# The Relationship between Students' Personality and Their Purchasing Behavior

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Final International University

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# The Relationship between Students' Personality and Their Purchasing Behavior

by

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A thesis submitted to the Institute of Graduate Studies in partial fulfillment of the requirements for the Degree of Master of Business Administration

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# FINAL INTERNATIONAL UNIVERSITY INSTITUTE OF GRADUATE STUDIES

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Title: The Relationship between Students' Personality and Their Purchasing Behavior

We certify that we approve this thesis submitted in partial fulfillment of requirements for the degree of Master of Business Administration.

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My cherished parents, mami, my family and my friends, no dedication can adequately express my gratitude, eternal love, and appreciation for the sacrifices you have made for my education and well-being.

#### ETHICAL DECLARATION

I, Fadwa IBN KHALDOUN, hereby, declare that I am the sole author of this thesis and it is my original work. I declare that I have followed ethical standards in collecting and analyzing the data and accurately reported the findings in this thesis. I have also properly credited and cited all the sources included in this work.

Fadwa IBN KHALDOUN

A

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Last but not least, this momentous occasion in my life is dedicated to: My cherished parents, mami, my family and my friends, no dedication can adequately express my gratitude, eternal love, and appreciation for the sacrifices you have made for my education and well-being. Your belief in me, your motivation, and your prayers have always pushed me to live a life of excellence, to dream and to achieve. May God grant your health, happiness, courage, and, most importantly, success.

#### **ABSTRACT**

Many environmental problems have arisen as a result of economic development, which may degrade environmental quality and may eventually cause damage to environmental sustainability. Note that environmental problems are also viewed as a social problem, because are affected by consum"ZSer expectation, norms and habits of human that exacerbates the environmental crisis, so the one who make the environmental problems and the one who should found solution. As a result, this study has significant implications for marketers and brands to recognize how they might grow green products and advertising campaigns while maintaining the personality types of their target customers in mind. The study concentrated on international students living in North Cyprus, who are expected to drive green consumption in the present and future through their purchasing habits. This study provides a wealth of information about various personalities and their relationships with green purchasing attitude, as well as what the relationship between different personalities and green products knowledge and finally the relationship between personality traits and green purchasing behavior, with green product knowledge acting as a mediator.. In a quantitative study, data was collected using a crosssectional survey method. The quantitative research questionnaire was used to evaluate the relationship between a dependent variable of green purchasing behavior and the independent variables of agreeableness, extraversion, openness to experience, and neuroticism through mediation with green product knowledge. An explanatory research design was adopted, and a survey with a 45-item questionnaire was used to collect data in a cost-effective manner for the target population. Data was gathered both online and in person from 222. The findings revealed significant positive relationships between four personality traits (openness to experience, neuroticism, extraversion, and agreeableness) and green purchasing behavior, with green product knowledge mediating the relationship.

**Keywords:** Agreeableness, Extraversion, Openness to experience, Neuroticism, Green purchase behavior, green product knowledge.

Ekonomik kalkınmanın bir sonucu olarak, çevresel kaliteyi bozabilecek ve sonunda çevresel sürdürülebilirliğe zarar verebilecek birçok çevre sorunu ortaya çıkmıştır. Cevre sorunlarının da sosyal bir sorun olarak görüldüğünü unutmayın, çünkü çevre krizini siddetlendiren tüketici beklentileri, insan normları ve alışkanlıklarından etkilenir, bu nedenle cevre sorunlarını yapan ve çözüm bulması gereken kişidir. Sonuç olarak, bu calısma, pazarlamacıların ve markaların, hedef müşterilerinin kişilik tiplerini göz önünde bulundurarak yeşil ürünleri ve reklam kampanyalarını nasıl geliştirebileceklerini anlamaları için önemli çıkarımlara sahiptir. Bu çalışma, çeşitli kişilikler ve onların yeşil satın alma tutumu ile ilişkileri, farklı kişilikler ve yeşil ürün bilgisi arasındaki ilişki ve son olarak kisilik özellikleri ile yeşil satın alma davranışı arasındaki ilişki hakkında zengin bir bilgi sunmaktadır. aracı.. Nicel bir çalışmada veriler, kesitsel anket yöntemi kullanılarak toplanmıştır. Yesil satın alma davranışının bağımlı bir değişkeni ile uyumluluk, dısadönüklük, deneyime açıklık ve nevrotiklik gibi bağımsız değişkenler arasındaki ilişkiyi yeşil ürün bilgisine aracılık ederek değerlendirmek için nicel araştırma anketi kullanılmıştır. Açıklayıcı bir araştırma tasarımı benimsendi ve hedef kitle için uygun maliyetli bir şekilde veri toplamak için 45 maddelik bir anket içeren bir anket kullanıldı. Veriler hem çevrimiçi hem de yüz yüze 222'den toplandı. Bulgular, dört kişilik özelliği (denevime açıklık, nevrotiklik, dışa dönüklük ve uyumluluk ile yeşil satın alma davranışı arasında önemli pozitif ilişkiler ortaya çıkardı ve yeşil ürün bilgisi bu ilişkiye aracılık etti.

Anahtar Kelimeler: Uyumluluk, Dışadönüklük, Deneyime açıklık, Nevrotizm, Yeşil satın Alma davranışı, yeşil ürün bilgisi.

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#### LIST OF ABBREVIATIONS

AGR Agreeableness

BFP Big five personalities

EXT Extraversion

GPB Green Purchase Behavior

GPK Green Product Knowledge

NEU Neuroticism

OTE Openness to experience

#### **CHAPTER 1**

#### INTRODUCTION

In the twenty-first century, the advanced business world is constantly changing. The subsequent industrial increasing and transformation, as well as the fast change in the economy, have brought human to comfortable and easy lifestyle. However, many environmental issues have arisen as a result of economic development, deteriorating environmental quality and potentially threatening ecological sustainability (Hung, 2021). Because of global climate change, carbon emissions, deforestation, and the decline in the populace of biological organisms, among other things, consumers are becoming increasingly concerned for the future of the ecosystem (Vaishali, 2020). To deal with the world's increasingly major ecological issues, green products are gaining popularity due to their environmental friendship when compared to conventional products (Hong, 2020). Ecological issues are a concern for everyone, and entrepreneurs are increasingly looking for ways to reduce or eliminate potential environmental and social adverse effects (Junior, 2014). The shift in customer preferences from chemical and non-biodegradable products to green products prompted many businesses to embrace green marketing. Companies are under a lot of pressure to adapt to the new change in order to stay in the market and achieve their goals in the long run. As green products entail innovation in packaging, products, processes, advertising, and so on, they must be compatible with nature (Vaishali, 2020). Corporate Social Responsibility is a concept that has attracted attention. Corporate Social Responsibility can be defined as the duties and obligations of a company's top management to develop policies and act in order to protect the entire society by acting ethical and socially responsible manner (Advantage, 2020).

Firms are expected to significantly integrate novel technologies in the twenty-first century in order to achieve sustainability and competitive advantage (Awais, 2019). Hung (2021) stated that ecological awareness has a considerable impact on individual environmental attitudes such as resource recycling and sustainable consumption. With an emphasis on long-term environmental development, sustainable consumption has unexpectedly become a market development trend. When faced with the pressure of ensuring the long-term development of the environment, businesses must take the initiative or be willing to change. Implying that meeting the needs of customers will be more important than ever (Awais, 2019). Instead, they should implement integrated, active, as well as innovative strategies including such product differentiation and cost decrease, as well as positively respond to problems and make advancements (Hung, 2021). This implies that satisfying consumer requirements will be more essential than ever. Marketers are always striving to enhance their company models and tactics (Awais, 2019).

Prior research mainly concentrated on the needs of consumers and pretty much entirely ignored the fact that personality could be a key differentiator in the personalization of the offer and taking relationship marketing at the next level (Myers, 2010).

Marketers must understand customers in detail in order to develop strategies that can establish a single connection. Five major features of a person have been studied and accepted for a long time, which split the characteristics of the person into five broad categories, namely openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism (Costa, 1988).

Certain studies suggest a significant and positive link between personality traits of the consumer's and green purchase behaviors, e.g. Busic (2017) and Zhang (2021), suggest agreeableness and extraversion character with green purchase behavior and there is and Busic (2017) who said that the connection between neuroticism and environmental conviction range from mild to positively and negatively correlation.

This research try to explains the impact of personality and green knowledge product on green purchasing through the use of theory planned behavior structures (TPB).

This study paper is divided into five sections. The very first section highlights the study's introduction, which includes an overview, problem statement, background, purpose, and meaning. The second section is a written survey that clarifies previous investigations directed by researchers, analysts, and writers and includes the proposed examination theory. The third section defines the research methods, which are divided into sub-sections such as methods, sample, measures, and procedure on data collection used in the study. The fourth section clarifies the findings and outcomes of the hypotheses evaluation review. The fifth section looks at the conclusion, discussions, and accomplishments, as well as recommendations for future research.

#### 1.1 Problem Statement

Because the globe's population continues to increase, we will require a large amount of goods to meet the needs of an individual. Awais (2019) said that what can be approximately 9.4 billion by 2050. Production is now widely acknowledged as a major contributor to unsustainable growth (Fischer, 2017).In Awais's (2019) opinion the variety of goods and services has various inculcated environmental consequences throughout the whole process; from its development to the manufacturing process to the process of transport and sales. So this does not hold back as it also generates extraordinary consumer effects and post-consumption waste. In recent years, scholars have begun to study the relationship between personality traits and pro-environmental attitude. Concepts such as ecological citizenship and environmental citizenship have been proposed in efforts to explain how personality has evolved to incorporate ecological awareness as a result of environmental changes. Environmental rights of ecological citizens are not always individual people' rights, but also human civilization rights as a whole. Ecological citizens should not only respect the rights of the current generation, but then of coming generations as well as other creatures as well (Yang, 2021).

Yang (2021) conclude that in order to mitigate the harm of environmental crisis to both humans and society, residents will show positive attitudes toward environment-friendly consumption, and more attention has been paid to environmental consumerism. However, although many consumers hold a positive attitude toward sustainable consumption, they do not necessarily engage in green purchasing attitude, a concept known as the green attitude a gap or motivation-attitude gap.

There are limited studies that examine the impact on green buying behavior and knowledge about green products, especially in northern Cyprus, among student's personalities.

#### 1.2 Purpose of the Study

The study of consumer psychology emerged in the mid-twentieth century when marketing experts decided to approach their discipline in a more scientific way. The study of consumer psychology has revealed that consumer's buying behavior can be influenced by their personality (Kassarjian, 1971). The consumer is the main priority of companies, in order to understand it companies must first understand their personality because that allows us to classify them into different groups on the basis of one or more traits. This thesis will aim to offer to the marketers some recommendations about developing their green products and their advertisements by keeping on mind the personality types of their target customers.

#### 1.3 Significance of the Study

The goal of this study is to fill the existing gap in the literature review by investigating the impact of big 5 personality on green product knowledge and green purchase behavior. This finding helps to clarify some existing disparities in the literature. Some studies suggest a significant, positive relationship with personality traits of consumer and green purchase behavior, for example Busic (2017) and Zhang (2021) suggest agreeableness with GPB, Zhang (2021) suggest extraversion with GPB, and finally open to experience with GPB was suggest by Busic (2017) and Hirsh (2010), while other studies have resulted in negative findings like Hirsh (2010) in the relationship between extraversion and GPB and Busic (2017) who said that the connection between neuroticism and environmental conviction range from mild to positively and negatively correlation. This current study try to show that although green knowledge has an impact on green purchasing attitude (Mostafa, 2007; Deng, 2016; Kumar, 2015) than just personality trait. We have also personal characteristic who has a significant effect on green product knowledge (Huang, 2014). This finding reinforces that green product knowledge can mediate green purchase behavior and personalities traits.

#### 1.4 Research Questions and Hypotheses

The research question will be as followed:

- Is there a link between agreeableness and green purchasing attitude?
- Is there any link between extraversion and green purchasing attitude?
- Is there any relationship between open to experience and green purchasing attitude?
- Is there any relationship between neuroticism and green purchasing attitude?

- Do students make green purchases as a result of having access to knowledge about green products?
- Is it possible for green product knowledge to affect green purchase behavior?

#### 1.5 Assumptions

In this study, the following steps were followed:

- 1. The participants will truly understand the questions posed to them.
- 2. Survey participants will also provide honest and interesting responses.
- 3. Data analysis will provide a clear picture of how the personality traits will affect green purchase behavior by mediating with green product knowledge.

#### 1.6 Limitations

The number of parameters used in current study is limited. The larger the sample size the smaller the error will be in estimating the characteristics of the whole population but unfortunately we have a small sample size because of corona virus the foreign student return to their countries and the rest that in Cyprus don't come to university. The language also was a limitation because a lot of new student come to Cyprus and don't know English yet so they refuse answering that why there is a small numbers of answers.

The study's target group is students from various countries, with different attitudes toward green purchasing and green product knowledge, not to mention that the majority of them are between the ages of 17 and 20, living temporarily on an island with a very limited budget, "The lockdown reply to coronavirus disease 2019 (COVID-19) had also ended up causing an unexpected decrease in worldwide economic," making them unable to consider the product before purchasing it. The as a whole dynamics of youth consumption result in a more general restriction for example in social side, the methods in which teenagers consume are continually shifting (lifestyles, youth cultures)

#### 1.7 Definition of Key Terminology

The first term we will use it a lot in this study is personality; it refers to a set of psychophysiological thinking, feeling, acting, and interacting processes that really can influence people's activity. Individual variations based on physiological patterns have been theorized on various levels, resulting in a variety of personality characteristic classifications (Salem, 2020). Individuals with distinct patterns can be distinguished from others, and personality traits can effectively predict an individual's attitude tendencies. If an individual shows certain traits across various contexts and embodies some characteristics such as persistence, stability, and consistency, these characteristics can be called personality traits. Personality consists of a variety of traits, and scholars have tried to establish a stable classification framework of personality traits (Yang, 2021). In the present study we will use the model that is considered the most recognized and maintained in the field of psychology in understanding the different attitude of the person, created, improved and confirmed in 1986 by Mccrae called the Big Five Model and suitable for highlighting the marketing activities' trend (Awais, 2019).

Green consumer purchasing attitude is now one of the most popular academic research important subjects, particularly in the last thirty years. Consumer demographics were once one of the most commonly used methods. However, subsequent literature reviews revealed that they had only limited success in explaining consumer green purchase behavior (Albayrak, 2011). Following a review of the literature, thirty-five different definitions of the concept "green product" were identified and an integrative definition was developed. Green products, according to Fatoki (2020), are products whose design and/or attributes (and/or production and/or strategy) use recycling (renewable/toxic-free/biodegradables) resources and which improves environmental impact or reduces environmental toxic damage throughout their entire life cycle. Green purchasing behavior refers to the purchase of products that are either benevolent/beneficial to the environment, recyclable/conservable, or sensitive/responsive to environmental concerns.

Green product knowledge has been described by Hung (2021) as a construct consisting of product experience, label details, and trust in certification organizations; however, other research claims that green product knowledge consists of practical knowledge, indirect knowledge, and consumer feelings. Green product knowledge, specifically indicators of product knowledge, usage knowledge, and purchasing knowledge. Consumer product knowledge has been identified as a trait that influences all stages of the decision-making process. Consumers with varying levels of product knowledge have different perspectives on a product.

#### **CHAPTER 2**

#### LITERATURE REVIEW

#### 2.1 Big five personality

The majority of former research in the field of marketing has focused more on what consumers need and want, without taking the most important factor into consideration, which is personality. Personality can be a crucial factor in personalizing the offer, thus improving the relationship between the consumer and the company. This is due to the reason that individuals with distinct patterns can be distinguished from others, and personality traits can effectively predict an individual's attitudeal tendencies (Bhatnagar, 2020). Personal characteristic theory was initially established by allport (1961). Allport's forthcoming book, in maintaining with his early studies, recommends a contribution to the particular topic of personality that completely recognizes its ideographic aspects. He appears to believe that all personality studies could also start with the assumption that personality is a textured and evolving system. Following Allport's criticisms of various approaches to personality research papers over the years as being too mechanistic or too nomothetic, one might wish that he had proposed a unified theory or hypothesis development of personality in this book. His definition of personality is the wide variety of organizations within an individual of those psychophysical systems that determine his characteristic attitude and thought is unarguable. No one would argue with his assertion that the first law of personality psychology should be that each individual's personal patterns are unique. Personality is a complex concept that encompasses biological endowment, cultural shaping, cognitive style, and spiritual exploration. Only in this light can all of the various methods of investigation be brought into focus. On the other hand, according to Zhang (2021), personality is an important psychological concept that combines unique cognitive, emotional, and attitudeal patterns that occur in the interaction between individuals and their social environment. Awais (2019) believes that personality is a person's consistent and similar attitude that shows up in varied settings every day. Salem (2020) expresses his thoughts on this subject by saying that personality is a combination of reflection, affection, action and interaction that exist in different time and situation. Zhang (2021) claimed that individuals with distinct patterns can be distinguished from others. Finally to complete to definition with Ardebili (2020) point that our personality can even be linked to our taste preference, way of buying, health and wealth.

Personality consists of a variety of traits, and various different theories have tried to create a stable classification framework. Mccrae (1986) categorizes the different human personality traits into five categories, to define a person's rational reasoning and emotional attitude that exist and persist in different times, situations, and cultures (Hespos, 2018; Osatuyi, 2015). According to Zhang (2021), the Big Five personality model is universal, validated, and widely used by various research contexts and constructs, not only in marketing (Lounsbury, 2016; Balmaceda, 2014). The big 5 personality include: agreeableness, neurosis, extraversion, openness to experience and consciousness. Each of the traits has been used to predict human attitude not just in social life but also in social media (Kiarie, 2017).

The first personal characteristics is agreeableness. Hatzithomas (2019) and Ojedokun (2018) clarify it by some adjectives like confident, humble, honest, open-hearted and good listeners who care about others feeling, support, and have positive attitude toward others. Thus, we can understand that people who score high on this trait like to serve their community by participating in volunteer work, can easily work in a team without having communication problems, are good listeners, and stable and satisfying relationships in their social environment. They also like to help others, tend to be more popular because their traits make them likable, and they have a large network of relationship because they can easily connect with people. People who score low on agreeableness tend to be more selfish and less concerned about other's feeling.

Quintelier (2014) describe extraversion like is characterized by socio-energetic, enthusiastic, optimistic (very positive emotionality), fun-loving, and talkative. Extravert people was found to be a key factor in explaining a range of consumer attitudes. Extravert persons are gregarious, cheerful and friendly (enjoy interacting with people) and show a higher degree of fluency in self-expression, which enable them to communicate and connect better with others. They also favor significant channels of community support where possibilities for connections can be found.

Salem (2020) and Quintelier (2014) explain that openness to experience is a general appreciation for art, emotion, adventure, unusual ideas, imagination, curiosity, and variety of experience. This trait represent intelligent people with great intellectual curiosity, who are sensitive to beauty and art and also have a fertile imagination. They tend to accept alternatives, have creative abstract thinking, and can come up with original and unique ideas. People who are open to experience are less subjective because they appreciate new knowledge and are more willing to experience new things because they are revolutionary by nature. Their cognitive ability gives them the flexibility to adapt to changes in their environment by embracing and learning the processes. People low in this trait are more traditional, rigid in their ideas and resist change.

People with conscientiousness trait are known as 'global thinkers', because they never act without thinking. Usually they are perfectionists, hardworking, analytical, have a great sense of responsibility, duty and moral obligation. They can be seen as disciplined people who believe in their goals and focusing on achieving them with great motivation and perseverance and they always tend to solve the problems (Salem, 2020).

The individuals who have high levels of neuroticism have chronic levels of emotional instability and vulnerability to psychological stress, they tend to experience anxiety, fear, mood swings and negative emotions. Salem (2020) noted that they are susceptible, less trusting, insecure and vulnerable to threats that can be either real or imagined, constantly experience negative emotions, always expect bad things to happen 'they expect being deceived by others' and fear rapid change due to unadapt ability.

As earlier studies clearly show that ecological attitudes in overall are connected to personality, the aim of this paper is to examine which personality traits (according to the Big Five model; Openness, Conscientiousness, Extraversion/Introversion, Agreeableness, and Neuroticism) are likely to motivate the association among green products knowledge and green purchasing attitude.

#### 2.2 Big five personality and green purchasing behavior

The rapid growth of production and the number of people living and working in a cities has phenomenally encouraged and advanced the standard of human existence in the twenty-first century, but source scarcity and ecological harm have posed a great challenge to sustainable human development. In the same century, in addition to the daily revival of articles related to the development of production, the study of green consumption began to erupt, both in terms of research topics and methods.

Bhatnagar (2020) stated that in order to mitigate the environmental damage caused by this development, consumers and companies must demonstrate their interest by buying, using and disposing products and services that do not adversely affect the environmental and socioeconomic conditions of all citizens, as a result Irfan (2021) suggest that brands have also begun to change their thinking from simply buying behavior to green buying behavior. According to Kim (2012) the importance of green purchasing as a realistic strategy for long-term growth has been emphasized. Companies believe that improving the world would boost their corporate image.

Green consumption has become a business growth trend as a result of the focus on sustainable environmental development (Hung, 2021). Manufacturers may not always want a green marketing strategy because they may believe that customers do not appreciate certain green attributes, but given the changes in the climate, businesses only have one option: to take steps to solve this environmental problem, according to Wang, (2015) and Hung (2021) however, given the changes seen on the environment, businesses only have one option: to take proactive measures to address the environmental crisis by implementing active or innovative strategies such as product differentiation or flexibility. If companies solely concentrate on their green marketing wars, they will not only gain customers, but also become market leader, as they will be able to shift the attitude and perception of all customers towards their product through their promotions. Green product marketing is helpful in spreading the word about green consumption (Hong, 2020).

Environmental conservation implicitly entails the ideas of social responsibility, human nature peace, and love of homeland, so green buying activity necessitates emotional engagement. Green buying practice is, in several ways, a voluntary consumption activity (Lee, 2009).

Kim (2012) inform that since the late 1900s, a large number of studies have studied green purchasing behaviors, it has gradually evolved into a diverse area, spreading through countries, sectors, companies and products, Green purchasing behavior is motivated by inherent beliefs of environmental sustainability, peer impact, environmental interest, and perceived environmental awareness, according to the findings of this report. Green purchasing behavior offers stronger identity experiences and a sense of self-worth. Green buying conduct refers to the use of environmentally friendly or green goods, which are narrowly described as those that are beneficial to the environment, do not pollute the earth, and do not take up natural resources; those that are reusable, being used more than once; and those which are reactive and influenceable to ecological concerns.

Dolich (1969) was the first to propose the hypothesis of a relationship between personality and purchasing attitude. The importance of personality in green purchasing behavior cannot be overstated. Consumers are worried about their spending habits, as well as the environmental and social consequences, and are reacting to the effects of social influence by purchasing green items. Consumers are becoming increasingly worried, and they want more information about the commodity's impact and manufacturing process inside the neighborhood. Several studies shows that positive correlation of openness to experience and environmental issue. With extraversion trait, the previous literature has shown that these people are better disposed to participate in environmental attitude. Agreeableness has a solid and positive impact on biosphere and pro-environmental objectives. Connection between Neuroticism and environmental convictions range from mild to positively and negatively correlations

H1a: There is a significant relationship between agreeableness and green purchase behavior

H1b: There is a significant relationship between extraversion and green purchase behavior

H1c: There is a significant relationship between openness to experience and green purchase behavior

H1d: There is a significant relationship between neuroticism and green purchase behavior

#### 2.3 Green purchasing attitude and green product knowledge

Many ecological issues have arisen as a result of economic development, which may degrade environmental quality and may eventually cause damage to environmental sustainability. Hung (2021) argued that the economy has expanded quickly, making people's lives more advantageous, appropriate and effortless, with the exception that it has harmed environmental sustainability. Early literature on the perceived seriousness of environmental issues has mostly concentrated on determining how people view the most significant problems, as well as how individuals from different cultures perceive the issue differently (Lee, 2009).

Nguyen (2020)noted that ecological issues are also viewed as a social problem, because they are affected by consumer expectation, norms and habits of human that exacerbates the environmental crisis. Hung (2021) later confirmed that human capital becomes the main engine of economic growth and industrial development so the one who make the ecological issues. As environmental risks have grown, a growing number of individuals have paid particular attention to sustainable development as a means of protecting the environment and society (Hung, 2021). The terms "green purchasing" and "green marketing" have progressively gained traction. Despite the ongoing trend of corporations and governments pursuing sustainability and eco-friendly agendas, green marketing has grown and gained traction in developed countries since the late 1980s and early 1990s. However, marketing strategists have long used the concept of "green marketing (Mai, 2021).

Green purchasing is the practice of customers purchasing green products in order to conserve resources and protect the environment (Vazifehdoust, 2013). Many businesses have modified their manufacturing techniques in response to environmental issues and modifications in customer attitudes toward the environment. They shifted away from items that are relatively damaging to the environment or hazardous to human health in favor of products that protect the natural environment (Nordgren, 2010).

There are also various consumer theories that focus at the influence of both individual and external factors on green purchasing decisions. Some of them believe that both individual and external factors have a direct impact on green purchasing attitude, while others believe that the latter has an indirect impact on consumers' purchasing attitude through influencing the former (Trivedi, 2018). More than 20 consumer theories were finding quality across six dimensions: environmental values and knowledge, beliefs, attitude, intents, social information, and motivation (Zhang, 2020).

Future researchers can get inspiration from Groening (2018) framework of green marketing and green consumerism theoretical relationships when exploring the consumer behavior at a certain stage.

According to Mostafa (2007) many studies have already shown that during the last decade, consumers in developing nations have become highly conscious and aware of the environmental issue, they recognize the fragility of the environment and the value of protecting it. This is why they behave more responsibly in terms of their everyday lifestyles. For example, they switched from traditional to green and sustainable products in their shopping habits. Consumers who have green knowledge, aware of and concerned about environmental issues are more likely to purchase green goods and spend more money on them, according to the findings. Hung (2021) add in the same subject that consumers in advanced nations are typically well informed and have a greater understanding of which goods are environmentally friendly and which are harmful. In contrast to populations in less developing countries, which have lack education and therefore have little knowledge of the harmful environmental impact of the products they consume, and sometimes they can also purchase green goods without realizing the value because they don't have any green product knowledge.

As a result, Hung (2021) deduce that awareness of green products has a direct and important impact on personal environmental actions. Chen (2016) later highlighted that the knowledge of the products consumed by consumers may have direct impact on their knowledge of product and assessment criteria, which may affect the ability of consumers to collect and process information.

Salem (2020) mentioned that several studies have found a connection between knowledge and practice. For instance Deng (2016) believed that product knowledge can influence consumer purchasing attitude. Moreover, Chen (2016) said that in the event of further green product knowledge, the consumers would know more about green product traits and would be more willing to take decisions based on rational thinking rather than on sentiments. This would have a potential influence on purchase decision-making processes.

More product experience would generally contribute to higher green purchase intentions due to a better knowledge of functional features or the cost ratio of green items (Deng, 2016). As a result, attitudes' explanatory capacity will dwindle. Since buyers make purchasing decisions based on their emotions when they have no product information, the explanation of attitudes will improve. According to Xiao (2018) environmental literacy has a major impact on personal environmental actions, such as resource recycling or sustainable consumption practices, and it is a key factor in consumer decision-making and information processing. Ardebili (2020) mentionned that consumers form an overview of a product after being introduced to it or receiving information from the environment, before developing tastes and purchasing it.

Green product knowledge is positively associated with green purchasing attitude, according to some researchers, and it is a significant factor in customer selection and action plan. That is supported by theories of preference formation and decision-making (Bhatnagar, 2020).

Kumar (2015) mentioned that green shoppers are largely affected by a lot of variables in their purchasing attitude. Some of this variables such as the realization of their environmental responsibilities, the pursuit of knowledge, self-interest and readiness to act on the conservation of resources and the reduced environmental consequences are innate to end users. Most of these are unfamiliar to consumers, for instance, because of the public status and consumer preferences of product (such as product quality, safety, performance, price, promotion and impact on human health). Real attitude results from the ordinary attitudes, positional variables like marketing efforts and product knowledge of the purchaser, Yacan Wang (2015) as well agrees that merchandise expertise is persistently one of the significant impacts on consumer buying attitude. In order to better understand the environmental benefits of green products as an impact of learning processes, quality assurance enables them to develop their predisposition to green produce. It also influences their purchasing decisions, makes it possible for them to make the right decisions in their purchasing decisions and makes them more willing to pay for green products (Kumar, 2015).

We will utilize the idea of planned conduct to approve and conclude this connection. The ideas of this theory claim that intention is the most accurate predictor of actual action. In the literature on technology adoption, it is claimed that examining users' desire (i.e., intention) to execute an action has greater explanatory value than just analyzing the activity itself. Positive and negative sentiments associated with completing an action are connected to attitudinal attitudes. Individuals' belief in executing an attitude under social pressure is referred to as a subjective norm in this context. Furthermore, PBC is concerned with an individual's perceived ease or difficulty in completing a specific action. Strong attitude intentions are achieved when: (1) a conduct is rated positively, (2) one believes they should comply with substantial societal pressure, and (3) there is a sense of PBC. TPB has been widely linked with several domains to predict individuals' attitudes, including technology adoption, politics, environmental psychology and green purchase behavior. Attitude is related to the overall favorable/unfavorable feelings of a person on a given subject. A distinction needs to be made between human-induced climate change believers and doubters when analyzing attitude as an antecedent to pro-environment attitude. Accordingly, the attitude of those believers and doubters may be beneficial and disadvantageous, respectively, for pro-environmental attitudes and practices (Esfahani, 2020).

H2: Green product knowledge is significantly associated with green purchase behavior.

#### 2.4 Big five personality and green product knowledge

The study of consumer psychology emerged in the mid-twentieth century when marketing experts decided to approach their discipline in a more scientific way. Dolich (1969) is the first person to introduce the theory of linkage between personality and purchasing attitude. The former personality studies in the literature suggest that personalities play a vital role in prior knowledge. Different personality types help identify the unique responses of a person to its environment. Similarity, variations in personal characteristics lead to a difference of preference of a product and variations in the extent to which the product participates; it is therefore reasonable to expect that personality characteristics can likely influence product knowledge (Huang, 2014).

Product knowledge was described by Deng (2016) as a construct consisting of product experience, label details, and trust in certification organization. But other research claims that product knowledge it consisted of practical knowledge, indirect knowledge and feelings of the consumer. Wang (2015) classified product knowledge in terms of subjective (Subjective information is gained primarily by the consumer's interaction with the product and its ads) and objective.

For objective product knowledge, we found three types:

Cost knowledge is related to price competitiveness which is critical for a business's survival and development. Green product prices are directly related to their sales volume, as well as the survival and long-term growth of green product manufacturers, as an innovative product category. The growing number of green customers creates opportunities for the green product industry to grow (Hong, 2020). Lower price is consistently shown to be a key determinant of higher perceived value in studies (Wang, 2015).

Quality knowledge is linked to other knowledge consumers held about gravity environmentally aware customers have been demanding for decades that businesses fix environmental concerns and develop goods and processes that have a lower environmental impact. As a result, businesses create environmentally sustainable goods, employ environmentally friendly manufacturing methods and activities, and adhere to national and international regulations. For example, a product can be made more environmentally friendly by decreasing the amount of harmful ingredients while maintaining its overall value, or by replacing the harmful ingredient with an environmentally friendly or eco-safe alternative. Green customers scan the product's ingredient label to see if it affects the environment before making a buying decision. They also try to see if a green product uses fewer energy and resources during its use. They are more likely to refuse to purchase goods from businesses accused of polluting the environment, as well as boycott companies that do not adhere to environmental standards or take advantage of the green movement to boost sales (Kumar, 2015).

Green knowledge refers to the understanding that recovering used parts and remanufacturing them will result in substantial resource and energy savings as well as a reduction in solid waste. Consumers consider green goods less than traditional new products. unless they have been told more about environmental consequences from each. As a result, the green value of goods could increase the perceived value of remanufactured products among consumers (Wang, 2015). Consumers may be more interested in reading about green goods in order to broaden their awareness and satisfy their enthusiasm. It's also worth mentioning that the more comments customers read, the more they'll care about goods, even when they're not interested in making any sales right now (Nguyen, 2020). As a result, when it comes to shopping green goods, customers would be more involved than when it comes to comfort goods, such as finding information, learning information, and making an effort to find green items. In other words, when it comes to green product knowledge, customers would be more logical and impartial. In this case, buyers are unlikely to hesitate to purchase green goods solely due to a bias in their perceptions or brand loyalty. Since convenience products are low-cost and often purchased, customers can pay less attention to product awareness.

According to Huang (2014) personality traits can influence people's product knowledge. For example extravert personality, via their social media platform,try to look for information from a range of sources and be linked to a range of data. Because the trait of neuroticism is linked to insecurity and risk sensitivity, neuronic people are looking for more information to decrease the insecurity and risks of decision-making. Neurotic individuals and extraverts are likely to follow a central pathway, which occurs when individuals intentionally seek product-related information. Even if for various reasons, the incoming information is given careful attention by both specific individuals and processed thoroughly. Since these customers are capable of reducing uncertainty and act both as opinions and as information sources for their acquaintances, they are better acquainted with Green Industry Knowledge (Huang, 2014). Openness to experience refers to the characteristics of intellectual openness, unconventionality, novel ideas, flexibility, and creative stride (Goldberg, 1990; Matzler, 2006). People who score high on this trait tend to make their own rules, live by their original ideas, easily adapt to change, want to understand exactly everything, and, most importantly, question previously accepted ideas. These people are revolutionary in nature and have a penchant for experimentation (George, 2001).

Marketers all around the world are attempting to decipher the determinants of green buying attitude in order to improve the consumer experience. Previous studies have primarily focused on the needs of customers, ignoring the possibility that personality may be a distinguishing feature in personalizing the offer, elevating relationship marketing to new heights and changing the purchase attitude. Marketers are well-versed in the elements that affect green purchasing decisions. Green product expertise is one of the most important factors. It refers to a person's level of understanding of a product feature. Concerned with green product knowledge, it demonstrates how well consumers understand and process information about green product in order to purchase that product. There are two types of consumers: those with a high degree of knowledge and those with a low level of knowledge. The way high-knowledge and low-knowledge consumers' process information is what distinguishes them. (Bhatnagar, 2020)

According to the theory of planned behavior (TPB), an individual's specific behavior is greatly understood by their specific intent to execute a particular action, where their good attitude, impact of important others, and control over the behavior all affect the perception. Intention, according to the reasoned action theory (TRA) and the theory of planned behavior (TPB) theories, is an immediate predictor of actual behavior. As a result, for the context of this research, students; original intent to engage in Green purchasing behavior was regarded as the final dependent construct, representing the preadoption behavior. Positive and negative feelings associated with performing the behavior are connected to attitudinal behaviors. Subjective norm refers to an individual belief in performing a behavior under social pressure. Furthermore, perceived behavioral control is concerned with an individual's perceived ease and difficulty in performing a specific behavior. Thus, strong behavioral intentions are achieved when: (1) a behavior is rated positively, (2) one believes they should comply with extensive social pressure, and (3) there is a sense of perceived behavioral control. Attitude is related to the overall favorable/unfavorable feelings of a person on a given subject (Esfahani, 2020). Firstly the principle holding a behavior has the four elements of action, target, context and time. Hence, any behavior consists of (a) an action (or behavior), (b) performed on or toward a target or object, (c) in a particular context, (d) at a specified time or occasion. For example, a person concerned about oral hygiene (a) brushes (b) her teeth (c) in the bathroom (d) every morning after breakfast. The reasoned action theory suggests that the proximal determinant (or cause) of volitional behavior is one's behavioral intention to engage in that behavior. Behavioral intention represents a person's motivation in the sense of her or his conscious plan, decision or self-instruction to exert effort to perform the target behavior.

According to the above discussion, some authors believe that openness to experience, neuroticism, agreeableness, and extraversion influence green purchase behavior, and green product knowledge also influences green purchase behavior. However, no research has been conducted to determine whether green product knowledge mediates the relationship between these four characteristics and green purchasing behavior. As a result, the following hypothesis was proposed in this study:

H3a: There is a significant relationship between agreeableness and green product knowledge.

H3b: There is a significant relationship between extraversion and green product knowledge.

H3c: There is a significant relationship between openness to experience and green product knowledge.

H3d: There is a significant relationship between neuroticism and green product knowledge.

# 2.5 The mediation effect of green product knowledge

The rapid growth of production and the number of people living and working in a cities has phenomenally encouraged and advanced the standard of human existence in the twenty-first century, but source scarcity and ecological harm have posed a great challenge to sustainable human development. In the same century, in addition to the daily revival of articles related to the development of production, the study of sustainable consumption began to erupt, both in terms of research topics and methods.

Apoorva (2020) stated that in order to mitigate the environmental damage caused by this development, consumers and companies must demonstrate their interest by buying, utilizing and discarding items and services that do not have a negative impact on all people' environmental and socioeconomic situations. As a result Irfan (2021) share the same idea by stating that brands have also begun to change their thinking from simply buying attitude to green buying attitude. The importance of green purchasing as a realistic strategy for long-term growth has been emphasized (Kim, 2012). Companies believe that improving the world would boost their corporate image.

Sustainable consumption has become a business growth trend as a result of the focus on sustainable environmental development (Hung, 2021). Manufacturers may not always want a green marketing strategy because they may believe that customers do not appreciate certain green attributes, but given the changes in the climate, businesses only have one option to take steps to solve this environmental problem (Wang, 2015). Given the changes seen on the environment, businesses only have one option: to take proactive measures to address the environmental crisis by implementing active or innovative strategies such as product differentiation or flexibility (Hung, 2021). According to Irfan (2021), if companies solely concentrate on their green marketing wars, they will not only gain customers, but also become market leader, as they will be able to shift the attitude and perception of all customers towards their product through their promotions. Hong (2020) noted that green product marketing is helpful in spreading the word about sustainable consumption.

Environmental conservation implicitly entails the ideas of social responsibility, human nature peace, and love of homeland, so green buying activity necessitates emotional engagement and a voluntary consumption activity (Lee, 2009).

Since the late 1900s, a large number of studies have studied green purchasing attitudes, it has gradually evolved into a diverse area, spreading through countries, sectors, companies and products. Green purchasing attitude is motivated by inherent beliefs of environmental sustainability, peer impact, environmental interest, and perceived environmental awareness, according to the findings of this report. Green purchasing attitude offers stronger identity experiences and a sense of self-worth (Kim, 2012).

Kim (2012) define green buying to the use of environmentally friendly or green goods, which are narrowly described as those who are first benefical to the environment, do not pollute the earth ,and do not take up natural resource, second who are reusable, being used more than once; and finally who are reactive and influencable to ecological concerns.

Zhang (2021) found that the role of personalities play in green purchasing is vital. Consumers are concerned over what they expend and about the environmental and social impacts, react about the effects of social influence and so buying green products. Consumers are increasingly getting more concerned, and they want more knowledge about the commodity's impact and production phase inside the community (Luchs, 2012).

Different ways of developing green purchases are explained. Initially, a consumer who knows and is more responsible for the effects of his consumer choices. Furthermore, the consumer who uses fewer products and services both as regards the volume of products and in order to improve their consumption, reducing the use of the natural resources (Awais, 2019).

Until an individual acts, he/she should therefore know how a particular thing should be and what else could be done to improve it. The following types of knowledge are described by Kaiser and Fuhrer (2003), which influence green purchase: Declarative environmental knowledge, Procedural knowledge, Effectiveness of knowledge, Social knowledge.

It is useful to know about consumer knowledge to interpret consumer behavior. Various variables (e.g. familiarity, product experience) affect several operations to change information, numerous researchers (Alba, 1987; Bettman, 1980; Johnson, 1984; Park, 1981; Srull, 1983) have argued that. The consumer's purchasing behavior depends on what they know the product actually. If the consumers know the majority of the features of the products they intend to purchase, the product will certainly be purchased. The difference between high-level and low-level knowledge depends on how a person handles data on the product (Chang, 2004). Verma (2019) also pointed out that the knowledge of green products could affect buying green products.

In the analysis section, there are a variety of advantages in the relation between personality and green purchasing attitude in earlier studies.

Busic (2017) inform that this causal relationship is supported by several empirical studies, reporting a positive correlation of openness to experience and environmental issue. Persons with this trait are well acquainted with environmental concerns and like to comprehend the natural beauty and human position in a wider environment (Quintelier, 2014). More environmental concerns have been linked significantly to higher levels of openness (Hirsh, 2010). Hirsh and Dolderman (2007) suggested that open people are often found to be concerned about the environment and sometimes end up indulging in eco-friendly behaviors as well.

With regard to large extraversion rates, the previous literature has shown that these people are better disposed to participate in environmental attitude. Busic (2017) said that in the face of an environmental crisis these people tend to rely more on ecology in the hope of improving environmental circumstances by implementing pro-environmental comportment. Persons with high extraversion characteristics are more prepared than those with low results to interact with nature. The extraversion persons pursue news and, when they face environmental stimuli, are more helpful, reliant and optimistic as measured by their degree of commitment and vitality, they will talk to everyone around them about ecological concerns and Green products, because they are so gregarious. Gregariousness might urge them to become more natural and to take more eco-friendly measures to respond to their emotional ecological needs, but Hirsh (2010) said that neither meaningful connection exists.

Concerning environmental concerns, several analyzes show that Agreeableness has a solid and positive impact on biosphere and pro-environmental objectives (Busic-Sontic, 2017). Esfahani (2020) and Zhang (2021) said people are much more likely to be environmentally aware, caring for the environment, willing to sacrifice their desires to improve the ecological environment and to support good faiths, they were more likely to be environmentally conscious. Agreeableness individuals with great scores, they are more empathetic towards natural ecological issues and pay more attention to how we can achieve harmonious coexistence between humanity and nature, they are much more influential than selfish appeals, sometimes even sacrificing their interests in order to protect the interests of environment, identifying them with environmental moral values, or enhancing the sense of green product belonging to green consumer groups. It focuses on social compliance and functional value, on 'social group status' and on building its social identity. Persons with this feature will show their interest in social media sustainability and show more remorse about the negative environmental degradation effects for others, greater sympathy for the development of the environment and a greater willingness to implement pro-environmental attitude. More environmental concern was associated with higher levels of Agreeableness ability in particular (Hirsh, 2010).

The results from the connection between Neuroticism and environmental convictions range from mild to positively and negatively correlations (Busic-Sontic, 2017). The effect of neuroticism has been an unexpected finding, with more neurotic people showing considerably higher levels of environmental concern. More environmental concerns were associated in particular significantly with higher neurotic levels Each reason for this finding is that neurotic people generally prefer to become more concerned about bad results and thus environmental concerns might very well indicate concerns over the effects of environmental degeneration (whereas emotionally stable individuals would potentially experience less affective disturbance when thinking about this topic) (Hirsh, 2010). Neurotic individuals may therefore demonstrate a more selfish and not altruistic form of environmental concern.

Interestingly, Zhang (2021) findings demonstrated that agreeableness, extraversion, and conscientiousness have significant impacts on green purchase behavior.

Literature provides pieces of evidence regarding the underlying mechanism in the relationship between personality and green purchase behavior. For instance, Bhatnagar (2020) discovered that the relationship betwee open to experience and green purchase behavior is mediate by green product knowledge. Hence in line with what has been discussed so far, we propose:

H4a: Green product knowledge mediates the relationship among agreeableness and green purchase behavior.

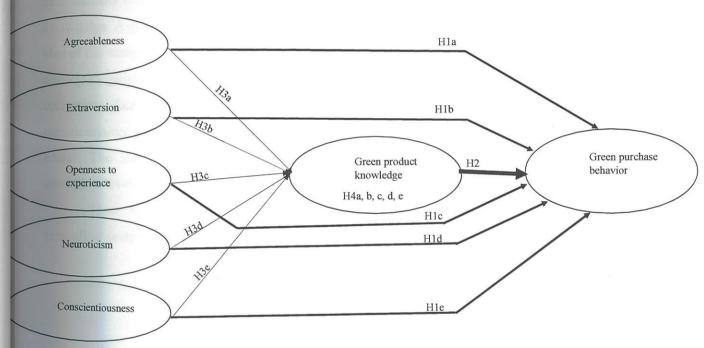
H4b: Green product knowledge mediates the relationship among extraversion and green purchase behavior.

H4c: Green product knowledge mediates the relationship among openness to experience and green purchase behavior.

H4d: Green product knowledge mediates the relationship among neuroticism and green purchase behavior.

## Conceptual Framework Figure 1

Conceptual Framework



## **CHAPTER 3**

#### **METHODS**

To collect and analyze data for this thesis, a quantitative research method was used. In the literature, quantitative methods are primarily preferred; they necessitate knowledge of a variety of very precise methods and procedures, all of which are associated with specific terminology and a variety of principles derived from probability theory. The research process is discussed in detail in the following sections.

## 3.1 Research Design and Proposed Model

The quantitative research method was used to evaluate the relationship between big 5 personalities (i.e., agreeableness, extraversion, conscientiousness, openness to experience, and neuroticism) and green purchasing attitude through the mediation effect of green product knowledge. A questionnaire was chosen as the data collection tool for this study because of the size of the sample. A questionnaire is a research instrument consisting of a series of questions aiming to gather information from participants in a study. Using a questionnaire made data collection, data entry, and analysis easy for such a relatively large sample. Additionally, questionnaires are familiar to most people, which make participation in the study relatively easier. The survey included demographic questions about respondents 'age, nationality, education level and family income.

Three hypotheses were proposed based on the existing literature discussed in the preceding sections. The proposed conceptual model for this study is depicted in Figure 1.

## 3.2 Population and Sampling

This is a cross-sectional study that looked at data collected after the ethical committee approved it between February and April 2021. This quantitative study was conducted in universities in Northern Cyprus with the focus on international students. The present study was both conducted face to face and online, through using Google form to design an alternative questionnaire, sending it there in the mails and in social media to students that they are not in North Cyprus because of COVID 20.

A cover letter provided by the researcher at the beginning of the questionnaire. The cover included such information to lessen the risk of common method bias (Podsakoff et al., 2003). The cover letter was assuring the respondents about the anonymity and confidentiality of their responses. More precisely, statements such as "There are no right or wrong answers in this questionnaire", "Any sort of information collected during our research will be kept confidential" and "Participation is voluntary" were included in the cover letter.

Out of 270 distributed questionnaires 206 usable questionnaire were finally left for further analysis. This providing response rate of 76.3%.

Table 1 shows that 120 responds are male and 86 are female, making up 58, 3% of the study sample are male and 41, 7 are female.

The table 2 shows that the age of the participants is distributed as follows: 39, 3% are from 17 to 20 years old, 49, 5% are between 21 to 25 years old and 11, 2 % are above 25 years.

The respondents are all international student studying in different university in North Cyprus 85.4% are studying bachelors and 14.6% are in master's degree, we can see this information in table 3.

The statistics show that students with the income between 1000-2000TL make up 38, 8 % of the sample and ranked to be the highest income category. The other two categories of income, 2000-3000TL and above 3000Tl or more, are divided and make up 36, 4 % and 24, 8 % of respondents. We should mentioned that we mean by incomes what student spent in a month without including rent and university fee.

Table 1

Gender Variable

Demographic variable	Frequency	Percent	
Gender			
Male	120	58,3	
Female	86	41,7	
Total	206	100	

Table 2

Age Variable

Demographic variable	Frequency	Percent	
Age			
17-20 years	81	39.3	
21-25 years	102	49.5	
Above 25	23	11.2	
Total	206	100	

Table 3

Education Level Variable

Demographic variable	Frequency	Percent	
Education level			
Bachelor's degree	176	85.4	
Master's degree	30	14.6	
Total	206	100	

Table 4
Income Variable

Demographic variable	Frequency	Percent	
Income			
1000-2000 TL	80	38.8	
2000-3000 TL	75	36.4	
3000 TL or more	51	24.8	
Total	206	100	

# 3.3 Instruments and Procedures of Data Collection

This study was conducted to investigate the role of big 5 personality traits, on students' green product knowledge and for green purchasing attitude.

A personality questionnaire was used to obtain primary data for this investigation. Previously validated scales were modified from the literature to measure all of the elements of the predicted framework. Three questions adjusted from Awais were used to measure agreeableness, extraversion, and openness to experience, and neuroticism (2019). The four items chosen from Lee's list were used to gauge green purchase behavior (2009). The three elements chosen from Deng's list were used to assess green product knowledge (2016). All of the survey's measuring items were graded on a seven-point Likert scale ranging from 1 to 7, with 1 indicating severe disagreement and 7 indicating strong agreement.

Table 5

Constructs and Scale Items

Constructs		Items			
		I see myself as someone who likes to cooperate with others			
	Agreeableness	I see myself as someone who is considerate and kind to everyone			
		I see myself as someone who is sometimes rude to others			
	Extraversion	I see myself as someone who is talkative			
		I see myself as someone who is quit			
Big five		I see myself as someone who is sociable			
personalities	Openness to experience	I see myself as someone who is original and comes up with new ideas			
		I see myself as someone who has an active imagination			
		I see myself as someone who is inventive			
	Neuroticism	I see myself as someone who is relaxed and handles stress well			
		I see myself as someone who is emotionally stable and not easily getting upset			
		I see myself as someone who remains calm in tense situations			
		I am familiar with different kinds of green products			
Green Produ	ct Knowledge	When buying green products, I read the specific information on the label			
	I believe in testing and identifying green products that are implemented by certification organizations				
		I often buy organic products			
		I often buy products that are labeled as environmentally safe			
		I often buy products that are against animal-testing			
Green purchase behavior		I often buy products that contain no or fewer chemical ingredients			
		When I consider buying a product, I will look for a certified environmentally-safe or organic stamp I often buy products that support fair community trades			
		I often buy products that use recycled/ recyclable packaging.			

# CHAPTER 4 DATA ANALYSIS RESULTS

#### 4.1 Preliminary data analysis

Statistical Package for Social Sciences software (SPSS) 21 were used to analysis the data. A preliminary data analysis was based to edit the data to prepare it for further analysis. Exploratory factor analysis was used to uncover the underlying structure (dimensions) of the study variables; namely big 5 personality types, green product knowledge and green purchase intention. The researcher used the reliability analysis to check the reliability of all measurement scales. Regression analysis was used to test the proposed hypotheses.

## 4.2 Exploratory Factor Analysis (EFA)

Exploratory factor analysis (EFA) is a popular technique for developing scales and subscales. Item analysis seeks to identify items that are unrelated to the construct. The KMO measure is a statistic that demonstrates the proportion of error in your variables that can be attributed to underlying factors. Based on EFA results KMO value was 0, 75 which exceeding the cut-off value of .60 (Kaiser 1970; 1974). Likewise, Bartlett's test of sphericity was 1360.280 reached statistical significance (p alpha = 0.1) (Bartlett, 1954), indicating that the data is suitable for factor analysis (see in Table 6)

 Table 6

 KMO and Barlett's Test

Kaiser-meyer-olkin measur	Kaiser-meyer-olkin measure of sampling adequacy.		
	Approx. Chi-square	1360,280	
Bartlett's test of sphericity	Df	190	
	Sig.	,000	

All measures were subjected to exploratory factor analysis. Exploratory factor analysis (EFA) was conducted for establishing the relationship between measured variables in a data set and the latent factors that explain the covariation between these measured variables (Mike Allen, 2017).

The initial results demonstrated all conscientiousness items were loading under other construct. Therefore, the construct was removed from the study. In addition, 1 item each from extraversion and agreeableness were excluded from the study. The final results indicated that all items were loading under their underlying variable. None of the items showed cross loading. Table 7 presents the factor loading of each of the variables. As it is seen in Table 7, factor loadings were ranged from 0.577 to 0.85. The items retained are gathered under 6 factors. According to the results, 7 items loaded under green purchase behavior, 3 items loaded under neuroticism, 3 items loaded under openness to experience, 3 items loaded under green product knowledge, 2 items under extroversion and 2 items under agreeableness. All values were greater than 1.0. In short, there was evidence of convergent validity.

Table 7

Exploratory Factor Analysis

	Green purchase behavior		Open experience	to	Green knowle	Extraversion	Agreeableness
Gpb6	,754						
Gpb2	,744						
Gpb5	,672						
Gpb7	,661						
Gpb4	,645						
Gpb1	,632						
Gpb3	,577						
Neu3		,845					
Neu2		,826					
Neu1		,763					
Ote2			,832		•		
Ote1			,628				
Ote3			,626				
Gpk3					,779		
Gpk2					,729		
Gpk1					,692		
Ext1						,859	
Ext3						,777	
Agr1							,733
Agr2							,582

Table 8 represents that six factors jointly elucidated for 64.304% of the variance

Table 8

Exploratory Factors Analysis

Component	Initial ei	genvalues		Extraction	sums of squar	ed loadings
	Total	% variance	of Cumulative %	Total	% variance	of Cumulative
1	4,762	23,809	23,809	4,762	23,809	23,809
2	3,128	15,641	39,449	3,128	15,641	39,449
3	1,491	7,456	46,906	1,491	7,456	46,906
4	1,266	6,328	53,234	1,266	6,328	53,234
5	1,132	5,661	58,895	1,132	5,661	58,895
6	1,082	5,409	64,304	1,082	5,409	64,304
7	,877	4,386	68,690	***************************************		
8	,837	4,184	72,875			
9	,698	3,488	76,363			
10	,667	3,336	79,699			
11	,603	3,015	82,713			
12	,511	2,555	85,269			
13	,499	2,493	87,761	5		
14	,465	2,325	90,086			
15	,394	1,970	92,056			
16	,372	1,862	93,917			
17	,343	1,714	95,631			
18	,338	1,688	97,319			
19	,286	1,430	98,750			
20	,250	1,250	100,000			

#### 4.3 Reliability

Reliability is about the consistency of a measure (Shannon 1993). Reliability is used to evaluate the quality of research. Table 9 shows that the Chronbach's alpha ranged from 0.661 to 0.822. Thus, since all coefficient alphas were above 0.60 in line with other studies (e.g., Gallais et al., 2017; Ramli, 2018; Yudiawan, 2021) all measures proved to be reliable.

Table 9 displays that the Cronbach's alpha of scales used in the study as follows: agreeableness (0.661), extraversion (0.667), open to experience (0.640), neuroticism (0.78), green product knowledge (0.709) and green purchase behavior (0.822).

Table 9
Reliability

Dimensions	Cronbach's alpha	Number of Items
Agreeableness	.661	2
Extraversion	.667	2
Open to experience	.640	3
Neuroticism	.783	3
Green product knowledge	.709	3
Green purchase behavior	.822	7

## 4.4 Correlation

Table 10 presents means, standard deviation and correlation of study constructs. Regarding agreeableness and openness to experience, since all correlations among study variables are significant the first three conditions for a mediation analysis as outlined by Baron and Kenny (1986) are met. Agreeableness is positively related to green product knowledge (r = 0.215\*\*). In addition, openness to experience is positively related to green product knowledge (r = 0.170\*). These shows that the first condition is met. The second condition is also met because green product knowledge is positively related to green purchase behavior (r = 0.552\*\*).

Additionally, agreeableness is positively related to and green purchase behavior (r = 0.177\*) and openness to experience is positively related green purchase behavior (r = 0.188). Hence the third condition is likewise met.

However, there is no significant relationship between extraversion, green product knowledge and green purchase behavior. Thus, none of the conditions are met for extraversion. Similarly, there is no significant relationship between neuroticism, green product knowledge and green purchase behavior. Thus, none of the conditions are met for neuroticism.

Note: All correlations were significant beyond 0.05 levels (two-tailed test)

Table 10

Correlation Matrix

Variables	1	2	3	4	5	6
1.AGR	1					
2.EXT	,325**	1				
3.OTE	,415**	,308**	1			
4.NEU	,366**	,197**	,342**	1		
5.GPK	,215**	,092	,170*	,130	1	
6.GPB	,177*	,003	,188**	,057	,552**	1
Mean	5,5073	4,6845	5,4045	4,7443	4,5421	4,3613
Standard deviation	1,27879	1,46002	1,02717	1,38337	1,26795	1,06957

## 4.5 Regression

A hierarchical regression analysis was executed to investigate and to test the proposed model and hypotheses. The mediation effects were tested based on the guidelines provided by Baron and Kenny (1986).

All variables had a Tolerance value higher than .10 and Variance Inflation Factor (VIF) value below 10. The results did not reveal any issues with multicollinearity.

The results concerning direct and mediation effect are demonstrated in Table 11. Agreeableness has a significant positive effect on green purchase behavior ( $\beta$ =0.177, p<0.05, t=2.567). Therefore, hypothesis H1a is supported. Openness to experience has a significant positive effect on green purchase behavior ( $\beta$ =0.188, p<0.05, t=2.733). Therefore, hypothesis H1c is supported. However, according to our results there is no significant association between extraversion and green purchase behavior ( $\beta$ =0.003, p>0.05, t=0.038) and between neuroticism and green purchase behavior ( $\beta$ =0.057, p>0.05, t=0.817). Therefore, hypotheses H1b and H1d are rejected. Accordingly, hypotheses H4b and H4d are also rejected.

The results also indicate that green product knowledge has a significant positive effect on green purchase behavior ( $\beta$ = 0.552, p< 0.000, t= 9.464). Hence H2 is supported.

According to the results agreeableness has a significant positive effect on green product knowledge ( $\beta$ =0.215, p<0.05, t=3.139). Therefore, hypothesis H3a is supported. Openness to experience has a significant positive effect on green product knowledge ( $\beta$ =0.170, p<0.05, t=2.457). Therefore, hypothesis H3c is supported. However, according to our results there is no significant association between extraversion and green product knowledge ( $\beta$ =0.092, p>0.05, t=1.313) and between neuroticism and green product knowledge ( $\beta$ =0.130, p>0.05, t=1.874). Therefore, hypotheses H3b and H3d are rejected.

As Table 11 exhibits the inclusion of green product knowledge in step 2, in the agreeableness-green purchase behavior relationship increases the explained variance by 27.8%. The positive effect of agreeableness on green purchase behavior is not significant anymore after the inclusion of green product knowledge in the model. In this case, green product knowledge fully mediates the relationship between agreeableness on green purchase behavior. This effect is significant based on Sobel test ( $sobel\ test=2.961*$ , STD=0.0327, P<0.05). Also, inclusion of green product knowledge in step 2 in the openness to experience-green purchase behavior relationship increases the explained variance by 27.9%. The positive effect of openness to experience on green purchase behavior is not significant anymore after the inclusion of green product knowledge in the model. In this case, green product knowledge fully mediates relationship between openness to experience and green purchase behavior. This effect is significant based on Sobel test ( $sobel\ test=2.37*$ , STD=0.0398, P<0.05). Therefore, hypothesis H4a and H4c are supported.

Note: F statistics shows the significance of our mediation model.

Table 11

Regression analysis

Indep	endent Variables	Standardized Regression Weights			
		Green Purcha	se behavior		
I.	Agreeableness	Step 1 0.177*	step 2 0.061		
	Green product knowledge	_	0.539*		
	F	6.590*	45.314*		
	R <sup>2</sup> at each step	0.031	0.309		
	$\Delta R^2$	_	0.278		
	Sobel test		2.961*		
II.	Openness to experience	0.188*	0.097		
	Green product knowledge	_	0.536*		
	F	7.467*	46.508*		
	R <sup>2</sup> at each step	0.035	0.314		
	$\Delta R^2$	_	0.279		
	Sobel test		2.37*		
III.	Extraversion	0.003	-0.048		
	Green product knowledge	_	0.557*		
	F the mediates the relational	0.001	45.049*		
	R <sup>2</sup> at each step	0.000	0.307		
	$\Delta R^2$	-	0.307		
	Sobel test				
VI.	Neuroticism	0.057	-0.015		
	Green product knowledge		0.544*		
	F	0.667	44.607*		
	R <sup>2</sup> at each step	0.003	0.305		

 $\Delta R^2$ 

Sobel test

0.305

Table 12 represents the accepted and rejected hypotheses.

Table 12

Results of the Proposed Hypotheses

Hypotheses	Results
H1a: there is significant relationship between agreeableness and green purchase behavior	Accepted
H1b: there is significant relationship between extraversion and green purchase behavior	Rejected
H1c: there is significant relationship between openness to experience and green purchase behavior	Accepted
H1d: there is significant relationship between neuroticism and green purchase behavior	Rejected
H2: green product knowledge have significant positive impacts on green purchase intentions.	Accepted
H3a: there is significant relationship between agreeableness and green product knowledge	Accepted
H3b: there is significant relationship between extraversion and green product knowledge.	Rejected
H3c: there is significant relationship between openness to experience and green product knowledge.	Accepted
H3d: there is significant relationship between neuroticism and green product knowledge	Rejected
H4a: green product knowledge mediates the relationship between agreeableness and green purchase behavior.	Accepted
H4b: green product knowledge mediates the relationship between extraversion and green purchase behavior.	Rejected
H4c: green product knowledge mediates the relationship between openness to experience and green purchase behavior.	Accepted
H4d: green product knowledge mediates the relationship between neuroticism and green purchase behavior.	Rejected

#### **CHAPTER 5**

#### **CONCLUSION AND IMPLICATIONS**

Using data collected from international students in northern Cyprus universities, this study examined the impact of big five personalities on student's green purchase behavior, through mediating effect of green product knowledge. The current study used personality trait theory, theory of planned behavior and former empirical findings to clarify the association between above mentioned relationship.

Our results showed that agreeableness and open to experience have significant positive relationship with green product knowledge and green purchase behavior.

This finding propose that students with nurturance, altruism, caring, support, and friendliness have all characteristics of agreeableness. This caring and altruism leads agreeable student to believe that they have a socioeconomic responsibility towards the environment and thus involve gathering more information. Students with agreeable personality will look for more knowledge and information regarding green products.

Some researches indicated a strong, positive relationship between customer personality traits and green purchase behavior; particularly agreeableness with green purchase behavior. Because this trait is an important personality determinant of compassion and understanding. Agreeableness individuals tend to exhibit greater levels of environmentalism because they are more likely to be warm and altruistic, with a high respect for others (Fatoki, 2020).

Student with relatively high openness was linked to higher hygiene practitioners, and taking good care of almost anything associated with health (Al-Omiri, 2021). Openness to experience is a person's ability to be intellectual, aesthetic, creative, unconventional in thought, and have a desire for variety, all this characters explain the positive relation with the green product knowledge.

People with high levels of open to experience are individual who are open to new experiences are more open-minded, thoughtful, imaginative, aesthetically sensitive, and interested to know. Busic (2017), Fatoki (2020) and Hirsh (2010) stated that because of desire to learn and aesthetic appreciation, this can promote ecologically responsible attitude and attitude.

However, based on what our results show, neuroticism and extravert has no sign impact on green product knowledge and green purchase behavior.

Neuroticism denotes characteristics such as worry, temperament, self-pity, selfconsciousness, and emotionality, and because this is the period of Corona Virus, people with this trait concentrate all of their thinking and worrying about the epidemic and not something else like sustainability. In response to COVID-19, Al-Omari (2021) found that higher neuroticism was correlated with more pessimistic identifying risks, more concerns, and fewer precautionary measures. Extraversion people are talkative, active, fun-loving, and passionate. Because many national governments imposed completely or partially curfews and applied strategies to improve social distancing in attempts to control the Covid-19, extraversion people were stuck in their house and country for a long time, which made them depressive and think negatively. According they did not show any consideration for green product knowledge. However, we should note that the effects of COVID-19 on personality profiles and psychological traits are still not fully understood. It has been reported that immediate psychological reactions during this pandemic have included stress, depression, and anxiety, so people, even if they were interested in making green purchases or expanding their knowledge of green products, may find it difficult to do so as a result of this pandemic. For many of us, the current situation is not tolerable because our income has been completely halted, and some companies have terminated their staff members because then individuals do not have to pay for the duration of COVID-19.

Extraversion with green purchase behavior, people who have high levels of extraversion are people-oriented and tend to have a positive environmental attitude that what Zhang (2021), Fatoki (2020) and Busic (2017) said, however, other studies, such as Hirsh (2010), have found negative research results in the relationship between extraversion and green purchase behavior. For the relationship between neuroticism and green purchase behavior, Busic (2017) stated that the relationship between neuroticism and environmental conviction ranges from moderate to consciously and subconsciously correlate. Competent marketing campaigns may be introduced if marketers can understand the individual aspects of customers for affecting information search and dissemination.

Also, our findings revealed significant relationship between green purchasing attitude and green product knowledge, which is consistent with previous research (Mustafa, 2007; Deng, 2016; Kumar, 2015). Green product knowledge is frequently viewed as a direct antecedent of green purchasing intention (Deng, 2016). Green product knowledge is usually conceived as a direct antecedent of green product purchasing attitude, and we may relate to the issue and feel that it can affect a consumer's complete decision-making process. Consumers are becoming more ecologically conscious, and this awareness is reflected in their green product purchases. Customers' real attitude is influenced by their regular attitudes, product knowledge. and contextual variables such as advertising campaigns. Enterprises must come forward to get green product authorization from certification institutions and assist customers in finding product information, resulting in increased green product knowledge, green purchasing intents. and green product market demand (Deng, 2016). Consumers are becoming increasingly involved in environmental preservation efforts. To put it another way, most customers are aware of green products, but they do not always act on their knowledge. Green product knowledge is an important decision in customers' decisions to buy green products and is frequently seen as a direct determinant of green purchasing intention (Wang H. M., 2019).

Last but not least our finding verified that the relationship between agreeableness and green purchase behavior will be mediate by green product knowledge, this is consistent with former studies such as (Bhatnagar, 2020). These results propose that students with agreeableness and open to experience personality search for information to improve their knowledge. Student's product knowledge may have a direct impact on their understanding of product acknowledgement and assessment standards, which in turn may have an impact on their green purchase behavior. It also sheds some light on the proposed mediation effect of green product knowledge in the relationship between open to experience and green purchase behavior. The current study's findings indicate that openness to experience strongly predicts green purchase behavior, which is consistent with previous studies that emphasize the fact that open people can practice green purchase behavior. Openness to experience is characterized by experimentation, the adoption of new methods, and logical thinking, all of which lend support to such attitude. Open people are generally independent thinkers, which may explain the reason they improve their green product knowledge which this knowledge will eventually affect their green purchase behavior.

#### 5.1 Practical implication

Strong economic development in many developing and developed countries has had a wide range of consequences, including resource overuse, pollution, and environmental destruction. Climate change is increasingly recognized as one of the world's most significant challenges. One of the causes of these environmental challenges is human attitude and consumption. To reduce the negative environmental effects of consumption, individuals will need to change many of their normal attitudes. As a result, this study has significant implications for marketers and brands to recognize how they might grow green products and advertising campaigns while maintaining the personality types of their target customers in mind. Before making an offering in the world of high customization, it is critical to understand the customer's personality. Customer is the most important organizational function because they play the most important role in promoting business outcomes. Specific to marketing, understanding consumer personality traits can help identify and draw conclusions about consumer attitude, including preferences, habits, and motivations. This study provides a wealth of information about various personalities and their relationships with green purchasing attitude, as well as what the relationship between different personalities and green products knowledge. One of the concerns for environmentalists is to understand the perceptions of students toward global climate change and how they react in the face of environmental sustainability.

#### 5.2 Limitation

Even though the current research offers important findings which are useful for understanding the personality of students and its impact on their green product knowledge and green purchase behavior, our findings should be interpreted in light of the study's inherent limitations. Firstly, we used self-reported measures which can rise concerns concerning common method bias (Podsakoff et al., 2003). Nevertheless, efforts were made to reduce the effect of this bias by ensuring confidentiality of responses, which is expected to reduce social desirability biases. Secondly, this study has collected data through cross sectional approach which limits the causal conclusions that can be drawn from the findings.

Thirdly, generalizability of the study findings is constraint due the use of data from students which 49, 5% were in the range of 21 and 25 years. This is an important factor constraining the generalizability of the findings and taking a more realistic snapshot of the phenomenon in the study. Lastly, another limitation on the generalizability of the findings is the fact that the study was conducted at Final International University due to financial, time and pandemic and lockdowns constraints. A study using a larger sample would present more generalizable findings regarding personality of students and its impacts on their green knowledge and green behaviors.

#### 5.3 Future studies

Due to the limitation of our study, present study urges scholars to conduct similar studies in other cultural settings and with a larger sample. A longitudinal research design can also provide confirmatory evidence for the current finding. Future research can also examine other factors contributing to students' green behaviors such as environmental awareness. Future research can also investigate other variables as a mediator in the relationship between personality and green purchase behavior such as social media activities and attitudes toward the ads, perception toward the influencer and social identity. Likewise, other potential outcomes of personality and green product knowledge can be explored such as sustainable consumption behavior and proactive environmental behavior. Furthermore, future research can include the effect of other demographic differences, gender, potential differences among additional generational groups and culture. We should keep in mind that we conducted this research following the second curfew establish by the government impose by COVID19.Previous research has looked into the connection between COVID 19 and big five personalities traits. Vaishali (2020) mention that during COVID, the price of green products has been raised.

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## APPENDIX: SURVEY QUESTIONNAIRE



You are invited to participate in a survey which examines the impact of big 5 personality types on students' green product knowledge and green purchase intention.

This research is conducted by Fadwa IBN KHALDOUN, MBA student of Final International University and supervised by Assist. Prof. Dr. Taraneh FOROUTAN.

Your survey responses will be strictly confidential and data from this research will be used only for academic purposes.

The survey's duration is approximately 7 minutes and participation is voluntary. By starting the survey, you are accepting to give consent for evaluation of your responses. If you feel any concern or discomfort, you are free to withdraw from the survey at any time. In such a case, the use of the information you provide will only be possible with your consent.

Your sincere, thoughtful answers are kindly requested.

Thank you in advance for your participation.

Fadwa IBN KHALDOUN

Do you ac	ccept to participate i	n the	e study:   Yes		□No			
Gender:	□Male		Female					
Age:	□17-20years.	<b>D</b> 2	21-25years	□Abov	ve 25			
Nationali	ty:							
Education	n level: □High school	ol	□Bachelor's de	egree	□Master's degree	□Others		
Income:	□1000-2000 °	ΓL	□2000 -3000 □	ΓL	□3000 TL or mo	re		
Please read the statements and show your level of agreement or disagreement with each of these statements.								
Strongly 1 Agree, 7.	Disagree, 2. Disagree Strongly Agree	e, 3. S	Somehow Disag	ree, 4. N	leutral, 5. Somehov	v Agree 6.		

	Strongly disagree	Disagree	Somehow disagree	Neither agree nor disagreee	Somehow agree	Agree	Strongly agree
I see myself as someone who likes to cooperate with others							
I see myself as someone who is considerate and kind to everyone							
I see myself as someone who is sometimes rude to others							
I see myself as someone who does things efficiently							
I see myself as someone who can be somewhat careless							
I see myself as someone who does a thorough job							
I see myself as someone who is talkative							
I see myself as someone who is quit							
I see myself as someone who is sociable							
I see myself as someone who is original and comes up with new ideas							
I see myself as someone who has an active imagination							
I see myself as someone who is inventive							
I see myself as someone who is relaxed and handles stress well							
I see myself as someone who is emotionally stable and not easily getting upset							
I see myself as someone who remains calm in tense situations							
	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagreee	Somewhat agree	Agree	Strongly agree
I am familiar with different kinds of green products							
When buying green products, I read the specific information on the label							
I believe in testing and identifying green products that are implemented by certification organizations							

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagreee	Somewhat agree	Agree	Strongly agree
I often buy organic products							
I often buy products that are labeled as environmentally safe I often buy products that are against animal-testing I often buy products that contain no or fewer chemical ingredients When I consider buying a product, I will look for a certified environmentally-safe or organic stamp I often buy products that support fair community trades I often buy products that use recycled/recyclable packaging.							
	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagreee	Somewhat agree	Agree	Strongly agree
I perform daily activities to care for and preserve the environment							
I purchase and use products which are environmentally friendly.							
I often pay extra money to purchase an environmentally friendly product							
	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagreee	Somewhat agree	Agree	Strongly agree
I consider myself a loyal customer at my favorite brand.							
I will continue to enjoy going at my favorite brand.							
I would give positive recommendations to others about my favorite brand.							
Overall, I will continue to repurchase drinks at my favorite brand.							
Overall, I will continue to maintain a valued membership card if provided one at my favorite brand.							
	Strongly	Disagree	Somewhat disagree	Neither agree nor	Somewhat agree	Agree	Strongly agree

I like using information collected from the social network sites to introduce new brands and products to my family and friends.							
I like helping my family and friends by using social network sites to provide them with information about various kinds of products and services  My family and friends often ask me to							
search for the social network sites to provide them with information about product, places, and sites to shop, sales, etc.							
If someone wanted to know which social network sites had the best bargains on various types of products and services, I could tell him or her My family and friends think of me as a							
good source of information from the social network sites when it comes to new products, sites to visit, sales, etc.							
				Neither			Carronalis
	Strongly disagree	Disagree	Somewhat disagree	agree nor disagreee	Somewhat agree	Agree	Strongly agree
I find interesting contents shown in social media about sustainable product		Disagree		agree nor		Agree	
social media about sustainable product It is easy to deliver my opinion about the sustainable product through social		Disagree		agree nor		Agree	
social media about sustainable product It is easy to deliver my opinion about		Disagree		agree nor		Agree	
social media about sustainable product It is easy to deliver my opinion about the sustainable product through social media Using social media to search for information about the sustainable product that I am considering buying is very trendy I would like to share the information about sustainable product with my		Disagree		agree nor		Agree	
social media about sustainable product It is easy to deliver my opinion about the sustainable product through social media Using social media to search for information about the sustainable product that I am considering buying is very trendy I would like to share the information		Disagree		agree nor	Somewhat		
social media about sustainable product It is easy to deliver my opinion about the sustainable product through social media Using social media to search for information about the sustainable product that I am considering buying is very trendy I would like to share the information about sustainable product with my	disagree		disagree	agree nor disagreee	Somewhat		agree
social media about sustainable product It is easy to deliver my opinion about the sustainable product through social media Using social media to search for information about the sustainable product that I am considering buying is very trendy I would like to share the information about sustainable product with my friends through a social media  I say positive things about the	disagree		disagree	agree nor disagreee	Somewhat		agree