, I am presenting the hypothesised model. Exhibit 1 introduces all the assumptions that I made about personality traits, Product Involvement and the two moderator variables that I chose, i.e., Warm Glow effect and Impulsivity.

Exhibit 1: Graphical representation of my research model



2.1 Independent variables

Big Five Personality Traits

As already outlined in the previous chapter, the Big Five personality framework (Goldberg, 1990; Costa and McCrae, 1992; John and Srivastava, 1999; Soto and John, 2009; Azucar et al., 2018) is one of the most commonly known and widely used frameworks for the evaluation of personality, especially in organizational situations (Kluemper et al. 2015; Hurtz and Donovan 2000).

This model includes five different factors: Openness to experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism.

According to Digman (1990), Barrick and Mount (1991, 1995), and Giluk and Postlethwaite (2015), over the past years this model has emerged as the main personality model.

Its dominance can be attributed, in part, to the fact that these personality traits have been recurrently discovered using a range of research techniques, and the five-factor model has been acknowledged as being stable, genetically based, and generalizable (Costa and McCrae 1988; Digman and Shmelyov 1996; Kalshoven et al. 2011).

The five personality traits will be treated as independent variables in my quantitative research model.

Openness to experience

This trait refers to the capacity of an individual of receptiveness to new ideas, approaches, and experiences (McCrae & Costa, 1997a). This particular personality trait is related to individuals who actively seek out new experiences (McCrae and Costa 1987; Aluja et al. 2003; Giluk and Postlethwaite 2015). People characterised by high openness to experience tend to enjoy the process of exploring and discovering new ideas and methods. They are usually imaginative, intelligent, broad-minded, and artistically sensitive (McCrae & Costa, 1985).

Previous studies have revealed how openness to experience is positively related to sensation seeking and negatively associated with conforming to the values of others (Aluja et al. 2003; Parks-Leduc et al. 2015; Giluk and Postlethwaite 2015).

On the other hand, individuals who are closed to experience are not necessarily defensive, nor narrow-minded in the sense of being judgmental and intolerant: they are often characterised by a preference for the practical, familiar, and concrete aspects of life, and may have a lack of interest in experience for its own sake.

Openness to experience is also strictly linked to the concepts of aesthetic appreciation and intellectual curiosity: according to existing studies, they may contribute to an increase of someone's interest in nature and encourage environmental protection (Hirsh & Dolderman, 2007; Markowitz et al., 2012). Moreover, this personality trait is associated to Schwartz's (1992) value of Self-transcendence, which promotes and supports, among other values, the protection and safeguard of nature (Luk & Bond, 1993; Olver & Mooradian, 2003).

Particularly, past researches have strongly and consistently associated this trait with pro-environmental behaviours (Hirsh, 2010; Markowitz et al., 2012; Milfont & Sibley, 2012). For instance, Markowitz et al. (2012) revealed that people who take part more frequently in pro-environmental activities are those who tend to appreciate aesthetic beauty, are more innovative and inventive, and have a wider range of various interests. Hirsh and Dolderman (2007), in a study conducted by the University of Toronto, have found how Environmentalism is positively related to Openness.

Past psychological researches associating Openness to experience to environmentally conscious behaviour have also fully supported the positive relation between this trait and organic food (DeYong et al., 2005).

As people high in this trait are described as more likely to try new experiences and are very interested in the protection of environment, they could also be willing to purchase "green" products and maybe also pay more for them. In fact, for what concerns the relationship between Openness and Willingness to Pay and purchasing intention for organic a sustainable food, Gustavsen and Hegnes (2020) defined this trait as a significant predictor for preferring, purchasing and consuming organic food: it was recognised as one of the most influential predictors in all individuals' choices. People with the highest levels in Openness to experience

tend to purchase organic food much more often than other individuals: they understand and perceive organic foods as healthier than "regular" ones, they describe organic food as better in taste and they are willing to pay a higher price for it with respect to conventional food.

This personality trait also includes interests in trying new experiences, new foods, new tastes, and things that are "different"; additionally, they are generally more open to change and especially to habits they perceive as sustainable, such as consuming and purchasing organic and sustainable food. This could help us to explain the higher interest for this type of products by people who score high in this trait than people that score low.

Furthermore, individuals high in Openness may also evaluate nature's aesthetic more than those low in this trait.

Finally, also the graphic and visual representation of organic food may be perceived as more attractive for consumers with high Openness to experience, with a strong and visible distinction between sustainable and standard products. Hence, organic products communicated as being more similar to standard ones might be more attractive for those consumers who score low in Openness to experience, and consequently less attractive for high Openness levels individuals.

Thus, based on what has been said, we could hypothesise that:

(H1): There is a positive relationship between openness to experience and the willingness to pay for sustainable coffee

Conscientiousness

Conscientiousness is the tendency for people to be organised, goal-directed, responsible, self-disciplined, and followers of norms and rules (McCrae & Costa, 1985; Roberts et al. 2009; Giluk and Postlethwaite, 2015). People who score high in this trait are usually determined, purposeful, systematic, and strong-willed.

This particular trait mostly includes two aspects: dependability and success (Kalshoven et al. 2011). While the success facet involves individuals working hard and fulfilling expectations

and requirements, dependability has to do with conscientious individuals being thorough, diligent, responsible, and organized.

According to McCrae and Costa (1999), people with high levels of conscientiousness tend to have leadership skills and more long-term plans.

This is a dimension of individual differences in organization and achievement. People high in conscientiousness are not only dutiful and self-disciplined, but also ambitious, hardworking, and sometimes they can get to the point of being described as "workaholics".

On the other hand, people with low conscientiousness are more careless, easy-going, and less demanding of themselves and others. (McCrae and Costa, 1987; Digman, 1990; Mount and Barrick, 1995; Kalshoven et al., 2011).

Besides being orderly and responsible, conscientious individuals tend to follow very carefully the social guidelines required for any type of action, and this desire 'to do the right thing' can also reflect in their environmental behaviour (Hirsh, 2010).

Conscientiousness has also been linked to higher future time perspective (Zimbardo & Boyd, 1999), which other research has shown to be significantly associated with a greater environmental engagement (Milfont, Wilson, & Diniz, 2012). In fact, people who are long-term oriented, are usually more concerned with the effects of their actions and choices and tend to plan for better future results, including ecological ones (Milfont & Sibley, 2012).

Several studies have indicated the relationship between Conscientiousness and environmentalism: Fraj & Martinez (2006) and Milfont & Sibley (2012), for example, found a significant and positive relationship between these two aspects.

It is also true that some authors found no or little relationships between green consumption and conscientiousness: Gustavsen and Hegnes (2020), did not manage to find any significant effect for conscientious people on their interest for organic food.

In this thesis, we will try to cautiously hypothesise that these two aspects (WTP more for sustainable products and Conscientiousness) are positive related, and so:

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

Extraversion

Extraversion is about differences in preferences for social interactions and lively behaviours. Extrovert individuals tend to be active, affectionate, fun-loving, and talkative (Pervin, 2003; Costa & McCrae, 2006); moreover, they are described as assertive, outgoing and energetic (McCrae & Costa, 1985), tend to have many friends, and they are more likely to develop professional interests and social skills (Witt, 2002).

On the other hand, people low in extraversion are described as more reserved, quiet and loner, and with a lower number of friendship relations (McCrae and Costa, 2003)

While some environmental studies were not able to discover any significant relationship between Extraversion and environmental concerns (e.g., Dolderman and Hirsh, 2007; Hirsh, 2010), others described how individuals who score high on this personality trait tend to show more environmental-friendly behaviours and it is reported to be particularly strong between the activity side of Extraversion and pro-environmental actions (Fraj & Martinez, 2006; Markowitz et al., 2012).

According to Milfont and Sibley (2012), environmental engagement, especially at a country level, is strongly affected by Extraversion. Past research described how this personality trait is positively related to post-materialistic values as self-expression and subjective well-being (McCrae, Terracciano, and 79 Members of the Personality Profiles of Cultures Project, 2005), which had been previously associated to higher levels of environmental concern (Inglehart, 1990).

Also the influence of Extraversion on willingness to purchase and to pay for green products has been largely investigated: Fung and Lam (2016) have found how this trait is positively associated with individuals' attitudes toward green products - in that specific case the analysis was performed on a sample of people belonging to the so-called "Gen-Y" for green hotels.

Stronger and more positive attitudes toward green products were proven to lead the consumers to a higher willingness to purchase and to pay more for them.

According to these affirmations, we can think that extraversion may influence positively the willingness to purchase and pay more for sustainable items and products, so we can conclude that:

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

Agreeableness

The fourth personality trait that is being analysed is Agreeableness.

Agreeableness is related to the levels of compassion, empathy, generosity, and warmth of an individual (McCrae & John, 1992). According to existing studies, people who score high on this personality trait are usually more trusting, affectionate, altruistic, and generally display more prosocial behaviours than others (McCrae and Costa, 1987); they are also described as empathetic and able to show great concern for the welfare of others; they are kind, gentle, honest, and they are always on the first line to help those in need (McCrae and Costa, 1987; Goldberg, 1990; Kalshoven et al., 2011); they can also be described as polite, cooperative, and friendly. Agreeableness can be found in a selfless concern for other individuals and in trusting and generous feelings.

Essentially, this is the trait related to how individuals approach interpersonal relationships, with agreeable individuals tending to be sympathetic, likeable, trusting, and concerned about the others' well-being (Giluk and Postlethwaite 2015). Agreeable people are also more likely to avoid, or at least limit, conflicts (Graziano et al., 1996; Graziano and Tobin, 2009).

Agreeableness is typically linked to straightforwardness (McCrae and Costa 1987; Kalshoven et al. 2011): it suggests that agreeable people tend to be more sincere and truthful when dealing with other individuals.

Additionally, McAdams (2009) found that agreeable personalities tend to be loyal and have a stronger sense of justice and fairness (Matsuba and Walker 2004).

People low in Agreeableness (or Antagonists), on the other hand, are usually more tough minded and hardheaded. A person at the lower end of the agreeableness can be portrayed as cynical, rude, uncooperative, vengeful, irritable, and manipulative (Pervin, 2003; Costa & McCrae, 2006).

Thus, Agreeableness is also associated with being a good person and a 'good citizen'; agreeable people might be more likely to act in an environmentally friendly way as they believe that such behaviour contributes to the well-being of the society (Markowitz et al., 2012). Besides, past studies on the relationship between Personality Traits and values described how Agreeableness is linked with Schwartz's (1992) higher-order value of Self-transcendence (Luk & Bond, 1993; Olver & Mooradian, 2003), the universalism component which is characterised by three pro-environmental elements, i.e., the protection of the environment, the harmony and union with nature, and a world made of beauty. (Milfont & Sibley, 2012). In fact, most of recent studies related to the topic of environment (apart from the ideas expressed in their researches by Markowitz et al., 2012) suggest that higher levels of Agreeableness lead to greater environmentalism, both non-behavioural and behavioural (Fraj and Martinez, 2006; Hirsh and Dolderman, 2007; Hirsh, 2010; Milfont and Sibley, 2012). This may lead to a higher attention to environmental conservation and preservation, and also to active behaviours in order to reach these goals, including the preferences in purchasing sustainable goods.

As it was for Extraversion, Fung and Lam (2016) have also investigated the relationship between Agreeableness and the intent to purchase and to pay for green products. They found that there is a positive association between Agreeableness and individuals' attitudes toward green products - in that specific case the analysis was performed on a sample of people belonging to the "Gen-Y" for green hotels. The stronger the attitude toward green products, the higher the consumers' willingness to purchase and to pay for them.

Also Gustavsen and Hegnes (2020) agreed on this aspect: in their study, they found how individuals high in Agreeableness may be willing to purchase and pay more for organic foods with respect to the so-called "ordinary food". Their results showed how the personality of

consumers has an impact on the consumption of organic food, and it may contribute to support psychological research that have associated environmental concern with the trait of Agreeableness (Nisbeth et al., 2009; Hirsh, 2010; Milfont and Sibley, 2012)

According to what has been said, we may hypothesize that:

(H4): There is a positive relationship between agreeableness and the willingness to pay for sustainable coffee

Neuroticism

The final personality trait in the Big Five model is Neuroticism: it can be defined as the individual's proneness to experience unpleasant and disturbing feelings and to have corresponding disturbances in thoughts and actions (Vestre, 1984). Individuals who obtain high scores in Neuroticism are more likely to experience psychological distress; they tend to be more irritable, less able to control their impulses, they may find hard to cope with stress, and respond emotionally to situations that would not influence most people (McCrae & John, 1992). Furthermore, people with low emotional stability scores tend to be anxious, nervous, emotional, insecure, and feel inadequate (Pervin, 2003; Costa & McCrae, 2006). Instead, individuals who obtain low scores on this trait are considered to be calm, hardy, relaxed, secure, self-satisfied, and unemotional.

Literature about the relationship between Neuroticism and environmental concern and interest is full of contradictory findings.

Although Neuroticism was found to be positively associated with environmental preservation (Wiseman & Bogner, 2003) when measured by Eysenck with the "Eysenck Personality Questionnaire" in 1975, the studies on the relationship between this trait and environmentalism generated mixed results. For instance, Fraj and Martinez (2006) and Hirsh and Dolderman (2007) did not find any significant relationship between Neuroticism and ecological concerns,

while Sibley and Milfont (2012) reported some inconsistent associations (Neuroticism was both positively and negatively related to environmental engagement). Also Hirsh (2010) found a very small positive relationship between environmental concern and Neuroticism. Gustavsen and Hegnes (2020), for example, found that there are no significant effects on the interest in organic food for Neurotic individuals: it basically means that there were no significant differences between the attitude toward organic food of people high or low in Neuroticism.

Starting from what we have just said, we may try to hypothesise that, as Neurotic people tend to be generally less trusting, it could mean that they may be more hesitant in believing to the benefits coming from the adoption of sustainable products and therefore be reluctant to buy them. People who score high in this trait, tend to perceive negative situations in general, as insurmountable. Applying this vision to our framework, we may conclude that purchasing sustainable coffee would be almost useless for neurotic people, as the problem of environmental disruption cannot be solved by merely changing our consumption habits.

As the numerous contradictory results of existing literature, in this thesis I will cautiously hypothesise that people with a higher score on Neuroticism are less likely to purchase and pay more for sustainable products and so:

(H5) There is a negative relationship between neuroticism and the willingness to pay for sustainable coffee

Additionally to the Big Five Personality Traits, another independent variable that has been used and analysed in my thesis in relationship with Willingness to Pay is Product Involvement.

Product Involvement

Since the last century, consumer behaviour literature has developed a consistent number of different theories about the behaviour of consumers in an attempt to explain and predict it (Howard and Sheth, 1969; Engel, Blackwell and Kollat, 1978; Bettman, 1979). All these

theories agree that individuals, during their purchasing process, actively look for and employ information in order to make informed decisions (Narayana and Markin, 1975).

Product involvement can be described as "an individual's perceived significance of the object, based on inherent requirements, values and interests". This definition takes into consideration the previous studies and examinations of Krugman (1967), Howard and Sheth (1969), Mitchell (1979), and Engel and Blackwell (1982), and it can be applied to different fields, including advertisement, products, and especially purchase decisions.

During the decades, a high number of definitions and measurements for involvement have been developed, probably due to the different applications of this term: for what concerns involvement with products, for example, it has been theorised that high involvement can lead to a bigger perception of differences in attributes among different items, feelings of greater product importance and a higher commitment to specific brands (Howard and Sheth, 1969); involvement for purchasing decisions, instead, encourages an individual to search for more information about the item they are buying and spend more time to take their decisions in order to make the best choice possible (Clarke and Belk, 1978).

Existing researches have described how the main areas that can affect the involvement level for an individual can be summarised in three different categories (Houston and Rothschild, 1978; Richins and Bloch, 1983):

- the personal category, relative to an individual's interests, values and requirements that lead them toward the specific object;
- the physical, which instead concerns the main aspects and characteristics of the object that create any differentiation or increase the interest of the purchaser;
- finally, the situational one, which is in relation to something that boosts the relevance or the interest in an object, but only temporarily.

Relatively to purchasing processes, Belk and Clarke (1978) described how different buying situations for the same item may lead to different research and evaluations or to an increase in the level of involvement.

Existing literature has largely discussed low and high involvement behaviour levels. (Chaffee and Bowen, 1974; Robertson, 1976; Lastovicka and Gardner, 1978b; Lastovicka, 1979;

Mitchell, 1979; Tyebjee, 1979; Belk, 1981). The majority of the most important scholars and researchers in this field agree on what creates the main differences between having a high or low involvement in a certain product. The following table summarises the individuals' main characteristics under low or high involvement.

Table 4: Main features for low and high involvement

High involvement	**Low involvement**
Active and important information seeking about different brands	Lack of active information seeking about different brands
Large comparison among different product attributes	Small comparison among different product attributes
Perception of differences among products of different brands	Perception of similarities and substantial lack of differences among products of different brands
Preference for a specific brand	No particular preference for any specific brand

Relatively to the research for product information, individuals who have a high involvement are usually more interested in looking for information about the item they are buying, with respect to those characterised by low involvement. Blackwell and Engels (1982) stated how involvement could be described as the activation of an extended behaviour of problem-solving, and Bettman (1979) found involvement to be a mediator variable in the research for information.

Another feature of highly-involved individuals is the capacity to evaluate possible alternatives to that product or item. As people with high involvement look for relevant information, the alternatives that are available are carefully compared before the purchasing process.

Furthermore, differences among brands are perceived as extremely important and visible by high-involvement consumers; this idea has been studied and analysed in detail by Robertson (1976): he suggested how high involvement usually implies strong beliefs for products' attributes, while they are much less significant for low-involvement individuals.

Finally, high involvement is related to a strong consumer's preference for a specific brand in the product category, which mostly comes from the perceived differences among products of different brands.

In conclusion, relative to the topic of sustainability and environmental concern, we can say that individuals characterised by a high level of product involvement will be more stimulated towards purchasing green products, and they will make a considerate choice among different products and brands, as they consider the differences that may arise among products very significant; high involvement individuals will also be encouraged to pay more for products that are perceived as different, better and highly valued with respect to the others – in our case sustainable foods and "regular" foods.

Taking into consideration what we have just seen, we can affirm that:

(H6) There is a positive relationship between product involvement and the willingness to pay for sustainable coffee

2.2 Moderator variables

A moderator (or mediating) variable is a qualitative or quantitative variable that affects the direction and/or the strength of the relationship between an independent and a dependent variable.

The moderator variables that I decided to include in my quantitative research project are impulsivity and warm glow effect

Impulsivity

The general trait of impulsivity – or impulsiveness (the two terms can be used interchangeably) - has been extensively studied by many scholars in different disciplines, including clinical and developmental psychology, education, and criminology (for example Hilgard 1962, Eysenck et al. 1985).

A significant number of consumers consider themselves "impulse buyers": the idea behind this is that buying impulsivity is a unidimensional construct that embodies consumers' tendencies both to think and to act in identifiable and distinctive ways. Specifically, we define buying impulsiveness as a tendency of the individual to purchase something immediately, in an unintended and unreflective way. Buyers characterised by high impulsivity are usually more likely to experience spontaneous purchasing stimuli: this means that often their shopping lists tend to be more "open" and exposed to sudden and unexpected buying ideas.

Additionally, according to Pollio, Locander, and Thompson (1990) and Hoch and Loewenstein (1991), consumers' thinking tends to be unreflective, motivated by physical closeness to a wanted product, controlled by an emotional attraction to it, and consumed by the promise of an instant feeling of satisfaction.

The result is that impulsive purchasers tend to act on impulse and respond positively and immediately to their buying instincts and desires. Additionally, impulsive purchasers typically have stronger and more frequent buying impulses than others.

However, having an impulse does not mean you will act on it, as a high number of different factors may happen in between the impulse and the action. Even the most impulsive consumers may not always give in to every spontaneous urge for purchasing, instant decisions and therefore "disturb" the process of transition from the impulsive feeling to an impulsive action (Bettman 1979).

Consumers' financial situation, time pressure, social visibility, and perhaps even the buying impulse itself can be factors that may contribute to induct the need to evaluate a potential impulsive purchase quickly (cf. Hoch and Loewenstein 1991).

Fischer identifies the normative dimensions that above all seem to have an impact on consumers' impulsive purchasing decisions.

One key component comes from clinical psychologists' distinctions between rational and impulsive behaviour. As Freud and his later interpreters stated, there are two fundamental human thought processes: primary and secondary processes, which vary in how much they support individuals' impulsive behaviour (Freud 1911; Hilgard 1962). Primary processes support uninhibited, impulsive behaviour that is often seen as irrational; contrarily, secondary thought processes tend toward the rational and socialized.

Finally, linkages between impulsive actions and negative outcomes have received a lot of attention both from the clinical and consumer works of literature across the decades: when individuals behave impulsively, they are more likely to act quickly and without reflecting, which increases the probability of unintended and undesirable outcomes.

Many studies have demonstrated how we can identify a continuing and persistent tendency to consider and interpret impulsive behaviour as immature, irrational, wasteful, and highly risky.

Thanks to important researches conducted during the decades, we are able to identify a number of antecedents for impulsive buying:

- *Consumer-related factors*

  We can identify three different consumer-related factors that act as antecedents for impulsive purchasing behaviour: consumer characteristics (Miao et al., 2019; Parsad et al., 2021), self-control (Sun et al., 2021; Nghiaet al., 2021) and consumer resources (Atulkar &Kesari, 2018; Krishna et al., 2021).

  Research links impulsive buying tendencies with a number of different consumers' personality traits and the Big Five Model has been largely used to examine their impact on impulsive behaviour.

  Findings in previous literature have revealed how neuroticism, extraversion, low scores in conscientiousness, and openness to experience are able to predict impulsive purchasing behaviour (Thompson & Prendergast, 2015; Olsen et al., 2016; Leong et al., 2017; Miao et al., 2019). Additionally, consumers' emotional intelligence (Park & Dhandra, 2017) and materialism (Atulkar & Kesari, 2018) can be important predictors

of impulsiveness of buying and may strongly affect it. Moreover, self-control is a consumer-related factor that is able to affect impulse buying. A common reason for impulsive purchase is the inability of an individual to resist the temptation of buying something or control themselves (Baumeister, 2002). A lower self-control tends to lead people to be more prone to impulsive purchases (Xu et al., 2020; Sun et al., 2021).

Consumer resources are other important predictors for impulsive buying (Atulkar & Kesari, 2018; Krishna et al., 2021). The consumer's buying power is influenced and determined by their shopping budget, and the possibility of having a large one could create positive feelings in the individual, which can then result in impulsive and uncontrolled purchasing (Beatty & Ferrell, 1998; Chang et al., 2014; Badgaiyan &Verma, 2015).

- *Sociodemographic factors*

Demographic variables are important predictors for impulsive purchasing, too; age is found to affect negatively the impulse of buying, with older consumers less likely to purchase impulsively with respect to younger ones (Dhaundiyal & Coughlan, 2016; Djafarova & Bowes, 32021). Also gender influences impulsive buying: females tend to buy more impulsively than men (Silveraet al., 2008; Atulkar & Kesari, 2018).

- *Marketing mix*

Factors directly related to the product itself (i.e., product type, features, packaging, and price) are among the major predictors of impulsive buying behaviour (Kacen et al., 2012). Hedonic products – the ones that offer an enjoyable experience – tend to be the ones that are more likely to be bought impulsively (Kacen et al., 2012; Chen & Wang, 2016).

Researchers have recognised product attributes (Park et al., 2012; Atulkar & Kesari, 2018), attractive and eye-catching packaging (Hubert et al., 2013), and low prices

(Kacen et al., 2012; Kimiagari & Malafe, 2021) as significant impulsive buying antecedents.

After the antecedents for impulsive purchasing behaviour, we find the mediators: among them, there is the so-called *Emotional response*, which is central in this process (Verhagen & van Dolen, 2011; Yi & Jai, 2020).

Overall, the emotional response of individuals during the purchasing process mediates the effects of different sets of previously described antecedents of buying impulsivity (Floh & Madlberger, 2013; Atulkar & Kesari, 2018).

We have seen that impulsive people tend to take completely unplanned actions, which are diametrically opposed to the conscious and premeditated typical purchasing behaviour characterising those individuals who tend to prefer sustainable goods; this aspect suggests a negative relationship with sustainability concerns.

The need to buy something may lead people to purchase products in more quantity and impulsively, without considering their impact on the environment or society.

Finally, we have seen that low prices are one of the antecedents that mostly influence the impulsive shopper; as sustainable products are generally characterised by a higher price with respect to others, it is highly possible that impulsivity will influence negatively the purchase of these foods and items and consequently consumers' willingness to pay more for them.

According to what has been discussed, we can conclude that:

(H7): There is a negative relationship between impulsivity and the willingness to pay for sustainable coffee

Warm glow effect

Different studies have found that when pro-environmental and ethical behaviour are analysed, we need to consider the relevance of human values (Fransson & Garling, 1999; DeGroot & Steg, 2008).

When assessing the potential consequences of their behaviour, such as when choosing which things to buy, people frequently consider their values (Iweala et al., 2019). The ethical consumption literature has shown how selfish, altruistic, and biospheric values are all important and significant drivers of an individual's decision process of behaving in an ethical and moral way (Yadav, 2016).

Steg et al. (2005) state that egoistic values reflect an individual's self-interest, while altruistic values emphasise the welfare of other human beings.

According to Fehr and Schmidt (1999), there is evidence that implies that there are fewer self-interest reasons that underlie people's behaviour, although most economic models assume that people are egoistic and prioritize their own interests.

Thus, among other motivations explaining human behaviour, there is some sort of altruism. Altruism was described as "a social behaviour carried out to achieve favourable outcomes for another rather than for the self" by Rushton et al. (1981) and Rushton (1982).

The theory of altruism considers that the only motivation for charitable giving is the utility that derives from the charity's output (Becker, 1974). In addition, Andreoni (1989) explained that people also get a warm glow effect from the act of giving, which is identified as "impure altruism".

The warm glow concept is a prosocial behaviour that causes the person to experience positive feelings associated with the act of giving (Andreoni, 1990). The main difference between altruism and the warm glow is based on the ultimate utility individuals get when giving to a certain cause. On one hand, for altruistic consumers, the assurance that their contribution is reaching the cause of their ethical concern is what maximizes their utility, while, on the other hand, impure altruistic consumers maximize utility with respect to other reasons, for example feeling good or the warm glow effect.

Altruistic people do something because they truly care about the well-being of the recipient, while warm glow giving refers to the prosocial behaviour that allows the individual to experience positive feelings, irrespective of whether their giving actually makes a difference or has an impact or not. The warm glow is essentially the selfish and personal satisfaction and gratification of individuals for having 'done the right thing' and 'doing their part' to help other people. That is the reason why we refer to warm glow as "impure altruism".

In the existing literature, there are several studies suggesting that warm glow, altruistic, egoistic and biospheric values have influenced consumers' purchase decisions related to sustainable food products. Furthermore, pro-environmental behaviour has been demonstrated to be influenced by warm glow benefits, as people may experience moral satisfaction deriving from their contribution to the environment (Kahneman and Knetsch, 1992; Ritov and Kahneman, 1997; Nunes and Schokkaert, 2003). Warm glow can also contribute to higher probabilities of engaging in prosocial behaviours.

For what concerns coffee specifically, Fuller, Grebitus and Schmitz (2022) closed the gap in the literature relative to a lack of studies related to the analysis of WTP using non-hypothetical experiments which include the most widespread sustainability labels. They provided insights into some of the main motivations behind consumers' WTP for sustainable-labelled coffee. They demonstrated how the warm glow effect influences positively the attitude of consumers toward purchasing and paying more for those typologies of coffee that assure that the way in which they are produced takes care of social and/or environmental problems. Furthermore, their findings suggested how consumers are willing to pay more for those coffee production methods that promise to tackle the temporal and social dimensions of sustainability. This result has confirmed the findings of previous studies performed on this topic (Sorqvist et al., 2013).

To measure the warm glow effect, the Hartmann et al. (2017) scale was used in this thesis: it includes six attitudinal questions about the pleasing feeling of giving, testing whether individuals are satisfied and pleased by actions like doing something for social justice or participating in charitable programs. People taking part in the survey are asked to say if they agree or disagree with the six statements on a five-point Likert scale, with values going from 1 ("strongly disagree") to 5 ("strongly agree").

According to what has been just said, we can conclude that the warm glow effect may lead consumers to pay more for coffee which assures them that the way it is made takes care of social and environmental issues, and so we assume that:

(H8): There is a positive relationship between warm-glow effect and the willingness to pay for sustainable coffee

Some researchers, including Mehraj and Qureshi (2022), have also proved the moderating role of WTP a premium between attitude toward green brands and green purchase intention.

Across the existing literature that analyses the relationship between purchase intent and consumers' personality, a number of different factors have been proved to influence it:

- Emotional Value, which denotes the employment, pleasure and fulfilment people receive when using products or services (Kim et al., 2012);
- Functional value, which is a preliminary factor related to product quality value (Kim et al., 2012; Watanabe et al., 2020);
- Relational value, which can be defined as the connections and relations that individuals create with other consumers, interactions with companies and peers (Cheung et al., 2022).

Ng, Cheung, Lit, Wan, and Choy (2023) confirmed that these three values of green products predict customer's overall product assessment, and influence actively purchase intent for this typology of products.

The previous researchers have also demonstrated how autonomous motivation (i.e., identified and integrated regulations) has a positive influence on consumers' intentions to purchase green and sustainable products, and these findings are aligned with former conclusions (Chen et al., 2016; Li et al., 2020).

Finally, on the other hand, a factor that negatively affects the purchase and willingness to pay more for green products is the scepticism that may arise in consumers towards them: Goh's and Balaji's findings (2022) revealed how green scepticism contributes actively to decreasing customers' environmental knowledge concern, and in turn impact adversely their intention of purchasing green products.

Chapter III

Research methodology and data collection

3.1 Methodology

In order to verify the existence of a relationship between willingness to pay for sustainable coffee and consumers' personality, the SmartPLS model was employed. This model adopts a specific method called SEM (Structural Equation Modeling), a second-generation multivariate data analysis technique that facilitates the examination of the connections between diverse constructs, each of which is measured by one or more indicator variables. One of the main advantages of SEM recognised by the researchers is that this method allows them to model and estimate the complex multiple and interrelated dependence among several variables in a single analysis. The concepts that are considered are not typically observable and are measured indirectly by multiple indicators. When it proceeds with the estimation of the relations, SEM accounts for measurement error in observed variables. This method thus allows the researcher to obtain a much more accurate measurement of the relevant theoretical concepts (Cole and Preacher, 2014).

Usually, SEM is used when the sample is not too big or the data is non-normally distributed; it can also be used for theory development and prediction.

In practice, SEM is governed by two main methods: Covariance-Based SEM (CBSEM) and Partial Least Squares SEM (PLS-SEM, or PLS path modelling).

PLS-SEM assumes that the relevant concepts can be determined as composites (Jöreskog and Wold, 1982): that is the main reason why PLS is known as a "composite-based SEM method" (Hwang et al., 2020). This method aims at estimating coefficients in order to maximise the R^2 values of the target, or endogenous, constructs.

PLS-SEM is rapidly growing as a statistical modeling technique. During the past few decades, there have been plentiful of introductory articles on this method (e.g., Wold, 1985; Chin, 1998; Kaplan and Haenlein, 2004; Tenenhaus, Esposito Vinzi, Chatelin, and Lauro, 2005; Sánchez-

Franco and Roldán, 2012; Rigdon, 2013; Chin and Nitzl, 2017; Ringle, Hair, Sarstedt and Risher, 2019; Howard, Nitzl and Hair, 2020; Hair et al., 2020).

3.2 Population and Data Collection

The hypotheses that have been formulated in this thesis are based on scientific research related to the attitudes of environmentally-conscious consumers and to the topic of environmental concern, as well as individuals' personality studies relative to purchasing behaviours.

The dependent variable that I chose for this analysis is the Willingness to Pay more, in this case for sustainable coffee.

The personality traits that I assumed to be relevant for my quantitative analysis are the well-known Big Five Personality Traits: Openness to experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism. All these variables were treated as independent variables and I assumed that they could all affect positively WTP more for sustainable coffee – except for Neuroticism, which I assumed to have a negative impact on my dependent variable.

Another independent variable that I decided to include in my model is Product Involvement, that I supposed to be positively associated with WTP.

This model will also employ two moderator variables, whose role is to affect the direction and/or the strength of the relationship(s) between a dependent and an independent variable.

The first moderator variable that I have decided to employ is impulsivity: it is a trait that I expect to be strongly associated with neuroticism, but can also be applied to the other five Personality Traits. Impulsivity usually leads the individual to take unplanned decisions and purchase something immediately, in a spontaneous and unreflective way. For these reasons, I have assumed that this variable will negatively moderate the relationships between the Big Five Personality Traits and the WTP for sustainable coffee.

The second moderator is the warm glow effect: in the formulation of my hypotheses I assumed that it has a positive impact on my model, as individuals who score high on this trait tend to be

more involved in environmental and social preservation and safeguarding, and so they may be willing to pay more for "green" products.

I assumed that this moderator would strengthen even more the positive association between my dependent variable and the independent ones for which I had already predicted a positive relationship – i.e., Extraversion, Agreeableness, Conscientiousness Openness to Experience, and Product Involvement. Contrarily, the warm-glow effect will be likely to counterbalance the negative relationship between Neuroticism and WTP for sustainable coffee.

Data about these variables have been collected through the compilation of a survey, which has been distributed through the Qualtrics software, an online tool used to create and distribute questionnaires and which allows researchers to analyse the responses obtained.

I have decided to create the survey both in English and Italian, in order to avoid any misunderstandings that may arise from the interpretation of the questions.

The survey is made of four different blocks. In the first block, named "Preliminary Questions", I have created a brief presentation of my research and delineated its main objectives that I wanted to be communicated to the participants; I have also included a filter question (*Are you a regular coffee consumer?*) in order to exclude from my sample the respondents who do not have the appropriate characteristics: generally filter questions are used in surveys and studies with the primary finality to target respondents and guide them to questions that apply to them. In this case, if the answer is "*Yes*", the participant can move on to the next question; otherwise, if they select "*No*", they will be redirected to the end of the survey. This study has been specifically intended to exclude all the possible respondents who do not have the proper features to be part of my sample: for this survey, I wanted my final sample to be made of individuals who had any interest in coffee and its sustainable "origin", excluding the participants who do not consume it on a regular basis, nor are interested in it.

After this question, I have included a part relative to the main sustainability labels that I am analysing in my research – Fair Trade, Direct Trade and Rainforest Alliance. The first thing that I asked the respondents was to indicate how familiar are they with these three certifications, on a scale from 1 (Not familiar at all) to 5 (Extremely familiar). After this, I provided a brief

description for each of these certifications and asked the participants to indicate the one or ones they would be willing to spend more money on, with respect to the others, among seven options (the option "none of them" was also available).

Finally, I asked the participants to suppose that they regularly consume two similar types of coffee and they appreciate them equally, and then suppose that only one of them carries a label that indicates its sustainable origin; the question was: "*Would you be willing to pay more for the sustainable product?"*; if the respondent selects "*Yes*", they would be asked to indicate how much they would pay for a kilogram of sustainable coffee: the price range was fixed between 10 and 25 Euros. Otherwise, they should not answer it and move on to the following question.

The second block is named "Personality traits", where I asked the participants to answer some questions related to the dependent variable, namely WTP for sustainable coffee, and then for the independent variables - i.e., the Big Five and Product Involvement. All variables were measured according to a 5-point type Likert scale, except for Product Involvement, for which I employed a 7-point type Likert scale.

The third block contains the questions linked to the moderator variables, namely "impulsivity" and "warm glow effect". Even in this case, they were measured using a 5-point Likert scale.

The fourth and final block, named "Demographic factors", contains questions about the interviewees: their age, sex (they can also avoid any specification), country of origin, level of education, job position and annual income (even in this case, the option "prefer not to say" could be selected).

3.3 Measures and Scales

All the constructs and items that I decided to include in my research were taken from existing literature.

The questionnaire evaluated the dependent, independent and moderator variables according to a Likert scale: for Product Involvement the scale that I used is a seven-point Likert scale, with values ranging from “1” meaning “strongly disagree” to “7” meaning “strongly agree.” For all the other constructs, a five-point Likert scale was used and the ranges were from “1” - “strongly disagree”- to “5” - “strongly agree”.

Here we can see the sources for the various constructs:

Dependent variable

Willingness to pay more, 3 items scale from Habel J. et al., (2016); Legere A. and Kang J., (2020)

Independent variables

Openness to experience, 4 items scale from Goldberg L., (1999) and Mahlamäki T., (2010)

Conscientiousness, 4 items scale from Goldberg L., (1999) and Mahlamäki T., (2010)

Extraversion, 4 items scale from Goldberg L., (1999) and Mahlamäki T., (2010)

Agreeableness, 4 items scale from Goldberg L., (1999) and Mahlamäki T., (2010)

Neuroticism, 4 items scale from Goldberg L., (1999) and Mahlamäki T., (2010)

Product involvement, 5 items scale from Zaichkowsky J. L., (1985)

Moderator variables

Impulsivity, 9 items scale from Rook D. W. and Fisher R. J., (1995)

Warm glow effect, 6 items scale, Hartmann P. et. al, (2017)

The complete tables of constructs, items, and sources can be found in Appendix A in the final part of my thesis.

Generally, the majority of the questions are formulated using positive sentences. In some of the items, there is the indication "*Reverse Coded Item*". In the creation of a survey or questionnaire, researchers may find it useful to rephrase "positive" questions in a "negative" way: this practice is adopted to make sure that individuals are giving consistent responses. Contrary to positively keyed items, where a high score is related to a high level in that specific trait, a high score in a Reverse Coded Item question indicates a low level of the respondent in that trait.

Currently, researchers have not been able to find a scale that is capable of measuring WTP yet; usually, they tend to opt for a single-item scale where respondents are asked how much they would pay for a certain product. The scale that I decided to employ for measuring WTP is the "Willingness to Pay more scale" (Habel et al. 2016), which has been developed by the authors taking into account different variables, such as customers' perceived price-value ratio, price sacrifice, quality, and willingness to pay more. They concluded that willingness to pay more is a result of perceived price fairness.

For what concerns the analysis of the Big Five Personality Traits, the model that I used takes its origin in the 50-item International Personality Item Pool-Five-Factor Model (IPIP-Big5) (Goldberg, 1999): as the name suggests, it was originally made of fifty items - ten items for each trait.

For straightforwardness and simplicity, I decided to employ a short-form scale, made of four items for each trait and developed by Mahlamäki T. in 2010. The scale includes both positively keyed items and Reverse Coded Items.

For measuring product involvement, I used Zaichkowsky's scale, which allowed me to identify those consumers characterised by high and low involvement in purchasing products.

The two moderators that I employed in my analysis are Impulsivity and Warm glow effect.

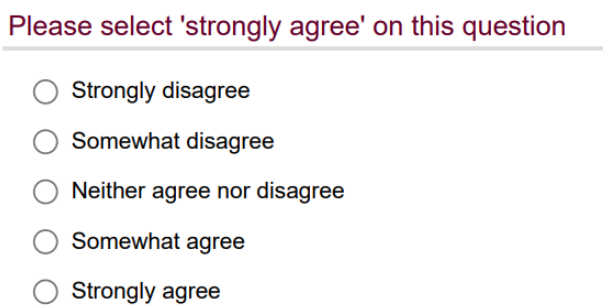
Impulsivity has been evaluated with the "Buying impulsiveness scale", created by Rook and Fisher in 1995: this specific scale measures the tendency of impulsive consumers to buy spontaneously, immediately and without planning the action.

To measure the warm glow effect, the Hartmann et al. (2017) scale was used: it includes six attitudinal questions about the gratifying feeling of giving, testing whether individuals are satisfied and pleased by actions like doing something for social justice or participating in charitable programs.

As previously hinted, I decided to collect the responses employing a Likert scale ranging from "1" meaning "Strongly disagree" to "5" – or "7" for Product Involvement – which means "Strongly agree". One of the reasons why I decided to use it is that participants have the possibility to choose among more answer options, which makes it easier to capture their true ideas and evaluations; these two types of Likert scales are both symmetrical: it means that the option "Neither agree nor disagree" lies in the middle of the scale.

In order to check and confirm the reliability of the answers provided by the participants, two attention checks were included. The use of these checks aims to distinguish between the participants who actively contribute to the survey by providing first-rate responses and those who provide low-quality and/or unreliable data.

One attention check that I decided to include is asking the participant to select a specific answer in two questions placed across the survey (one in the second block and another in the fourth):



I have also decided to include one redundant question, which consists of multiple repetitions of the same question across the survey, in order to verify the degree of attention of the interviewee. In my specific case, I asked the participants to select their age on a scale of seven points, and I repeated this question three times (at the beginning of the survey, in the second block and finally in the fourth block with all the other "demographic questions"). In this case, the participants should select the same option in all three identical questions.

If one participant does not respond correctly to at least one of the attention checks or the redundant question registers a different answer from the original one, then their responses will not be registered and consequently they will be excluded from the final analysis.

Both of these types of questions are primarily used to confirm that people are actively participating in the survey and providing accurate responses, and not just randomly selecting options.

After choosing and selecting the right filter questions to use in my survey, on the 20th of July 2023 the questionnaire was published on Qualtrics; an anonymous link was created on the

platform, which was shared on WhatsApp and forwarded to friends, relatives and acquaintances.

The collecting data method that was employed is called "snowball sampling", a non-probability sampling process in which existing units recruit new units to become part of the final sample in a research study. Also known as chain-referral sampling, network sampling or chain sampling, this method is only based on referrals. Its sampling starts with one or more participants in a study, and then it proceeds on the basis of referrals from those participants. This process can continue and continue, just like a snowball: it increases in size (in this case our sample size) until the researchers obtain the desired number of participants, with a sufficient number of data to analyse in order to derive conclusive results, or it reaches a saturation point.

This method presents a series of important advantages:

- it allows doing research in places where otherwise it could be very hard or even impossible due to a lack of participants;
- it could enable researchers to discover and learn things and aspects about a certain population that you were not aware that existed;
- it makes it possible to reach some particular or uncommon groups of people;
- it considerably reduces the search costs and it makes the growth of the sample size easier and faster.

On the other hand, the method presents a number of disadvantages, including the potential increase of the bias and margin error in the sampling, and the fact that it is often very difficult to calculate and determine the sample error or make inferences about populations based on the collected responses of the analysed sample.

As people tend to connect with those individuals who have their same passions and interests, and also the same traits, it could lead to a smaller representativeness of my analysed sample for the population. Additionally, it may happen that, as I do not offer any compensation for taking part in my survey, participants may be less cooperative and less likely to take part in the questionnaire or give answers without carefully reflecting; they could also choose to fill the survey multiple times instead of sending and forwarding it to other people, which would bias the final results of my analysis.

Despite the possible disadvantages of this method, I decided to use it as I was able to eliminate, or at least reduce to the minimum, the possible risks arising from it. For example, I personally took care of most of the distribution of the questionnaire among my closest friends, university students and work colleagues, who were happy to help me with this project.

On Sunday, 27th August 2023, the questionnaire was officially closed after reaching a total of 321 responses.

3.4 Sample

The survey that I conducted was made of four blocks of questions.

At first, the total number of responses obtained in the survey was 321. 4 respondents were immediately excluded, as they did not answer the first question relative to their age, so my initial sample was made of 317 valid answers.

The filter question "*Are you a regular coffee consumer*?" excluded from the study 54 people who replied "*No*", as the participants' answer did not match the characteristic I wanted for my sample: these respondents were led directly to the end of the questionnaire, and no further question was asked.

At this point, the number of valid responses was 263.

Among these 263 respondents, 127 of them did not answer all questions and consequently were considered irrelevant for research purposes, reducing the number of valid interactions to 136.

At the end of the first block and after giving the respondents a series of information about the three main sustainability labels that I am analysing, I asked them to tell me if they would be willing to pay more for sustainable coffee with respect to the "regular" one. 30 respondents answered that they would not be willing to pay more for the sustainable product with respect to its exact non-sustainable counterpart, or they did not indicate any price; due to this, they were excluded from my analysis. At this point, the number of valid answers was 106.

After this, I tested the validity and reliability of the respondents with the two attention checks and the redundant question (the question about the respondent's age repeated three times across the survey):

- in the attention check, the participants were asked to select a specific answer in two questions; 7 respondents in the first one and 1 in the second one failed to select the required answer, for a total of 8 people to be eliminated from my sample;
- in the redundant question, repeated at the beginning and at the end of the questionnaire, 1 respondent who failed to select always the same answer was excluded from my final sample.

The percentage of respondents that failed these aforementioned attention checks is 2.84% of my initial sample.

At the end, the valid number of answers was 97.

After removing all the respondents that did not meet the requirements, in the last block I analysed all the demographic characteristics of my remaining sample: the majority of my sample consisted of women (72.17%); age between 18 and 24 was the most selected option (24.74%).

Almost all of my final sample comes from Italy, with only one respondent coming from other countries.

43.30% of the sample has a full-time job and it is the most selected answer for what concerns the "job position".

The majority of the respondents (44) have a high-school education level.

For what concerns the annual income, the most selected answer was "prefer not to say" with 23 answers (23.71%), while the second one was €20,000 - €29,999, with 21 answers (21.65%).

Here we can see in detail all the demographic characteristics of my sample.

Table 5: Descriptive statistics

	N.	%
Are you a regular coffee consumer?		
Yes	263	(82.97%)
No	54	(17.03%)
Suppose that you consume regularly two similar types of coffee and you like them equally; suppose now that only one of them carries a label that indicates its sustainable origin. Let us say that the coffee without the sustainability label has a price of 10 € per bag (e.g. per kg). Would you be willing to pay more for the sustainable product?"		
Yes	106	(77.94%)
No	30	(22.06%)
Which sustainability label would you be willing to spend more money on, with respect to the others?		
Fair trade	5	(5.15%)
Direct Trade	8	(8.25%)
Rainforest Alliance	14	(14.43%)
Fair trade and Direct Trade	17	(17.53%)
Direct Trade and Rainforest Alliance	16	(16.49%)
Fair Trade and Rainforest Alliance	35	(36.09%)
None of them	2	(2.06%)
Age		
Under 18	1	(1.03%)
18 - 24	24	(24.74%)
25 - 34	19	(19.59%)
35 - 44	10	(10.31%)

45 – 54	16	(16.50%)
55 - 64	21	(21.65%)
65 or Older	6	(6.18%)
Sex		
Male	27	(27.83%)
Female	70	(72.17%)
Prefer not to say	0	(0%)
Country of Origin		
Italy	96	(98.97%)
Others	1	(1.03%)
Education		
Less than high school	4	(4.12%)
High school graduate	44	(45.36%)
Bachelor's degree	22	(22.68%)
Master's degree	27	(27.84%)
Doctorate	0	(0%)
Other	0	(0%)
Job position		
Employed full time	42	(43.30%)
Employed part time	9	(9.28%)
Unemployed looking for work	0	(0%)
Unemployed not looking for work	1	(1.03%)
Retired	8	(8.24%)
Student	19	(19.58%)
Other	18	(18.57%)

Annual income		
Less than €10,000	15	(15.46%)
€10,000 - €19,999	18	(18.56%)
€20,000 - €29,999	21	(21.65%)
€30,000 - €49,999	17	(17.53%)
€50,000 - €99,999	2	(2.06%)
€100,000 - €149,999	0	(0%)
More than €150,000	1	(1.03%)
Prefer not to say	23	(23.71%)

Chapter IV

Data analysis and results

After closing my questionnaire and collecting all my data on Qualtrics, I started to analyse more specifically and precisely the data that I obtained. The instrument employed in the final analysis is called SmartPLS, a professional statistical software with a graphical user interface for Structural Equation Modelling (also known by its acronym SEM), employing the Partial Least Squares (or PLS) path modelling method.

SEM is a second-generation multivariate data analysis technique and a very powerful statistical method that allows for identifying relationships in social science research that otherwise would be much harder to find.

The application of statistical methods that simultaneously analyse multiple variables is involved in multivariate data analysis: these methods represent measurements related to people, businesses, events, actions, situations, and so forth.

SEM is used for theory confirmation as well as theory exploration.

As already hinted at in the previous chapter, there are two different typologies of SEM: Covariance-Based SEM (CB-SEM) and Partial Least Squares SEM (PLS-SEM or PLS path modelling). CB-SEM is mainly employed to confirm or reject theories (i.e., a set of systematic relationships among several variables that can be empirically tested). It is obtained by determining how accurately a suggested theoretical model is able to estimate the covariance matrix for a given sample data set.

Contrarily, PLS-SEM is mainly used for the development of theories in exploratory research, by focusing on the explanation of the variance in the dependent variables in the examination of the model. As it maximises the variance of the endogenous latent variable by estimating partial model relationships in an iterative sequence of OLS regressions, PLS-SEM is considered the variance-based approach to SEM.

The PLS path model is a diagram generated to visually display all the hypotheses and demonstrate the relationship among the constructs (variables that are not directly measured) and their indicators (manifest variables containing the raw data).

The PLS path model of this study is shown in Exhibit 2.

PLS-SEM can result to be particularly convenient for a causal-predictive analysis with a low availability of theoretical information. The benefits of this approach also include its ability to account for the measurement and theoretical conditions, as well as distributional and practical considerations. Besides, PLS-SEM is also an exploratory statistical tool able to process both primary and/or secondary data.

PLS-SEM should be employed when:

- we want to predict key target constructs or identify important "driver" constructs;
- the structural model includes the formatively measured constructs;
- a high number of constructs and indicators are used in the structural model;
- there is a small sample size and/or the data are non-normally distributed;
- the researcher would like to employ latent variable scores in successive analyses;
- stricter requirements of more traditional multivariate techniques are hard or even impossible to respect, such as the normal distribution of the data.

A PLS model mainly consists of two elements: the structural model, representing potential causal dependencies between exogenous and endogenous variables, and the measurement model, which shows the relationship between latent variables and their indicators.

Path models are developed according to the hypotheses formulated on the basis of scientific studies, with the main goal of predicting and explaining specific outcomes.

The latent variables (or constructs) are measured according to measurement theory. Generally, there are two different ways to measure unobservable variables, depending on the relation they have with the items; we can find:

- a Reflective Measurement Theory, which is mainly based on the idea that latent constructs cause the measured variables and the error results in an inability to fully and adequately explain these measures: it basically represents the constructs and examines the relationship among them. It specifies that a latent or unobservable concept can cause a variation in a group of observable indicators, which then can be used to indirectly measure the concept. In this model, directional arrows will point to the items, suggesting that the construct causes the measurement of the indicator variables;

- a Formative Measurement Theory, which is modelled on the assumption that measured variables cause the construct. The error in the formative measurement models is an inability to wholly explain the construct. This means that a comprehensive indicator list is needed. It also helps to assess the validity and reliability of constructs. The measurement model shows the relationships and connections between the constructs and their indicators (i.e., the items that are directly measured, the observed variables), and it helps to assess the validity and reliability of the construct. Finally, in this model, the directional arrows point from the items to the construct, which means that the construct is caused by the indicator variables.

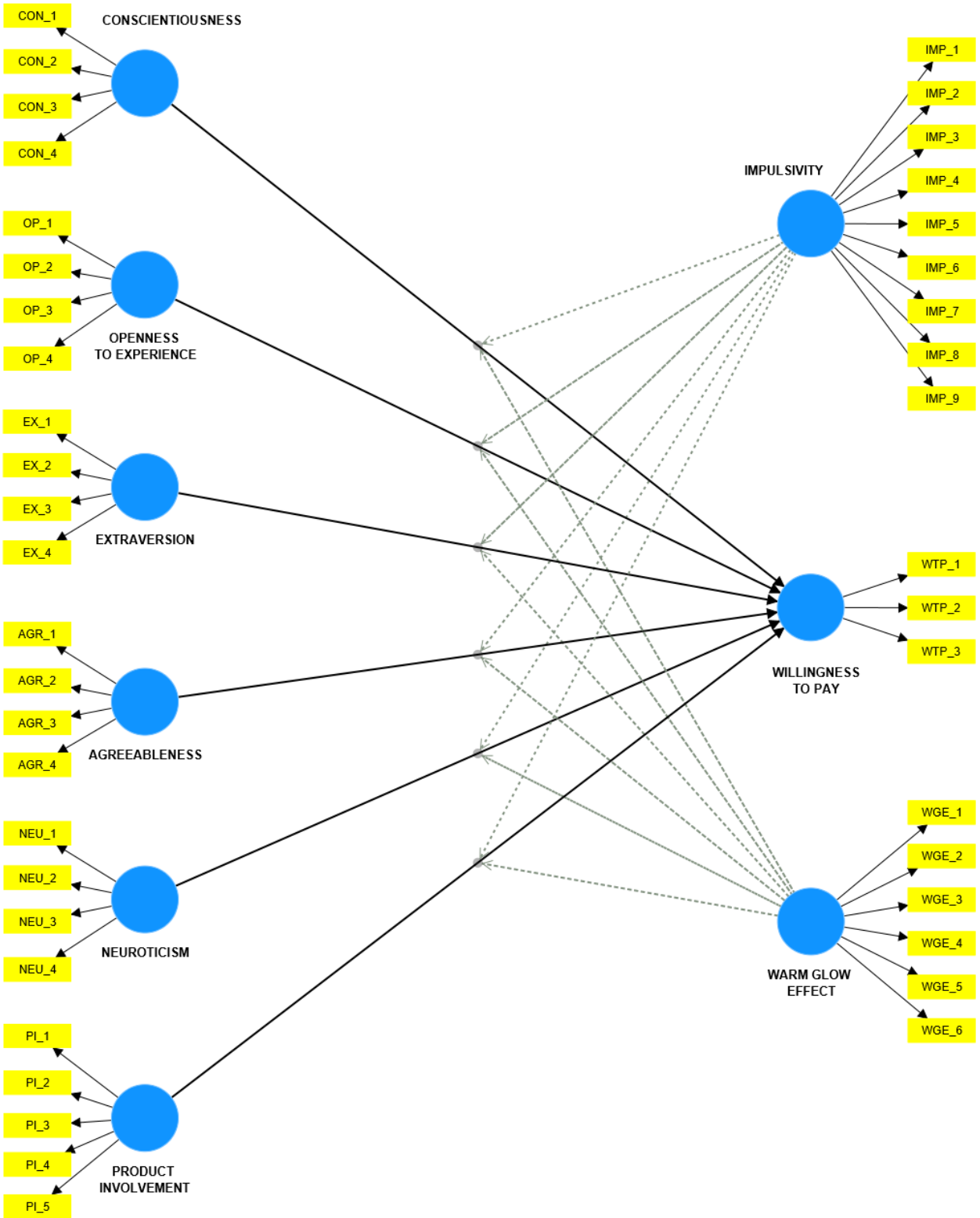
Only reflective measurement models are included in my study's path model, as we can see in Exhibit 2. The structural theory explains the relationships that exist among the different constructs. The construct on the right is the dependent variable (in this case Willingness to Pay), which is predicted by the constructs on the left, representing the independent variables of my model. In my analysis, there are also two moderator variables: Impulsivity and Warm glow effect.

It is important to note how SmartPLS assumes by default that the indicators are reflective when the model is generated, characterised by arrows pointing away from the blue-colour latent variables. A common mistake made by researchers is failing to correct the arrows' direction when the indications are "formative" rather than "reflective."

Different measurement models can be used for a path model: specifically, we could employ one for the exogenous latent variables, (i.e., constructs which explain other constructs of the model), and another for the endogenous ones (i.e., constructs in the model that are being explained).

Exhibit 2: Path model presentation representing the relationship among variables

Source: SmartPLS



4.1 Measurement model analysis

4.1.1 Constructs' reliability

The first part of the analysis consists of assessing the reliability and validity of the constructs: this step corresponds to evaluating the measurement model.

The first thing to deal with, before starting with the proper analysis, is the missing values. In the data set of this quantitative research, we can see that there are no missing values.

We also need to distinguish among constructs that are measured formatively and reflectively, in order to evaluate the measurement model effectively: reflective measurement models are evaluated based on their internal consistency, reliability and validity. Since all the constructs of this study are reflectively measured, Cronbach's Alpha and Composite Reliability values will be employed to identify and assess their reliability.

Reliability is the degree to which the results are generated under consistent conditions. The main goal of assessing reliability is establishing how much of the variance in a model's outcomes can be attributed to variance in the original data or is a result of specific measurement errors, notably misunderstandings among respondents about the meaning of the question-statements used.

If an analysis is repeated, reliable measurement data are expected to be consistent from one analysis to another. Therefore, we need a reliability test to guarantee that the collected data are reliable.

Internal consistency reliability is usually the first criterion to be evaluated; the most common instrument used for measuring internal consistency is Cronbach's alpha: it is very useful as it is able to provide a reliability estimation based on the intercorrelations of the observed indicator variables.

This measure represents the consistency of the variable, which allows us to demonstrate how well the items measure a construct; furthermore, it is sensitive to the number of items that are employed in the scale. This instrument tends to underestimate internal consistency reliability; due to this, it might be used as a more conservative instrument for internal consistency reliability. According to Cronbach's alpha, to be defined as reliable, the variables' values should be greater than 0.700. In my research, the values of the Cronbach's alphas range between 0.357 and 0.930. Four of them (Conscientiousness, Agreeableness, Extraversion and Neuroticism) are written in red, as they do not satisfy the minimum requirement of being higher than 0.700.

Due to Cronbach's alpha's limitations, it is technically more appropriate to apply a different measure of internal consistency reliability, known as "Composite Reliability", which takes into account the different outer loadings of the indicator variables.

Composite Reliability is a more modern method which is able to estimate the internal consistency of the constructs: the substantial difference with the first method is that Composite Reliability considers the different outer loadings of the indicator variables, while Cronbach's alpha weights all the items equally, without taking into account their load factors.

The values for Composite Reliability range between 0 and 1, where a higher number indicates a higher level of reliability. Generally, it is interpreted similarly to Cronbach's alpha: precisely, values between 0.60 and 0.70 are considered acceptable in exploratory research, while in more advanced stages of research, those values between 0.70 and 0.90 could be regarded as satisfactory. Values above 0.90 (and definitely above 0.95) are usually not desirable, as they specify that all the indicator variables are measuring the same phenomenon and, consequently, they do not seem to represent a valid measure of the construct.

We have said that Cronbach's alpha is considered a conservative measure of reliability (i.e., it results in relatively low-reliability values). Conversely, Composite Reliability is usually more likely to overestimate the internal consistency reliability, and so resulting in sensibly higher reliability estimates. Therefore, it is reasonable to use and report both criteria.

When we analyse and assess the measures' internal consistency reliability, we tend to say that the true reliability usually lies between Cronbach's alpha (which represents the lower bound) and the Composite Reliability (which stands for the upper bound).

In this study, four variables show a Composite Reliability value between 0.70 and 0.90; we need to be careful about the values for Extraversion and Neuroticism (respectively 0.030 and 0.191) as they are particularly low, and also those for Impulsivity (0.935), Warm Glow effect (0.925) and Willingness to Pay (0.912), as they are above the limit of 0.90.

The results are shown in Table 6.

Table 6: Descriptive coefficients of the measurement model developed in SmartPLS

	Cronbach's alpha	Composite reliability (rho_c)
AGREABLENESS	0.679	0.783
CONSCIENTIOUSNESS	0.627	0.738
EXTRAVERSION	0.432	0.030
IMPULSIVITY	0.930	0.935
NEUROTICISM	0.357	0.191
OPENNESS_TO _EXPERIENCE	0.701	0.811
PRODUCT_INVOLVEMENT	0.776	0.845
WARM_GLOW _EFFECT	0.903	0.925
WILLINGNESS_TO_PAY	0.857	0.912

4.1.2 Constructs' convergent validity

Convergent validity is "the extent to which a measure correlates positively with alternative measures of the same construct" (Hair, Hult, Ringle and Sarstedt, 2017). To evaluate the convergent validity of reflective constructs, the outer loadings of the indicators and the Average Variance Extracted (AVE) are considered.

If the outer loadings of a construct are high, this suggests that the associated indicators have a lot in common, which is captured by the construct. Generally, the size of the outer loading is known as indicator reliability. In order to be considered significant, the standardized outer loadings should be 0.708 or higher.

It often happens that researchers get weaker outer loadings (smaller than 0.70) in their social science studies, especially when they employ newly developed scales (Hulland, 1999). Instead of automatically removing the indicators with outer loading below 0.70, researchers should carefully examine the effects of item removal on the composite reliability and the validity of the construct. Generally, the indicators whose outer loadings range between 0.40 and 0.70 should be considered for exclusion from the scale only when their removal leads to a growth in the composite reliability (or the Average Variance Extracted) above the initial value.

For what concerns indicators with very low outer loadings (i.e., below 0.40), they should always be removed from the construct (Philipps, Yi and Bagozzi, 1991; Hair et al., 2011).

A common measure used by researchers to establish the convergent validity on the construct level is the Average Variance Extracted (AVE), which measures the amount of variance captured by a construct, in relation to the variance caused by the measurement error. This criterion is described as "the grand mean value of the squared loadings of the indicators associated with the construct (i.e., the sum of the squared loadings divided by the number of indicators)" (Hair, Hult, Ringle and Sarstedt, 2017).

Using the same logic that we used for the individual indicators, an AVE equal to or higher than 0.50 indicates that, on average, the construct explains more than half of the variance of its indicators. Contrarily, an AVE lower than 0.50 shows that, on average, more variance remains in the error of the items than in the variance explained by the construct.

Table 7: Descriptive coefficients of the measurement model developed in SmartPLS with Average Variance Extracted (AVE)

	Cronbach's alpha	Composite reliability (rho_c)	Average variance extracted (AVE)
AGREABLENESS	**0.679**	0.783	0.481
CONSCIENTIOUSNESS	**0.627**	0.738	0.427
EXTRAVERSION	**0.432**	**0.030**	**0.275**
IMPULSIVITY	0.930	0.935	0.617
NEUROTICISM	**0.357**	**0.191**	**0.376**
OPENNESS_TO _EXPERIENCE	0.701	0.811	0.518
PRODUCT_INVOLVEMENT	0.776	0.845	0.526
WARM_GLOW _EFFECT	0.903	0.925	0.674
WILLINGNESS_TO_PAY	0.857	0.912	0.776

As we were saying, the first step is to eliminate those indicators that are characterised by particularly low outer loadings (below 0.40). In our model, there are five indicators that do not satisfy the requirement and that will be therefore deleted.

EX_1= 0.181

EX_2= -0.460

EX_4= -0.662

NEU_1 R= -0.793

NEU_2= 0.394

After the deletion of these indicators, I removed the variables with outer loadings between 0.400 and 0.700, namely PI_5, PI_4, AGR_2, AGR_3, OP_2, IMP_8, CON_2 and CON_3, as I verified that, after their removal, the data of composite reliability and AVE are higher. The results are shown in Table 8.

Table 8: Descriptive coefficients of the measurement model developed in SmartPLS after the removal of indicators with outer loading values lower than 0.700

	Composite reliability (rho_c)	Average variance extracted (AVE)
AGREABLENESS	0.875 ↑	0.778 ↑
CONSCIENTIOUSNESS	0.770 ↑	0.636 ↑
IMPULSIVITY	0.935	0.643 ↑
NEUROTICISM	0.831 ↑	0.714 ↑
OPENNESS_TO _EXPERIENCE	0.835 ↑	0.628 ↑
PRODUCT_INVOLVEMENT	0.853 ↑	0.594 ↑
WARM_GLOW _EFFECT	0.925	0.674
WILLINGNESS_TO_PAY	0.912	0.775

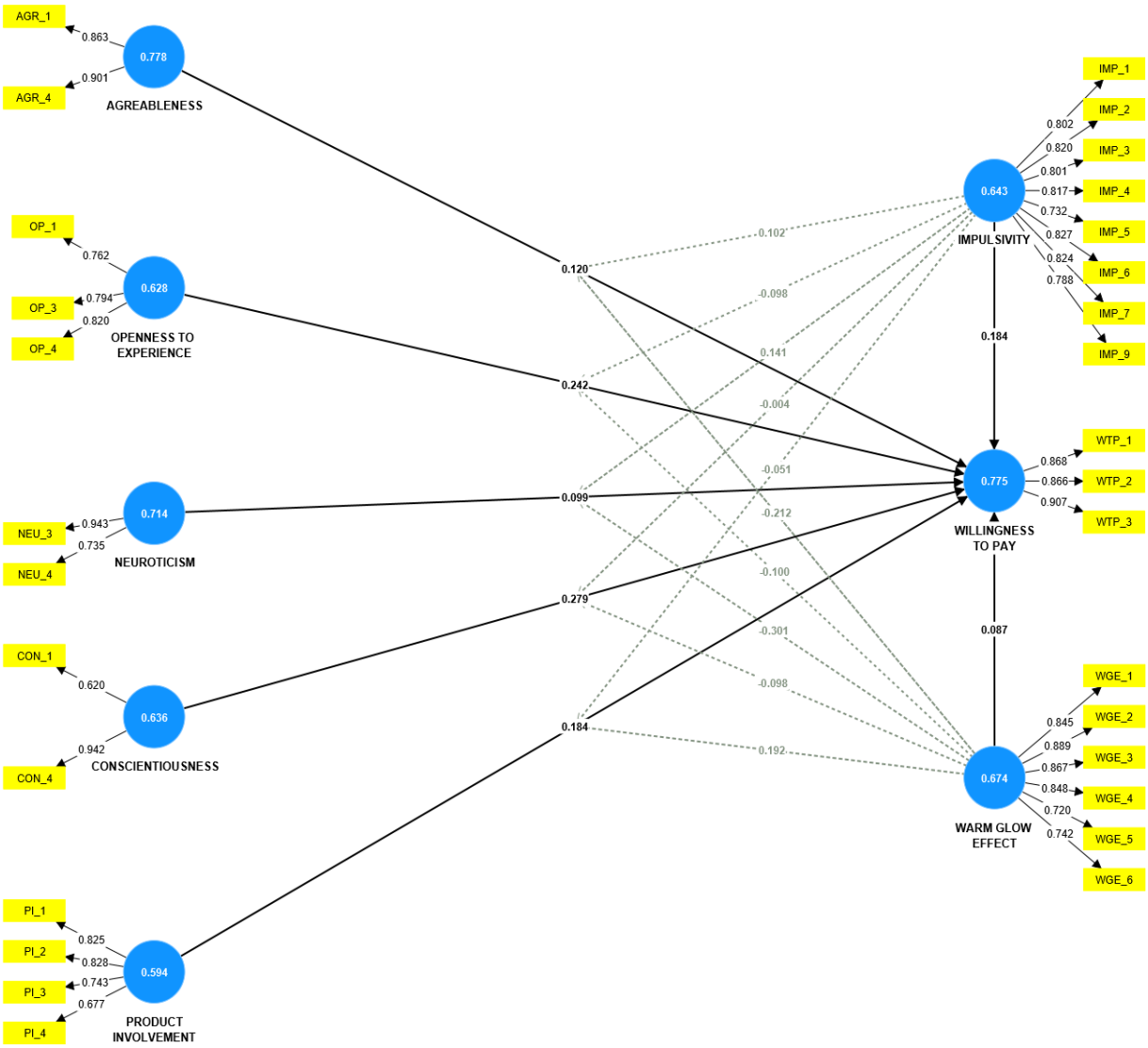
Moreover, I have chosen to eliminate from the analysis, and consequently, as a variable of my study, Extraversion as, after the exclusion of the non-acceptable indicators, it became a single-item scale. Diamantopoulos, Sarstedt, Fuchs et al. (2012), showed in their studies how the adoption of a single-items scale might be pretty risky and "dangerous": in fact, it may raise a problem of credibility as an observable measure cannot fully and adequately explain the complexity of a construct. McIver and Carmines (1981) agree with the researchers, adding that "It is very unlikely that a single item can fully represent a complex theoretical concept or any specific attribute for that matter".

As a consequence, my initial hypothesis linked to Extraversion and its supposed positive relationship with WTP (H3) cannot be demonstrated.

The new path model is shown in Exhibit 3.

Exhibit 3: Path model after the deletion of the non-reliable indicators and the Extraversion variable, and the inclusion of two new direct relationship hypotheses (Impulsivity and Warm glow effect)

Source: SmartPLS



4.1.3 Constructs' discriminant validity

The extent to which a construct truly differs from other constructs by empirical standards is defined as "discriminant validity". As a result, proving discriminant validity implies that a construct is unique and is able to capture phenomena not covered by any other construct of the model.

When assessing the discriminant validity of the indicators, researchers mostly rely on two measures. The first one is Cross-Loadings. According to this measure, an indicator's outer loading on the associated construct should be greater than any of its cross-loadings (i.e., its correlation) on other constructs. The most effective way to evaluate and report cross-loadings is with a table where the rows are for the indicators and the columns are for the latent variable.

Table 9 displays all constructs and all indicators that have been used to describe each of them.

As it is shown in this table, each indicator represents efficiently the construct it is supposed to describe, as the outer loading related to the corresponding variable is greater than the values describing the other variables: this demonstrates how the variables are statistically different from one another.

For example, the highest outer loading for AGR_1 is 0.863, which describes the correspondent construct AGR_ (Agreeableness), confirming the cross-loadings approach. We can see that this happens for all the indicators in the model, and so we can conclude that the model reports a correct discriminant validity.

Table 9: Cross Loadings of the items of the variables in the proposed model

	AGR_	CON_	IMP_	NEU_	OPE_	PR_INV	WARM GLOW _EFFECT	WTP_
AGR_1	0.863	0.139	-0.104	-0.166	0.138	0.004	0.195	0.204
AGR_4	0.901	0.153	-0.115	-0.246	0.251	0.260	0.274	0.238
CON_1	0.284	0.620	-0.277	-0.153	0.266	0.178	0.171	0.141
CON_4	0.079	0.942	-0.148	0.230	-0.040	0.273	0.225	0.329
IMP_1	-0.005	-0.185	0.802	0.174	0.151	0.007	0.101	0.127
IMP_2	-0.105	-0.244	0.820	0.179	0.031	0.035	0.078	0.051
IMP_3	-0.115	-0.235	0.801	0.158	0.037	0.034	0.007	0.082
IMP_4	-0.063	-0.072	0.817	0.162	0.084	0.069	0.025	0.105
IMP_5	0.002	-0.170	0.732	0.073	0.071	0.087	0.051	0.017
IMP_6	-0.109	-0.157	0.827	0.257	0.043	0.078	0.071	0.250
IMP_7	-0.075	-0.167	0.824	0.205	0.058	0.112	0.103	0.179
IMP_9	-0.290	-0.280	0.788	0.140	0.000	0.025	-0.058	0.103
NEU_3	-0.223	0.171	0.210	0.943	-0.044	0.202	0.237	0.177
NEU_4	-0.173	0.014	0.208	0.735	-0.089	-0.067	0.084	0.087
OP_1	0.222	0.047	0.113	-0.113	0.762	0.256	0.202	0.115
OP_3	0.114	-0.043	0.130	0.073	0.794	0.245	0.171	0.241
OP_4	0.219	0.126	-0.020	-0.136	0.820	0.291	0.194	0.291
PI_1	0.103	0.233	-0.035	0.010	0.391	0.825	0.309	0.380
PI_2	0.177	0.316	-0.086	0.052	0.220	0.828	0.309	0.339
PI_3	0.112	0.173	0.058	0.059	0.224	0.743	0.297	0.238
PI_4	0.102	0.148	0.358	0.313	0.162	0.677	0.287	0.284
WGE_1	0.224	0.304	0.030	0.126	0.123	0.340	0.845	0.305
WGE_2	0.225	0.177	0.069	0.212	0.292	0.287	0.889	0.305
WGE_3	0.294	0.194	-0.003	0.152	0.229	0.303	0.867	0.265
WGE_4	0.265	0.126	0.101	0.191	0.316	0.374	0.848	0.331
WGE_5	0.152	0.054	0.081	0.186	-0.008	0.260	0.720	0.175
WGE_6	0.149	0.312	0.060	0.189	0.112	0.329	0.742	0.302
WTP_1	0.187	0.231	0.128	0.084	0.271	0.240	0.321	0.868
WTP_2	0.229	0.335	0.216	0.094	0.243	0.484	0.246	0.866
WTP_3	0.242	0.271	0.148	0.257	0.286	0.329	0.368	0.907

The second approach employed when assessing discriminant validity is the Fornell-Larcker criterion, which compares the latent variable correlations and the square root of the AVE values. Specifically, for this approach, the square root of the AVE for each construct should be higher than its highest correlation with any other construct.

The logic behind the Fornell-Larcker method is that a construct shares more variance with its associated indicators than with any other construct.

We can see a visual representation of the Fornell-Larcker approach in Table 9. The values in the principal diagonal indicate the square root of the AVE for each variable. The values positioned below the diagonal represent the correlation among the latent variables; each of these values should be lower than the one in the diagonal. For example, the correlation between Agreeableness and Conscientiousness (0.166), has to be lower than the Agreeableness's AVE square root, which is in fact 0.882.

Looking at the Table below, we can conclude that the discriminant validity of our model is demonstrated also through the Fornell- Larcker criterion.

Table 10: Fornell-Larcker coefficients

	AGR_	CON_	IMP_	NEU_	OP_	PI_	WGE_	WTP_
AGR_	0.882							
CON_	0.166	0.797						
IMP_	-0.125	-0.220	0.802					
NEU_	-0.236	0.136	0.239	0.845				
OP_	0.225	0.061	0.074	-0.067	0.793			
PI_	0.161	0.290	0.076	0.129	0.335	0.771		
WGE_	0.269	0.247	0.069	0.213	0.234	0.389	0.821	
WTP_	0.252	0.323	0.191	0.168	0.302	0.412	0.351	0.881

There is also another approach that can be used to assess discriminant validity. In 2015, Henseler and other experts proposed the Heterotrait-Monotrait Ratio (HTMT) of the correlation, which represents the ratio of the between-trait correlations and the within-trait correlations.

The model's Heterotrait-Monotrait Ratio (HTMT) Coefficients are reported in Table 11.

If all of the values are less than 0.850, then the discriminant validity can be evaluated; otherwise, the model would include constructs that are too similar.

Table 11: HTMT Coefficients

	AGR_	CON_	IMP_	NEU_	OP_	PI_	WGE_	WTP_
AGR_	1							
CON_	0.377	1						
IMP_	0.151	0.400	1					
NEU_	0.336	0.444	0.269	1				
OP_	0.313	0.341	0.154	0.222	1			
PI_	0.220	0.453	0.240	0.258	0.430	1		
WGE_	0.327	0.352	0.109	0.255	0.284	0.461	1	
WTP_	0.316	0.445	0.152	0.213	0.342	0.478	0.391	1

To verify if the HTMT values are significantly different from 1, we can use the bootstrapping function to calculate the bootstrapping confidence intervals. Bootstrapping generates a high number of samples starting from the original sample. This helps the researchers to verify the validity of the relationships among existing constructs.

If the bootstrap confidence intervals do not have a value of 1.00, it means that the constructs' discriminant validity is supported.

4.2 Structural model analysis

Once the constructs' reliability and validity have been ascertained through the analysis of the measurement model, we continue with the examination of the structural model: we want to investigate and understand the relationship and the intensity of our model's constructs.

The first step that needs to be done is the determination of the structural model's collinearity. After this, we assess how well the model is able to predict the endogenous variables; to do that, the significance of the path coefficients, the R^2 values, and the f^2 effect size will be considered.

4.2.1 Collinearity Assessment

In order to assess the level of collinearity, Tolerance (TOL) should be computed: this measure represents the amount of variance of one formative indicator not explained by the other indicators in the same block.

A related instrument for assessing collinearity is the Variance Inflation Factor (VIF), which is defined as the reciprocal of the tolerance (i.e., VIF = 1/TOL).

In the context of PLS-SEM, a tolerance value equal to or smaller than 0.20 (and consequently a VIF value equal to or higher than 5) indicates a potential collinearity issue and the researcher should consider the hypothesis of removing the corresponding constructs (Hair et al., 2011). To do this, the remaining indicators must be able to sufficiently capture the construct's content from a theoretical perspective.

Table 12 displays all the VIF values of the dependent variables' combinations and the corresponding predictor variables. As all the values are lower than 5, we can conclude that the structural model has no critical collinearity issues.

Table 12: Inner VIF values to detect the presence of eventual collinearity problems

	AGR_	CON_	IMP_	NEU_	OP_	PI_	WGE_	WTP_
AGR_								1.624
CON_								1.768
IMP_								1.350
NEU_								1.767
OP_								1.518
PI_								1.499
WGE_								1.810
WTP_								

4.2.2 Coefficient of determination, the R^2 value

The coefficient of determination, also known as R^2, represents the most common measure used to evaluate the structural model: it is a measure of the predictive power of the model and is obtained as the squared correlation between a specific endogenous construct's actual and predicted values. The coefficient represents the exogenous latent variables' combined effects on the endogenous latent variable: this means that this measure represents the amount of variance in the endogenous construct that is explained by all of the exogenous constructs associated to it.

The R^2 coefficient is defined as a measure of in-sample predictive power, as it includes all the data that have been employed to estimate the model and assess its predictive power (Rigdon, 2012; Hair, Henseler, Sarstedt and Ringle, 2014).

The coefficient's values vary between 0 and 1: higher values indicate higher levels of predictive precision. It is important to underline that providing specific rules about acceptable R^2 values is not that easy: it strongly depends on the model complexity and the research discipline; for example, in research fields such as consumer behaviour, an R^2 value of 0.20 is considered high enough, while in those studies whose aim is evaluating customer satisfaction or loyalty, values above 0.75 are considered satisfactory. In research that mainly focuses on marketing issues, R^2

values of 0.75, 0.50, or 0.25 for endogenous latent variables can be respectively labelled as substantial, moderate, or weak (Hair et al., 2011; Henseler et al., 2009).

In my study, the R^2 value obtained from the computation on SmartPLS for the dependent variable "Willingness to Pay" is 0.462. Since the purpose of my study is to investigate and analyse the behaviour of consumers, we can say that the R^2 value for WTP is quite high, indicating an efficient predictive power.

Table 13: R^2 value for Willingness to Pay

	R-square	**R-square adjusted**
WTP_	0.462	0.346

4.2.3 The effect size f^2

The variation in the R^2 value when a certain exogenous construct is eliminated from the model can help us to evaluate whether the omitted construct has a substantive impact on the endogenous constructs or not: this measure is known as the f^2 effect size.

General rules in assessing f^2 suggest that values of 0.02, 0.15, and 0.35 represent respectively small, medium, and large effects of the exogenous latent variable (Cohen, 1988). If the value of the f^2 is lower than 0.02, this indicates that there is no effect.

Table 14 shows the effect size and how constructs impact endogenous latent variables. The results show how Agreeableness, Neuroticism and Warm glow effect have no effect on consumer's Willingness to Pay, as the values are below the minimum required.

Table 14: f^2 effect size

	AGR_	CON_	IMP_	NEU_	OP_	PI_	WGE_	WTP_
AGR_								0.016
CON_								0.082
IMP_								0.046
NEU_								0.010
OP_								0.072
PI_								0.042
WGE_								0.008
WTP_								

4.2.4 Structural Model Path Coefficients

After the PLS-SEM algorithm has been run, estimates for the structural model relationships are obtained (i.e., the path coefficients): they indicate the hypothesised relationships that exist among the various constructs. The standardized values of the coefficients range approximately between –1 and +1 (i.e., values usually tend to fall within these limits, but it can happen that they are bigger or smaller). If the estimated path coefficients are close to +1, this means that strong positive relationships hold (and vice versa for negative values) and they are typically statistically significant (which means that they are different from zero in the population).

The closer the calculated coefficients are to zero, the weaker the relationships.

Table 15 displays the path coefficients values which demonstrate the relationships among the constructs; the rows indicate the antecedents, while the columns indicate the target constructs. The findings reveal that all the independent variables have a positive relationship with the dependent variable of my model (WTP); also Impulsiveness and Warm glow effect are reported to have a positive relationship with WTP; the trait that most affects positively WTP is Conscientiousness, followed by Openness to Experience.

Table 15: Path coefficients

	AGR_	CON_	IMP_	NEU_	OP_	PI_	WGE_	WTP_
AGR_								0.120
CON_								0.279
IMP_								0.184
NEU_								0.099
OP_								0.242
PI_								0.184
WGE_								0.087
WTP_								

The significance of a coefficient is ultimately determined by its standard error, which is obtained through the bootstrapping routine: this technique is useful to determine whether a formative indicator contributes significantly to its associated construct or not. The bootstrap standard error makes it possible to calculate the empirical t-values and p-values for each structural path coefficient. The coefficient is statistically significant at a certain error probability (i.e., significance level) if the empirical t-value is higher than the critical value.

The tests performed can be both two-tailed or one-tailed, and the most used levels of significance are 1%, 5% and 10%.

Commonly used critical values for two-tailed tests are 2.57 (significance level = 1%), 1.96 (significance level = 5%), and 1.65 (significance level = 10%).

On the other hand, critical values for one-tailed tests are 2.33 (significance level = 1%), 1.65 (significance level = 5%), and 1.28 (significance level = 10%).

Usually, marketing researchers tend to opt for the 5% significance level. This may lead to some difficulties for the experts, as the research performed on consumers tends to use a 1% significance level, especially when experiments are involved. Generally, when a study has an exploratory nature, examiners assume a significance level of 10%. Ultimately, the field of study and the study's objective influence highly the choice of the significance level and type of test

to perform (e.g., opting for a one-tailed or two-tailed test). In this study, I have employed a 5% significance level.

In order to assess significance levels, the majority of researchers employ the p-value: this represents the probability of obtaining a t-value at least as extreme as the one actually observed, assuming the null hypothesis is supported.

This basically means that the p-value is the probability of rejecting erroneously a true null hypothesis and assuming a significant path coefficient when it is, in fact, not significant. For example, when we assume a 5% significance level, the p-value needs to be smaller than 0.05 to say that the relationship that we are analysing can be considered significant at a 5% level. When researchers want to be stricter in their relationships testing, they need to use a significance level of 1%, and for the relationship to be significant, the corresponding p-value must be lower than 0.01.

A way to verify if a path coefficient is significantly different from zero is the bootstrap confidence interval. Confidence intervals are important instruments that enable researchers to obtain useful information about the estimated coefficients' stability by giving a number of population values for the parameter depending on the variation of data and the sample size.

The bootstrap confidence interval is based on standard errors determined by bootstrapping and describes the range into which the true population parameter will fall assuming a certain level of confidence (e.g., 95%). If the confidence interval for a specific estimated path coefficient does not contain zero, we reject the hypothesis according to which the path equals zero, and we can assume a significant effect.

In this study, I decided to use two-tailed confidence intervals on a level of confidence of 5%.

After the examination and analysis of the relationships' significance, an important step is assessing the relevance of significant relationships.

The bootstrapping results for the total effects of the exogenous latent variables on the endogenous construct (WTP) are presented in Table 15, 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; we can consider the relationship between two variables significant when the Beta value is higher than 0.20. For a 5% significance level, in my structural model the only two significant relationships are Conscientiousness → WTP with a p-value of 0.034 and Openness to Experience → WTP with a p-value of 0.028; the other p-values are higher than 0.05 and therefore are evaluated as non-significant. These findings have also been supported by the t-values (respectively 2.125 and 2.200) and the Beta values (respectively 0.279 and 0.242).

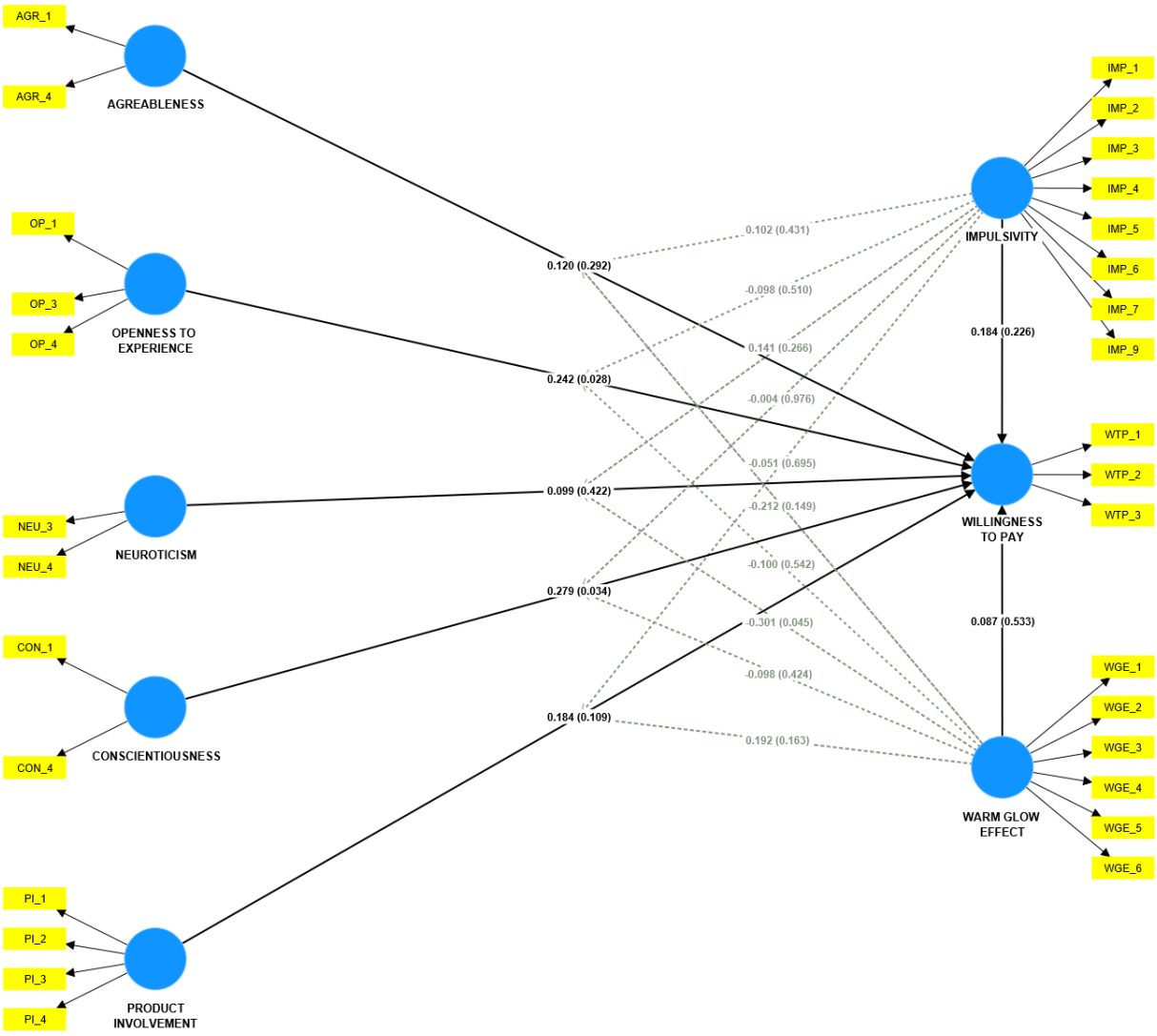
Table 16: Results of the hypothesis testing

	Direction	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Significance (p-value < 0.05)
AGR_ -> WTP_	+	0.120	0.115	0.113	1.054	0.292	NO
CON_ -> WTP_	+	0.279	0.230	0.131	2.125	0.034	YES
IMP_ -> WTP_	+	0.184	0.168	0.152	1.212	0.226	NO
NEU_ -> WTP_	+	0.099	0.110	0.124	0.803	0.422	NO
OP_ -> WTP_	+	0.242	0.241	0.110	2.200	0.028	YES
PI_ -> WTP_	+	0.184	0.205	0.115	1.601	0.109	NO
WGE_ -> WTP_	+	0.087	0.104	0.139	0.624	0.533	NO

All these values are also displayed graphically in Exhibit 4.

Exhibit 4: Path coefficient and p-values for the structural model relationship as resulting from the bootstrapping procedure

Source SmartPLS



4.3 Moderation

The term moderation is used to describe a specific situation in which the relationship between two constructs is not constant, but depends on the values of a third variable, called moderator variable. This variable (or construct) influences and changes the strength and/or the direction of a relationship between two constructs in the model. Moderation can be seen as an instrument to account for heterogeneity in the data.

Moderators can be present in structural models in many distinct forms. They can represent both observable (e.g., gender, age, or income) or unobservable traits (e.g., risk attitude, attitude toward a brand, etc.).

The researcher usually tends to hypothesise moderating relationships a priori, and they are specifically tested by examining the effect of the interaction term (i.e., the product of the moderator and predictor variable), which indicates whether changes in the moderator intensify or reduce the strength of the focal relationship.

Moderators can be both measured through a single item or multiple items and can also employ reflective and/or formative indicators. The most important differentiation, however, is about the moderator's measurement scale, which distinguishes between continuous and categorical moderators: a continuous moderating effect exists when the moderating variable is metrically measured, whereas a categorical moderating effect is when the moderating variable is categorical.

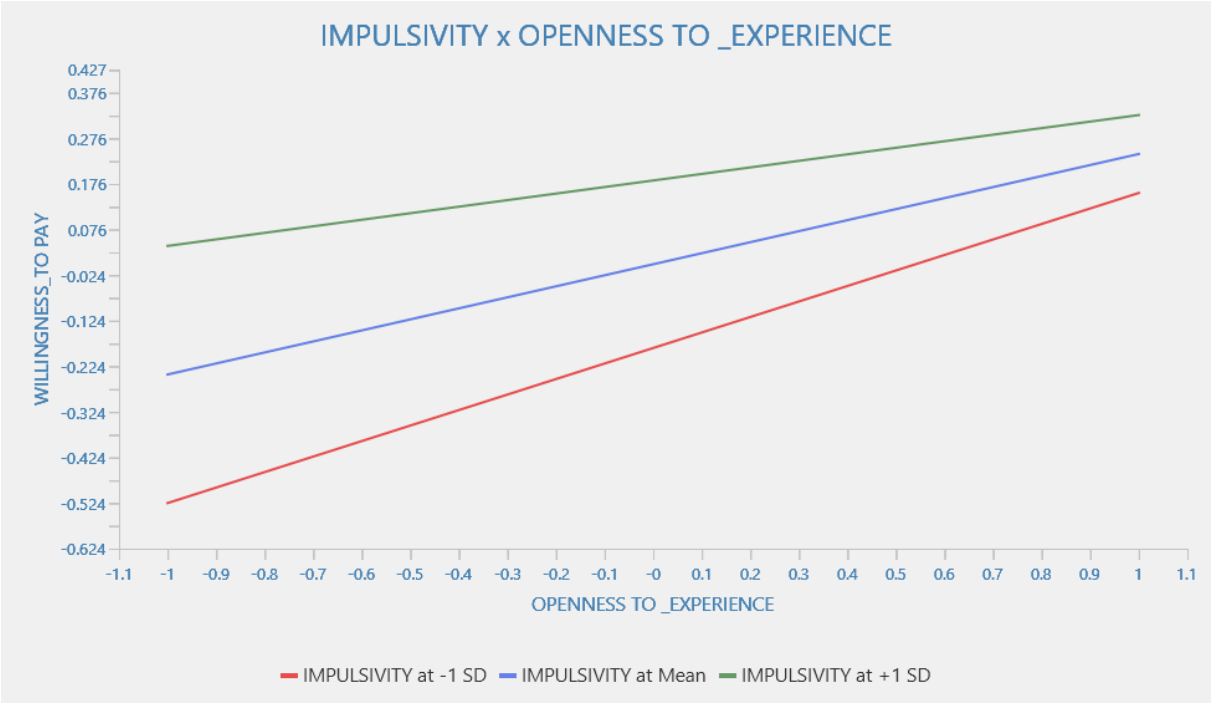
Categorical variables are typically dichotomous and are usually dummy coded (i.e., 0/1), whereby the zero represents the reference category.

In my analysis, I decided to employ two continuous moderator variables, which means that they are able to affect the strength of the relationship between two constructs. If the moderating effect is not present, we could conclude that the strength of the relationship between the constructs is constant.

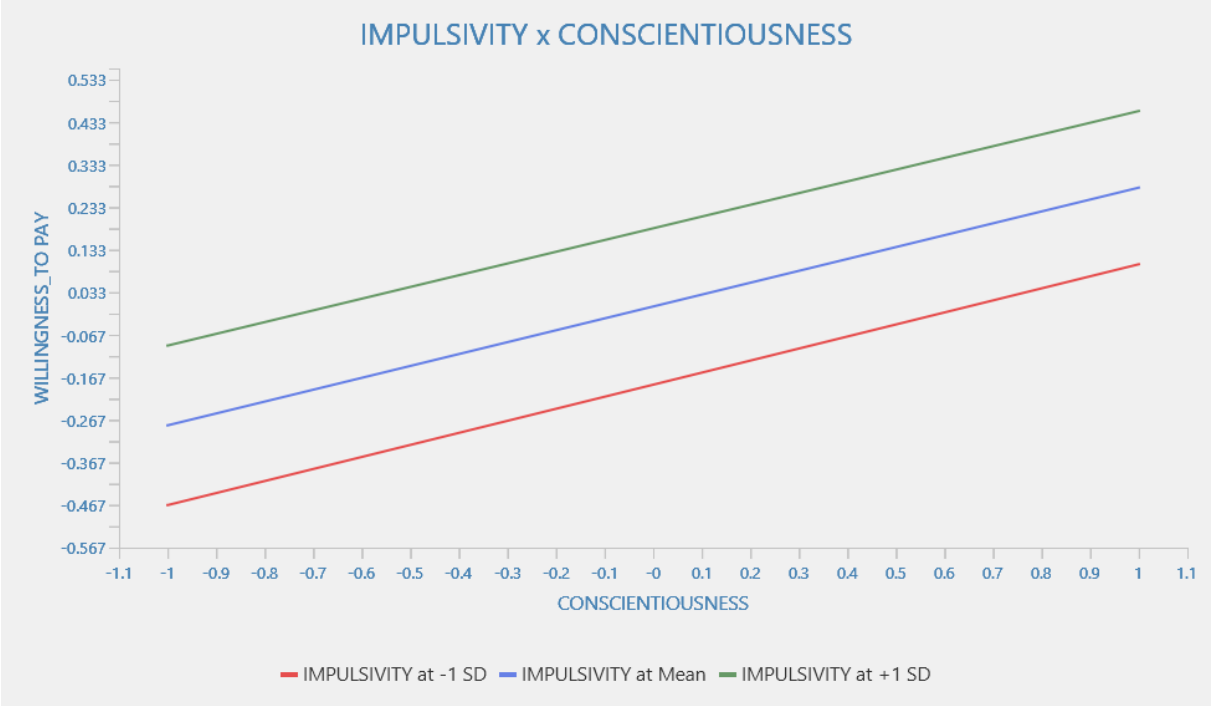
In detail, this study aims to analyse the moderator effect of Impulsivity and Warm glow effect on the relationship of each Big Five Personality Traits and Product Involvement with Willingness to Pay for Sustainable Coffee.

My analysis will focus on the impact of Impulsivity as a moderator for the two significant independent variables remained in my model, i.e., Openness to Experience and Conscientiousness; Warm glow effect will not be analysed, as it was demonstrated to have no effect on the dependent variable.

For Openness to Experience, the positive relationship between the independent variable and WTP is dampened by Impulsivity: the red line (Impulsivity at -1 SD) has a steepest positive slope when there is lower Impulsivity.



For Conscientiousness, we can see how all three lines are parallel: this means that there is no real moderating effect, and so, the moderator variable “Impulsivity” does not influence the positive relationship between Conscientiousness and WTP for sustainable coffee.



With the graphical representation we are able to make general statements about the effect of moderating variables on specific relationships. But in order to assess whether the moderator variable is significant or not, we should look at the t-statistics and p-values.

Table 17: Results of hypothesis testing with the moderation effect

	Direction	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Significance (p-value < 0.05)
IMPULSIVITY x CONS_ -> WTP_	-	-0.004	0.001	0.123	0.030	0.976	**NO**
IMPULSIVITY x OPENNESS_TO_EXPERIENCE -> WTP_	-	-0.098	-0.070	0.149	0.658	0.510	**NO**

Impulsivity has been tested to be non-significant in my analysis. So we can conclude that if a consumer scores high in Product Involvement and/or Conscientiousness is also impulsive, this will not affect their WTP for sustainable coffee.

4.4 Hypothesis testing

The results of the PLS-SEM approach, as well as the interpretation of the path coefficients reported in Table 15, are used to confirm the hypothesised correlations.

For the significance test, the significance level that has been chosen is 5%, which means that the acceptance region in a two-tail test lies is in the interval [-1.96; + 1.96]. If the t-value falls within this region, this means that the relationship between the two variables is not significant; otherwise, if the t-value falls outside the limits that we have imposed, the relationship will be considered significant.

In order to assess the significance of variables, also the p-value approach can be employed. This method quantifies and evaluates the probability of obtaining the observed results, under the assumption that the null hypothesis is true: it compares the probability associated with the observed t-value with the probability of error that can be tolerated. In this case, with a significance level of 5%, only those relationships with p-values lower than 0.05 will be significant. Furthermore, we can also rely on the evaluation of the Beta values (or original sample): the relationship between two variables is significant when the Beta value is higher than 0.20.

To summarise, the hypotheses will be checked and evaluated one by one looking at their p-value (higher or lower than 0.05), t-value (higher or lower than 1.96) and Beta value (higher or lower than 0.20).

Openness to experience

(H1) is accepted, as we have a significant p-value, t-value and Beta value, which are respectively 0.004, 2.200 and 0.242, demonstrating that Openness to experience is a significant predictor of the consumer's WTP for sustainable coffee.

	Direction	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	significance (p-value < 0.05)
OP_ -> WTP_	**+**	0.242	0.241	0.110	2.200	0.028	**YES**

Conscientiousness

(H2) is accepted: as it was for Openness to Experience, its p-value (0.034) is smaller than 0.05 and the t-value in absolute value (2.125) is higher than 1.96. We can also note how the Beta value is higher than 0.20. This means that the original hypothesis is confirmed.

	Direction	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	significance (p-value < 0.05)
CON_ -> WTP_	**+**	0.279	0.230	0.131	2.125	0.034	**YES**

Extraversion

(H3) cannot be demonstrated, as I decided to remove the construct from my analysis.

Agreeableness

The initial hypothesis (H4) is rejected, as the variable "Agreeableness" resulted to be not significant in my analysis (p-value higher than 0.005). The same result is confirmed by the t-statistic: in fact, in order to be significant at a 5% level of significance, the t-statistic should be, in absolute value, higher than 1.96; while in this case is equal to 1.054.

	Direction	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	significance (p-value < 0.05)
AGR_ -> WTP_	**+**	0.120	0.115	0.113	1.054	0.292	**NO**

Neuroticism

The fifth hypothesis (H5) is rejected, as the variable has resulted to be non-significant in the analysis (p-value higher than 0.005): the result is confirmed by the t-value (lower than 1.96).

	Direction	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	significance (p-value < 0.05)
NEU_ -> WTP_	**+**	0.099	0.110	0.124	0.803	0.422	**NO**

Product Involvement

(H6) is rejected, as the variable has a p-value higher than 0.05 and so resulted to be not significant in my analysis. The same result is confirmed by its t-statistic (1.601 instead of 1.96 or higher).

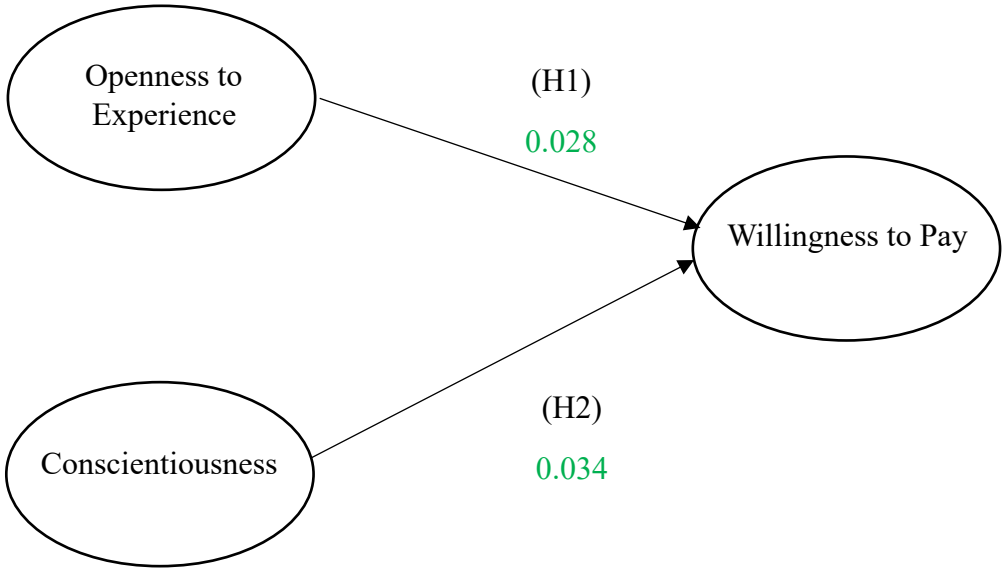
	Direction	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	significance (p-value < 0.05)
PI_ -> WTP_	**+**	0.184	0.205	0.115	1.601	0.109	**NO**

For what concerns the two moderators, (H7) and (H8) are rejected as they both resulted to be non-significant for my model.

	Direction	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	significance (p-value < 0.05)
IMPULSIVITY x OPENNESS -> WTP	**-**	-0.098	-0.070	0.149	0.658	0.510	**NO**
IMPULSIVITY x CON_ -> WTP	**-**	-0.004	0.001	0.123	0.030	0.976	**NO**
WARM GLOW EFFECT x OPENNESS -> WTP	**-**	-0.100	-0.091	0.164	0.609	0.542	**NO**
WARM GLOW EFFECT x CON_ -> WTP	**-**	-0.098	-0.109	0.122	0.800	0.424	**NO**

In the end, I have been able to confirm two of my initial hypotheses (H1), and (H2), as shown in Exhibit 5.

Exhibit 5 - Graphical representation of all the confirmed hypotheses with the relative p-values



Chapter V

Conclusions

The last few decades have witnessed an increasing concern and awareness for the environment, and sustainability has become a global topic. A growing number of consumers have changed their purchasing habits and have started using more sustainable products in their day-to-day lives.

Given the current scenario, the consumption of organic foods is one of the most popular sustainable behaviour alternatives, and it represents one of the main ways for people to adopt more respectful behaviours for the environment and to safeguard current and future generations.

Existing literature has addressed the fact that consumers' increased propensity to purchase organic and sustainable food may be due to different factors, including rising health consciousness (Pham et al., 2019) and food safety concerns (FSC) (Molinillo et al., 2020). Moreover, even the increasing levels of concern for environmental and ecological welfare related to the use of chemical, synthetic and genetically modified means of production may affect consumers' purchasing behaviour (Willer et al., 2020; Tandon et al., 2021) and lead to a preference for sustainable products.

Many recent studies have shown how consumers' increasing awareness for what concerns the environment is translating into a higher willingness to purchase and pay more for sustainable goods.

When we talk about sustainable products, we refer to those items and goods whose production respects the environment and people's working conditions. An effective way in which consumers can get useful information about the way goods and services are produced, provided or bought are sustainability labels: they can be used as an instrument to overcome the problem of information asymmetry (McCluskey, 2000) for goods and services related to sustainability attributes that cannot be verified by the consumer either during, before or after the purchasing

process. Among the most important sustainability labels we find Fair Trade, Direct Trade and Rainforest Alliance. Consumers can use them to make informed decisions during their purchasing processes. These labels are issued by the food supply chain, third-party certifying companies, or directly by the government, as for Fair Trade and Direct Trade. All sustainability labels indicate different ways to reduce sustainability problems. As long as consumers perceive the value offered by sustainable products, it is highly possible that they will be willing to buy and pay for this alternative: a higher consumer concern for the environment will lead to a higher probability of willingness to pay more for sustainable products (Notaro and Paletto, 2021).

My thesis has principally focused on the analysis of the global coffee market, especially sustainable varieties. The coffee industry represents today the main productive activity for more than sixty million people all around the world, especially in developing areas, and it has historically been the pioneer in the implementation of private and multistakeholder approaches in order to address sustainability (Giovannucci and Ponte, 2005; Daviron and Ponte, 2005; Panhuysen and Pierrot, 2014; Grabs, 2018).

Therefore, consumers' purchasing decisions have been largely demonstrated to be affected by emotions, moral obligations, and personality. My thesis has mainly focused on the relationship between the Big Five Personality Traits (independent variables) and the Willingness to Pay more for sustainable coffee (dependent variable). The Big Five model is one of the most used models to evaluate individuals' behaviour and it assumes that personality can be described by five general attributes: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience. Another independent variable that I employed in my model was Product Involvement. I have also assumed the presence of two moderators, i.e., Impulsivity and Warm glow effect, that may influence the relationship between each independent variable and the WTP.

The thesis has been based on a quantitative research model, where data have been collected through the compilation of a survey created on the software Qualtrics. The total number of answers to my questionnaire was 321: in order to reach this high number, the snowball sampling

method was employed, which is a non-probability sampling process where existing units recruit new units to become part of the final sample in a research study.

My survey has been specifically designed to remove from my final analysis all the respondents who did not satisfy certain prerequisites: to be part of my final sample, all the participants needed to be habitual consumers of coffee. With this filter question, I managed to omit 54 respondents, and the number of valid responses was 263.

Among these respondents, 127 did not answer all questions and consequently were considered irrelevant for research purposes, reducing the number of valid interactions to 136.

After this, I excluded from my analysis 30 respondents who would not be willing to pay more for sustainable coffee with respect to its "regular" counterpart, or they did not indicate any price they would pay for sustainable coffee. At this point, the number of valid answers was 106.

Finally, I tested the reliability of my remaining sample: with two attention checks placed across the questionnaire and one redundant question about the respondents' age, 9 more individuals did not manage to answer correctly, and consequently they were excluded; the number of people in my final sample was now 97.

The majority of my sample was represented by women (72.17%), with an age range between 18 and 24. They mostly came from Italy, had full-time jobs, and had a high school education level.

5.1 Discussion

In order to verify the existence of a relationship between willingness to pay for sustainable coffee and consumers' personalities, the SmartPLS was employed. This modelling tool adopts a specific method called SEM (Structural Equation Modeling), a second-generation multivariate data analysis technique that facilitates the examination of the connections between diverse constructs, each of which is measured by one or more indicator variables.

One of the main advantages of SEM is that it allows researchers to model and estimate the complex, multiple, and interrelated dependence among several variables in a single analysis.

The concepts that are considered are not typically observable and are measured indirectly by multiple indicators. When it proceeds with the estimation of the relations, SEM accounts for measurement error in the observed variables. This method thus allows the researcher to obtain a much more accurate measurement of the relevant theoretical concepts (Cole & Preacher, 2014).

In my analysis I employed the Partial Least Squares SEM (PLS-SEM or PLS path modelling), which is rapidly growing as a statistical modelling technique, and it assumes that the relevant concepts can be determined as composites (Jöreskog and Wold, 1982): that is the main reason why PLS is known as a "composite-based SEM method" (Hwang et al., 2020). PLS-SEM aims to estimate coefficients to maximise the R^2 values of the target, or endogenous, constructs.

The results of this study contribute to the existing literature, as the impact of specific consumers' personality characteristics (represented by the Big Five model) and traits on willingness to pay for sustainable coffee has never been investigated before. In the existing literature, many researchers have already come to important conclusions about the relationship between consumers' personality and environmental concern; there are also plenty of studies analysing the Big-Five model representation, which is particularly employed for determining the impact of consumers' personalities on their willingness to pay for specific products. Starting from this, I tried to take a step forward and select other variables that may affect my dependent variable, namely Product Involvement, Impulsivity, and Warm glow effect. Among these variables, I have hypothesised that in my model the last two (Impulsivity and Warm glow effect) may act as moderators of my independent variables (Big Five and Product Involvement) in relation to the WTP for sustainable coffee. So, the main aim of this study was to try to fill the gap I found in the literature for what concerns the relationship between each personality trait (Openness to Experience, Conscientiousness, Extraversion, Agreeableness, Neuroticism and Product Involvement) and the consumers' WTP for sustainable coffee.

After assessing the convergent validity of my model's constructs on SmartPLS, I decided to exclude from the final analysis the construct of Extraversion: consequently, the initial hypothesis of its positive relationship with WTP cannot be demonstrated as the variable has been proved to be non-significant in my analysis.

One of the two hypotheses that was confirmed with my analysis was the one relative to Openness to Experience (H1) and its positive relationship with Willingness to Pay for sustainable coffee.

My findings were in line with what existing theories had demonstrated: in 2020 Gustavsen and Hegnes analysed the relationship between Openness to Experience and purchasing intention and Willingness to Pay for organic a sustainable food, and they found how this trait is a significant predictor for preferring, purchasing and consuming organic food, and it was recognised as one of the most influential predictors in all individuals' choices. People with the highest levels of Openness to Experience tend to purchase organic food much more often than other individuals: they understand and perceive organic foods as healthier than "regular" ones, they describe them as better in taste, and they are willing to pay a higher price for them with respect to conventional food.

This personality trait also includes an interest in trying new experiences, new foods, new tastes, and things that are perceived as "different"; moreover, they are generally more likely to change and experiment with behaviours that they perceive as sustainable, such as consuming and purchasing organic and sustainable food. This could help us to explain the higher interest in this type of products by people who score high in this trait with respect to people with low scores.

The other hypothesis that was confirmed was the one relative to Conscientiousness: findings have shown how there is a positive relationship between this trait and WTP (H2). In my initial hypothesis, I had tried to cautiously hypothesise this relationship, as existing literature showed mixed results: Gustavsen and Hegnes (2020), for example, did not manage to find any significant effect on conscientious people on their interest in organic food, while several studies including those of Fraj and Martinez (2006) and Milfont and Sibley (2012) have indicated a positive and significant relationship between Conscientiousness and environmentalism.

Others studies have found encouraging results: in 2010, Hirsh stated that, besides being orderly and responsible, conscientious individuals are more likely to carefully follow the social guidelines required for any type of action, and this desire to do 'the right thing' can also reflect in their environmental behaviour.

Conscientiousness has also been linked to higher future time perspective (Zimbardo & Boyd, 1999), which other researches have shown to be significantly associated with a greater environmental engagement (Milfont, Wilson and Diniz, 2012). In fact, people who are more long-term oriented tend to be more concerned with the consequences of their actions and choices and usually are more likely to plan for better future results, including ecological ones (Milfont and Sibley, 2012). Several studies have demonstrated the significant and positive relationship between Conscientiousness and environmentalism, for example Fraj and Martinez (2006) and Milfont and Sibley (2012). All these findings may help us to understand the outcome of my analysis.

The trait of Agreeableness has resulted to be non-significant, and so its supposed positive relationship with WTP cannot be confirmed (H4). Past research has revealed how Agreeableness is also associated with being a good person and a 'good citizen', as they tend to be loyal and have a stronger sense of justice and fairness (Matsuba and Walker, 2004): indeed, it is reasonable to expect that people who are generally more altruistic, empathetic, and compassionate would make more environmentally friendly choices; furthermore, Fung and Lam (2016) made a very careful investigation of the relationship between Agreeableness and the intent to purchase and pay for green products – in that case, the analysis was performed on a sample of people belonging to the "Gen-Y" for green hotels. Their research indicated a positive correlation between Agreeableness and individuals' attitudes toward green products. They showed that a stronger attitude toward green products is associated with a higher consumers' willingness to purchase and to pay for them.

These results have also found confirmation in other studies: for example, Gustavsen and Hegnes (2020) found that individuals high in Agreeableness may be willing to purchase and pay more for organic foods with respect to the so-called "ordinary food".

Surprisingly, despite the numerous articles confirming the positive relationship between these two variables, my study demonstrated that Agreeableness was non-significant. Among the numerous answers that could exist for this outcome, we could find the relationship between environmental concern and WTP for sustainable products: even if people with high scores on Agreeableness tend to be the ones who exhibit higher levels of environmental concern and

interest, this may not automatically translate into higher willingness to pay for sustainable goods.

Also the variable Neuroticism was proved to be non-significant for my model, so the hypothesis of a positive relationship between this trait and WTP cannot be demonstrated (H5). Previous literature about the relationship between Neuroticism and eco-friendly behaviour, environmental concern and purchase of "green" products is plenty of contradictory findings: for example, it was found to be positively associated with environmental preservation (Wiseman and Bogner, 2003) when measured by Eysenck; Gustavsen and Hegnes (2020) found that there are no significant effects on the interest in organic food for Neurotic individuals; Fraj and Martinez (2006) and Hirsh and Dolderman (2007) did not find any significant relationship between Neuroticism and ecological concerns, while Sibley and Milfont (2012) reported some inconsistent associations (Neuroticism was both positively and negatively related to environmental engagement).

In particular, we could say that individuals who score high in Neuroticism, are less likely to purchase and pay more for sustainable products, as they generally tend to mistrust companies and other people, and they do not easily believe in the positive effects of buying these goods. We could hypothesise that they may be more hesitant in believing the benefits that could arise from the adoption of these products, and therefore be reluctant to buy them. People who score high in this trait, tend to perceive negative situations, in general, as insurmountable. Applying this vision to our framework, we may conclude that purchasing a sustainable variety of coffee would be seen as almost useless for neurotic people, as the problem of environmental disruption cannot be solved by merely changing our consumption habits.

My sixth independent variable was Product Involvement: also this trait has been demonstrated to be non-significant for my model. Information seeking about different brands, a large comparison and perception of differences among various products attributes, and preference for a specific brand are fundamental characteristics of highly involved consumers; moreover, they would be encouraged to pay more for products that are perceived as different, better and highly valued with respect to others – in our case sustainable foods and "regular" foods.

Despite all these positive findings, the hypothesis of a positive relationship with WTP (H6) was not demonstrated in my research: among the different causes that may have led to this, we can find the small and limited dimension of my final sample.

Finally, both of the moderators of my model (Impulsivity and Warm glow effect) have been proven to be non-significant, and neither the hypothesis of a negative relationship between Impulsivity and WTP (H7) nor the positive relationship between Warm glow effect and WTP (H8) are supported.

Individuals who score high in Impulsivity tend to display irresponsible and impulsive buying behaviours, act on impulse and respond positively and immediately to their purchasing instincts and desires. Additionally, impulsive purchasers typically have stronger and more frequent buying impulses than others. Generally, sustainable purchasing is characterised by conscious, careful and premeditated behaviour, which is diametrically opposite to that of the impulsive consumer.

We have also seen that one of the most important antecedents that influences impulsive purchasing is the low price: the majority of studies on this topic have said that, as sustainable products are generally characterised by a higher price with respect to the regular ones, it is highly possible that impulsivity would influence negatively the purchase of these foods and items and consequently consumers' willingness to pay more for them. Despite the numerous researches confirming this negative relationship, in my analysis this hypothesis was rejected.

Fuller, Grebitus and Schmitz (2022) have demonstrated how Warm Glow effect influences positively the attitude of consumers toward purchasing and paying more for those typologies of coffee that guarantee that the way in which they are produced takes care of social and/or environmental problems. Furthermore, their findings suggested how consumers are willing to pay more for those coffee production methods that promise to tackle the temporal and social dimensions of sustainability: these findings are aligned with previous studies performed on this topic (Sorqvist et al., 2013).

We could hypothesise that for people who score high in this trait, it is fundamental to be aware of the effort behind the production of sustainable products: companies should focus on this aspect, maybe improving their labels and emphasise the sustainable origin of their products.

The results of hypothesis testing with the moderation effect gave me only two significant effects: Conscientiousness and Openness to Experience. We can conclude that if an individual scores high in these two personality traits and is also impulsive or has a high score in warm glow effect, this will not affect their willingness to pay for sustainable coffee.

The findings of my research are displayed in Table 18, in relation with previous literature on personality traits, sustainability and Willingness to Pay.

Table 18: Main findings in existing literature for consumers' personality, WTP and eco-friendly behaviour

Title, author(s), year of publication, journal of publication	**Main topic**	**Main findings**	**My study's findings**
Individuals' personality and consumption of organic food Gustavsen G.W., Hegnes A. W. Journal of cleaner production 2020	The main topic of this paper is the investigation of a possible relationship between the Big Five and consumption of organic food	Openness to Experience has been proved to be positively related to the attitudes towards organic foods, while Extraversion is negatively related. Some of the tests performed show a positive relationship between Agreeableness and attitudes towards organic foods.	The hypothesis for Openness to experience found confirmation in my study, while the ones for Extraversion and Agreeableness were not supported. Contrarily, my findings for Conscientiousness revealed opposite results to the ones of this study,

		Furthermore, individuals characterised by high levels of Conscientiousness tend to have a lower WTP for organic foods with respect to conventional foods	indicating a positive relationship between this trait and consumption of organic and sustainable foods
The Big Five personality traits as antecedents of eco-friendly tourist behavior Kvasova Olga Personality and Individual Differences, vol. 83, pp. 111-116 2015	With this paper, the author aims to detect the possible relationship between eco-friendly tourist behaviour and the Big Five personality traits	In this paper Agreeableness, Conscientiousness, Extraversion, and Neuroticism are proved to be positively associated with a pro-environmental tourist behaviour. On the other hand, the author was not able to detect a significant relationship between Openness to Experience and ecological actions	Kvasova's findings for Conscientiousness are in line with those of my study, while for Openness to Experience there are different results, as the paper did not manage to find a significant relationship between this trait and environmentally friendly behaviour

The role of extraversion and agreeableness traits on Gen Y's attitudes and willingness to pay for green hotels Candy Mei, Fung Tang and Desmond_Lam 2017	The aim of this study is to detect and analyse the relationship between Extraversion and Agreeableness and individuals' WTP for "green" and sustainable hotels	The results indicate how the traits of Extraversion and Agreeableness are positively associated with individuals' attitudes toward green hotels. Stronger and more positive attitudes toward green hotels lead to a higher consumers' WTP for them	The results of my study for the two variables are not in line with those of this paper: my research proved that Extraversion and Agreeableness are non-significant variables for my final analysis
Influence of personality on ecological consumer behaviour Fraj Elena & Martinez Eva Journal of consumer behaviour 2006	This study analyses the Big-Five Personality Traits model and the environmental attitude dimension referred to as "actual commitment" to measure and quantify respectively personality and ecological behaviour.	The results have proved that personality can be defined as a multifaceted concept, that is positively related to ecological behaviour. According to this paper, firms should focus on those people who are characterised by precise personality features such as Extraversion, Agreeableness and Conscientiousness to persuade them to ask for their products.	My analysis confirmed the findings for Conscientiousness, but did not manage to find confirmation for the other two constructs

Personality predictors of Consumerism and Environmentalism: A preliminary study Hirsh J. B. and Dolderman D. Personality and Individual Differences 2007	This study focused on the analysis of Consumerism and Environmentalism for Extraversion and Agreeableness	Consumerism and Environmentalism can both be predicted by Agreeableness: while Consumerism was negatively associated with Agreeableness, Environmentalism was positively associated with both Agreeableness and Openness.	My model only confirmed the positive relationship between Openness and consumers' environmental concern and interest
The big five personality traits and environmental engagement: Associations at the individual and societal level Milfont L. T. and Sibley C.G., Journal of Environmental Psychology 2012	This study aims to detect a relationship between individuals' personality and their environmental engagement	The analysis revealed how Agreeableness, Conscientiousness and Openness to Experience are the traits most strongly linked to environmental engagement	My analysis is in line with Milfont and Sibley's findings for what concerns Conscientiousness and Openness to Experience, but did not confirm the results for Agreeableness

Measuring consumer's willingness to pay for organic and Fair Trade products Tagbata Didierand Sirieix Lucie International Journal of Consumer Studies 2008	WTP for organic food and Fair Trade certification	The analysis showed that Organic and Fair Trade labels contribute to the increase in consumers' WTP, and allow for the identification of three consumers clusters: the first one is made of people who are "insensitive" to the label; the second one showed how 'organic and Fair Trade' labels' influence positively the image of the products for this specific group of consumers; finally, for the third group, the choice and evaluation of the 'Organic and Fair Trade' label is determined by the product's taste.	My findings are in line with this paper, as individuals seem to be willing to pay more for Fairtrade certification with respect to products without it. It must be said that the general knowledge about this certification among consumers is still quite small, so companies should focus on this aspect and make more people aware of the effort behind this certification. As defined in this study, a further step for future research could be the analysis of the taste of the product and its impact on WTP.

Willingness to Pay for Environmental Quality: The Effects of Pro-Environmental Behavior, Perceived Behavior Control, Environmental Activism, and Educational Level Paula Vicente, Catarina Marques, and Elizabeth Reis 2021	The aim of this study is to investigate citizens' WTP for environmental quality and if this tendency differs with diverse education levels (individuals with university education and without university education)	The results show how WTP more for environmental quality and pro-environmental behaviour are positively associated with perceived behaviour control and environmental activism. The relationships between constructs are true for both groups of education	My study demonstrated how environmentalism is positively related to WTP for sustainable products for Conscientiousness and Openness to Experience
Consumers' preferences and willingness to pay for coffee sustainability labels Katherine Fuller, Carola Grebitus Ecological Economics 2023	WTP and preferences for different types of coffee characterised by sustainability labels	The highest WTP was found for coffee with both the Fair Trade and Organic labels, followed by the Direct Trade and Organic labels. Findings show how consumers are willing to pay more for those sustainability labels which are able to communicate the efforts on solving social issues, followed by labels that address environmental problems	According to my analysis, consumers who are willing to pay more for sustainable coffee tend to prefer together Fairtrade and Rainforest Alliance Certifications (35), followed by Fairtrade and Direct Trade (17) and Direct Trade and Rainforest Alliance (17)

The effects of values and information on the willingness to pay for sustainability credence attributes for coffee Katherine Fuller, Carola Grebitus Agricultural economics 2022	WTP for different products with sustainability labels, and the indicators for altruism and warm glow effect	Results show how consumers are willing to pay a premium of $2.57 for a 12oz coffee bag labelled for both Fair Trade and USDA Organic, $2.04 for USDA Organic, $1.96 for Rainforest Alliance, $1.71 for Direct Trade and $1.79 for Fair Trade. Consumers are proved to react positively to information about the labels' claims.	In my analysis, consumers who are willing to pay more for sustainable coffee tend to prefer together Fairtrade and Rainforest Alliance Certifications (35), followed by Fairtrade and Direct Trade (17) and Direct Trade and Rainforest Alliance (17). Moreover, warm glow effect resulted to be a non-significant variable, so my results are not in line with those of this study

The impact of sustainability in coffee production on consumers' willingness to pay– new evidence from the field of ethical consumption Volker Lingnau, Florian Fuchs & Florian Beham Journal of Management Control 2019	Sustainability and WTP in the coffee market	The results have shown that certification alone does not significantly increase the average consumer's WTP. It has also been found that sustainability measures do not necessarily have to pay off; on the other hand, bad conduct, particularly in the social dimension, is clearly punished. Finally, it is shown that bad behaviour is more punished than good behaviour rewarded.	This study can find confirmation in what I said for Agreeableness earlier this chapter, and the fact that higher environmental concern and products' sustainability origin do not automatically translate into higher WTP. It could be interesting to develop this topic in future research.
Consumers' willingness to pay for corporate social responsibility: Theory and evidence Narayanan, S., & Singh, G. A. International Journal of Consumer Studies 2023	Relationship between CSR and WTP	Findings reveal an indirect effect between CSR and WTP, mediated by different variables, such as Brand Loyalty, Brand Trust, Brand Attitude, Brand Love, Customer Satisfaction, Purchase Intention and Brand Equity	The first part of my thesis focused on the analysis of CSR, where it was described as a concept that considers social and environmental implications as well as commercial ones when making business decisions. For future research, a conjoint analysis

			of CSR and WTP could be an interesting topic to be investigated

We could attribute the lack of statistical significance of my study to the limited and small sample size of only 97 respondents. In my opinion, if I had additional data, I believe I could have obtained a p-value that would have allowed me to confirm more hypotheses.

To conclude, this study demonstrated how the personality traits of Openness to Experience and Conscientiousness positively affect consumers' Willingness to Pay for sustainable coffee.

In addition to filling the gap in the existing literature, especially in the economic and psychological fields, the result of this analysis could be employed by marketing and sales managers to develop more effective and efficient strategies to attract a higher number of consumers. Once they are aware of what products' characteristics the consumers consider important and for which they would be willing to pay a higher price, they can develop and upgrade them. Furthermore, managers could improve their sales strategies by really understanding the main reasons that lead these consumers to not buy sustainable coffee: they could remove all those aspects that consumers do not particularly appreciate in order to attract people with a variety of different personalities.

Implications for practice will be the object of analysis for the next paragraph.

5.2 Implications for practice

For the final analysis and interpretation of my sample, the software SmartPLS was employed. The primary aim of this study was to detect and, if existent, analyse the relationship between consumers' personality and their Willingness to Pay for sustainable products, in this case coffee. This study was designed to provide useful information to current literature on what concerns sustainability, sustainable development, environmental concerns and individuals' personalities.

This study could also be used as a valid instrument for companies to develop new and effective marketing strategies focusing on attracting consumers with different features. The main focus should be the proper communication of the different products' characteristics and values so that consumers can easily perceive their differences and choose the one more in line with their personality. Once the specific features of a product for which consumers are willing to pay more are individuated, producers and marketing experts can reinforce them: for what concerns Openness to Experience, for example, several studies have proved how the graphic and visual representation of organic food may be perceived as more attractive for consumers who score high in this trait, with a strong and visible distinction between sustainable and standard products. Hence, organic products communicated as being more similar to standard ones might be more attractive for those consumers who score low in Openness to experience, and consequently less attractive for high Openness levels individuals.

Managers and marketing departments could use this important information to focus on the way products characteristics are delivered to the consumers, by improving the communication of their sustainable products peculiarities and what makes them different from their competitors and from their "regular" counterparts.

Conscientiousness is the second personality trait that was proved to be significant for my analysis, and it influences positively the Willingness to Pay for sustainable coffee. Different studies have already demonstrated its strong link with individuals' higher future time perspective and environmental engagement (Milfont, Wilson, and Diniz, 2012). It is not surprising that consumers who are more long-term oriented, are more likely to be concerned with the effects of their actions and choices and tend to plan for better future results, including having sustainable and ecological behaviours that reflect on the purchase of certain typologies of products, especially sustainable and "green" ones. For conscientious consumers, companies may consider the use of sustainability certifications on their packaging, so consumers are more aware of what they are purchasing.

Individuals who score high in Neuroticism, Extraversion, Agreeableness and Product Involvement, on the other hand, seem to be less likely to purchase sustainable coffee, and be more reluctant to pay more for it, with respect to opened and conscientious people. There could be many reasons that may have led to this conclusion. Companies may start thinking about

starting new initiatives for people to really understand the importance of sustainable products and how they can improve today's reality and especially their impact on the environment: the first step is identifying the main reasons behind consumers higher consumptions of regular products with respect to their sustainable "versions", and this could lead to improved and better marketing and sales strategies.

For example, for impulsive consumers the high price could be a factor that does not encourage them to purchase sustainable products: a possible way to capture the interest of impulsive buyers could be the development of attractive products' design, effective in-store advertising campaigns (Chen and Wang, 2016), promotions on sustainable products and a strategical display of goods; neurotic individuals tend to mistrust companies and other people, and they do not easily believe in the positive effects of sustainable products, so they may be more hesitant in believing the benefits that could arise from the adoption of these products.

Of course, marketing is not the only determining force in improving the use and purchase of sustainable products: also environmental education and awareness are important drivers that could lead to a higher level of consumption of these goods.

5.3 Limitations and future research directions

Like other quantitative research, also this analysis shows its own limitations that could be improved by future investigations.

First, the final sample that I analysed was quite small (97 participants); in the beginning, thanks to the snowball technique, I was able to reach more than 300 responses to my questionnaire, but the majority of them were excluded from my final analysis as they did not meet some minimum required standards. My final sample was made mainly of Italian girls and women, with an age range between 18 and 24. For future research, it could be interesting to explore a wider range of ages, education levels and especially countries of origin, to have a more representative and generalizable sample: the same survey conducted on a larger population sample would probably allow me to obtain more significant variables and more reliable and accurate results.

Second, the Big Five Personality Traits may represent a too general model, as it groups all individuals' personality shades into just five wide traits. The relationship between personality and WTP is still a relatively new topic in current literature, and maybe the use of a different model or the examination of individuals traits could improve the analysis and capture different aspects and features of human personality.

Together with the analysis of consumers' personalities, future research may also include some other products' attributes related to real consumers' shopping experience, for instance taste, brand and country of origin and try to understand their relationship with willingness to pay for sustainable coffee.

Finally, the topic that I decided to analyse (i.e., sustainable coffee and consumers' willingness to pay for it) has not been deeply analysed in scientific research yet. This was confirmed from my analysis: the great majority of the participants in my survey were not aware of what the different labels meant and what they stood for. So, they might be not able to assess their WTP for sustainable coffee as they are not aware of the advantages and benefits that arise from this purchase behaviour.

Appendix

Appendix A

Tables of constructs, items and sources

Dependent variable

Willingness To Pay More	[1] I am willing to pay a higher price for sustainable product than non-sustainable product.	3 items 5-points Likert-type scale Habel J. et al., 2016 Legere A., Kang J. 2020
	[2] I would like to keep buying sustainable product even if non-sustainable product were cheaper.	
	[3] For the advantages obtained from sustainable product, I would be willing to pay a higher price.	

Independent variables

Big 5 Personality Traits Analysis

Openness to experience	[OE1] I have a vivid imagination	4 items 5-points Likert-type scale Goldberg, 1999; Mahlamäki, 2010
	[OE2] I greatly appreciate poetry	
	[OE3] I enjoy wild flights of fantasy	
	[OE4] I see beauty in things that others might not notice	

Conscientiousness	[C1] I am conscientious about the things I do	4 items 5-points Likert-type scale Goldberg, 1999; Mahlamäki, 2010
	[C2] I finish my work on time	
	[C3] I am deliberate in my decisions	
	[C4] I obey the rules the best I can	

Extraversion	[E1] In unclear situations, I usually take control of things	4 items 5-points Likert-type scale Goldberg, 1999; Mahlamäki, 2010
	[E2] It is easy for me to get to know other people	
	[E3] I usually let others make the decisions (Reverse coded item)	
	[E4] Can talk others into doing things	

Agreeableness	[A1] I trust other people	4 items 5-points Likert-type scale Goldberg, 1999; Mahlamäki, 2010
	[A2] I trust what people say	
	[A3] I like to help others	
	[A4] I believe people usually have good intentions	

Neuroticism	[ES1] I feel that I can handle any situation (Reverse coded item)	4 items 5-points Likert-type scale Goldberg, 1999; Mahlamäki, 2010
	[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	

Product involvement	[P1] I would be interested in reading information about how the product is made	5 items 7-points Likert-type scale Zaichkowsky J. L., 1985
	[P2] I would be interested in reading the Consumer Reports article about this product	
	[P3] I have compared product characteristics among brands	
	[P4] I think there are a great deal of differences among brands	
	[P5] I have a most preferred brand of this product	

Moderator variables

Impulsivity	[I1] I often buy things spontaneously	9 items 5-points Likert-type scale Rook D. W. and Fisher R. J., 1995
	[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	

	[I9] Sometimes I am a bit reckless about what I buy.	

Warm glow effect	[W1] Doing something for charity and non-profit organizations gives me a pleasant feeling of personal satisfaction	6 items 5-points Likert-type scale Hartmann P. et. al, 2017
	[W2] I am happy with myself whenever I make contributions towards human well-being and the quality of the natural environment	
	[W3] Doing something for social justice gives me a pleasant feeling of personal satisfaction	
	[W4] Participating in programs helping me to give back to society makes me feel satisfied	
	[W5] Doing something for climate change gives me a pleasant feeling of personal satisfaction	
	[W6] Reducing waste at home e.g., recycling, I feel happy contributing to the quality of the natural environment	

Tables

Exhibits

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