The effect of personality and individual cultural orientations on consumer buying behaviour during a pandemic

By

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ABSTRACT

The COVID-19 pandemic has significantly reshaped consumer behaviour worldwide, prompting an urgent need to understand the underlying factors driving these changes. While past studies examined different factors affecting consumer actions during crises, the effects of personality and culture have been largely overlooked. Meanwhile, extant research suggests that personality and culture are crucial predictors of human attitudes and behaviour, including buying patterns. In this light, this thesis investigates the influence of personality traits and cultural orientations on consumer behaviour during the COVID-19 pandemic. It consists of two studies. The first study examines the impact of the Big Five personality traits (Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience) and the Dark Triad traits (Machiavellianism, Narcissism, and Psychopathy) on six key consumer behaviours observed during the pandemic: stockpiling, reactive health-minded buying, proactive health-minded buying, minimizing interaction with salespeople, switching to value-priced products, and increased technology purchases. The second study explores the role of Hofstede's cultural dimensions (Power Distance, Uncertainty Avoidance, Collectivism, Masculinity, and Long-Term Orientation) in shaping these six behaviours.

The sample consists of the consumers permanently residing in the Republic of Cyprus, excluding those from the "Turkish Republic of Northern Cyprus." Data were collected using a stratified random sampling method, resulting in 426 valid questionnaires completed by the consumers in shopping malls and public places. Participants' age ranged from 18 to over 65, with the majority being in the 35-44 age group. The gender split was relatively balanced in Study 1 but skewed towards females in Study 2. Most participants had a college degree or higher, with a reasonable balance between single and married individuals, and a diverse distribution of income levels.

Consumer behaviours in this study were classified as primary and secondary. Primary behaviours were mainly observed at the beginning of the pandemic and included stockpiling, reactive health-minded buying, and proactive health-minded buying. Secondary behaviours emerged at a later stage of the pandemic and included minimization of the interaction with salespeople, switching to value-priced products, and buying more technology gadgets. The key findings showed that stockpiling is predicted by Extraversion, Neuroticism, and Narcissism, as well as Power Distance,

Uncertainty Avoidance, Long-Term Orientation, and Masculinity. Reactive health-minded buying is affected by Extraversion, Agreeableness, Conscientiousness, Neuroticism, Psychopathy, Narcissism, and cultural dimensions such as Power Distance and Uncertainty Avoidance. Proactive health-minded buying is driven by the same personality traits and cultural dimensions. Further, minimization of interaction with salespeople is predicted by all the Big Five traits except Agreeableness, and is also affected by Machiavellianism and Narcissism, as well as Power Distance and Uncertainty Avoidance. Switching to value-priced products is associated with Neuroticism, Openness to Experience, and Psychopathy, and cultural dimensions such as Power Distance and Uncertainty Avoidance. The inclination to buy technology gadgets is influenced by all the examined traits except Agreeableness and Machiavellianism, and cultural dimensions such as Power Distance, Uncertainty Avoidance, and Collectivism.

These findings highlight the critical role of personality and cultural factors in shaping consumer behaviour during health crises. There are valuable frameworks for both academics and practitioners. This study provides a comprehensive understanding of how individual psychological traits, cultural contexts, and buying behaviours interact and hence contributes significantly to the literature on consumer reactions to crisis situations. From a managerial perspective, this study offers guidelines for targeted marketing strategies and public policies to manage consumer behaviour effectively during future pandemics. It gives actionable insights for businesses and policymakers to tailor their strategies to different consumer profiles which might enhance the effectiveness of marketing campaigns and public health initiatives. This research underscores the complexity of consumer behaviour in times of crisis and provides a robust foundation for future research in this field.

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DEDICATION

Dedicated to my beloved sister Maria, whose courage and resilience in the face of cancer continues to inspire me every day. Your unwavering strength and enduring spirit are reflected in the dedication of this research. Though you are no longer with us, your memory lives on in every word and discovery. This work is a tribute to your extraordinary life and the profound impact you had on all who knew you.

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CHAPTER 1: INTRODUCTION

The COVID-19 pandemic has fundamentally transformed the world, causing governments around the world to impose heavy restrictions on citizens' movements and business operations up to a total lockdown in an attempt to slow the spread of the coronavirus. Resulting in more than 775 million reported cases and almost 7 million deaths around the world as of 23rd of June 2024 (WHO, 2024). COVID-19 has certainly had a great impact on people's lives. People followed social distancing, self-isolated, worked remotely and were quarantined in their homes (Azmy, 2020), resulting in increased mental stress and inflicting psychological and behavioural changes (Witteveen, 2020; Suppawittaya, Yiemphaat and Yasri, 2020). With the constant fear of being contaminated with the virus as well as the fear of lockdowns and restricted mobility, people began becoming more aware of their health and made several changes in different domains, such as their lifestyle and eating habits (Sanchez-Sanchez et al., 2020). These changes have also been reflected in consumer behaviour, as the restrictions imposed on consumer movements as a result of fear of the coronavirus infection have forced them to make many changes to their purchasing patterns (Wright and Blackburn, 2020).

However, while past studies have explored consumer behaviour during crises such as financial downturns and natural disasters, the unique effects of consumer psychology and culture on the behavioural patterns during pandemics remain underexplored. For instance, prior research has focused on broad crisis-related behaviours but often neglected to account for the individual differences that shape responses to pandemics (Sheth, 2020; Stanciu et al., 2020). Additionally, findings from financial crises may not be directly transferable to health crises, as these differ significantly in the nature of the threats they pose and the consumer responses they elicit. This highlights a critical gap in the literature that this thesis seeks to address by examining consumer behaviour through the lens of personality traits and cultural dimensions.

As a consequence of the psychological, social and economic impact of the COVID-19, people have made alterations in how and where they spent their money (Rogers and Cosgrove, 2020). They started shopping online more and limited shopping trips to stores (Akers, 2020; Nielsen,

2020), ate out less and switched to delivery services (Azmy, 2020), tried to avoid large gatherings and operated with a renewed cautiousness about health (Nielsen, 2020). In general, consumers were concerned about the virus from both health and economic perspectives but it appeared that they responded differently to the crisis. For example, some consumers felt worried and anxious and engaged in panic-buying, while others remained indifferent to the pandemic (Wright and Blackburn, 2020). In this light, the COVID-19 pandemic is a powerful natural experiment that allows us to gain an insight into individual differences in consumer attitudes and behaviours with regard to this disaster chain (Jeronimus, 2020). This thesis specifically investigates these individual differences by focusing on the interplay between personality traits—particularly the Big Five and the Dark Triad—and Hofstede's cultural dimensions at the individual level. While the Big Five traits have been extensively studied in consumer behaviour research, the Dark Triad traits (Machiavellianism, Narcissism, and Psychopathy) remain underexplored despite their relevance to behaviours such as panic buying and opportunistic decision-making during crises (Nowak et al., 2020). By integrating both frameworks, this study provides a more comprehensive understanding of how individual traits influence consumer behaviour in a pandemic context. Furthermore, the application of Hofstede's cultural dimensions at the individual level—rather than more common country-level analysis—represents a novel approach that captures within-country variations in cultural orientations, offering more granular insights into consumer decision-making (Yoo and Donthu, 2005).

It is therefore important for companies to understand how their customers are reacting to the pandemic by identifying and analysing different factors influencing the new buying behaviours. The thesis addresses this gap by examining six distinct pandemic-specific consumer behaviours: stockpiling, reactive health-minded buying, proactive health-minded buying, minimizing salesperson interaction, switching to value-priced products, and increased technology purchases. Unlike prior studies that focus on short-term crisis behaviours, this research captures both immediate and sustained changes in consumer behaviour throughout the pandemic. Additionally, while earlier works often examine personality or cultural factors in isolation, this study uniquely integrates them to provide a more holistic perspective on consumer responses during crises.

Besides, while past studies examined different factors affecting consumer actions during crises (e.g., Sharma and Sonwalkar, 2013; Kar, 2010; Nistorescu and Puiu, 2009), the effect of

personality has been largely overlooked (e.g., Minkov and Blagoer, 2011). Meanwhile, just as previous scholars were testing alternative antecedents of consumer behaviour, the evolution of trait theory revealed that another crucial predictor of human attitudes and behaviour is personality (Hirsh and Dolderman, 2007). In fact, personality has recently become an important factor in marketing research and is consistently used to explain consumer behaviour in various settings (Leonidou et al., 2019).

Moreover, this study extends existing literature by incorporating both "bright" traits (Big Five) and "dark" traits (Dark Triad), highlighting the nuanced ways in which these traits interact with cultural orientations to shape consumer behaviour. This dual focus allows the research to address contradictions in prior studies that either overgeneralize consumer responses or fail to account for the darker aspects of personality that emerge in crises (Paulhus and Williams, 2002).

Finaly, this research contributes to the literature by providing actionable insights for policymakers and businesses. By identifying how personality and cultural traits influence consumer decisions, it offers a basis for designing targeted interventions and communication strategies that align with consumer needs during crises. Ultimately, this thesis not only fills critical gaps in pandemic-specific consumer behaviour research but also advances theoretical understanding by integrating interdisciplinary frameworks in a novel context.

Although the current pandemic affected consumer behaviour in many ways, this research focused only on six major behavioural patterns which have been observed during the current health crisis (Nielsen, 2020). The three primary consumer behaviours which were observed at the outbreak of the pandemic (i.e. during the first 6 months to a year) include **stockpiling behaviour, reactive health-minded buying (prioritizing products essential to one's own and public safety, such as face masks and sanitizers), and proactive health-minded buying (purchasing products that support overall one's health and well-being)** (Nielsen, 2020), while the other three consumer behaviours, namely **minimum interaction with sales people while shopping, switching to valued-price products/services/brands and buying more technology gadgets** were mostly observed during the course of the pandemic (i.e. after the first year of the outbreak of the pandemic). In trying to identify the effect of personality on consumer behaviour, this study utilized the well-validated Big Five taxonomy (McCrae and Costa, 1985) and more recent Dark Triad

framework (Paulhus and Williams, 2002). Besides, the effect of individual cultural characteristics on consumer behaviour has been examined using Hofstede's dimensions (Hofstede, 1980, 2001). Hofstede's framework is the most prevailing theory of cultural dimensions that accounts for the effects of a society's culture on the values of its members, and how these values relate to their behaviour (Hofstede, 1980). This study excludes Hofstede's Indulgence dimension due to its limited empirical and theoretical development, which could compromise the reliability of findings. Instead, it focuses on the well-established dimensions of Power Distance, Uncertainty Avoidance, Collectivism, Masculinity, and Long-Term Orientation to provide a robust analysis of cultural characteristics impacting consumer behaviour during the pandemic. Despite the fact that Hofstede's dimensions have been widely used at the country level, it has been observed that individuals in the same country also differ in their cultural orientations, which is related to the differences in how they assimilate the culture of the society to which they belong (Yoo and Donthu, 2005). Considering that this study's unit of analysis is the individual, culture will be assessed at the individual rather than the national level, in an attempt to capture cultural variations among people within the same country more accurately.

The effect of socio-demographics, such as age, gender, income and education, would also be explored, and these characteristics will be included in the conceptual model as control variables. Specifically, this research aims to investigate how the aforementioned consumer behaviours (consumer stockpiling, reactive health management, proactive health-minded buying, minimum interaction with sales people while shopping, switching to valued-price products/services/brands and buying more technology gadgets) during the pandemic are affected by: a) the Big Five traits (Extraversion, Agreeableness Conscientiousness, Neuroticism and Openness to Experience); b) the Dark Triad traits (Machiavellianism, Narcissism and Psychopathy); c) Hofstede's Dimensions (Power Distance, Uncertainty Avoidance, Individualism, Masculinity); and d) demographic characteristics (age, gender, income and education).

1.1 Structure of Paper

This research paper is structured as follows. **Chapter 1** provides a brief introduction to the topic, identifying the objectives and aims of the study. **Chapter 2** explores the literature review (see Sub-Chapter 2.5 for more details), whereas the Conceptual models along with the hypotheses are presented in **Chapter 3**. **Chapter 4** provides the methodology followed in this research.

Specifically, the method of data collection, the measurement scales used, the data analysis and the ethical considerations are given. **Chapter 5** provides the results of the data analysis and a thorough discussion of the findings. The remaining chapters, **Chapter 6, 7 and 8,** present conclusions, the contribution of this manuscript to the consumer behaviour literature, implications and limitations along with the directions for future research.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The purpose of this Chapter is to provide a summary of the existing research and debates in regards to our topic; that is the effect of personality and individual cultural orientations on consumer buying behaviour during a pandemic. The researcher has critically reviewed the extant literature on the effects of pandemics on business and consumer behaviour, with a special focus on the most recent pandemics (i.e., SARS-CoV-1, MERS and SARS-CoV-2.) and identified relevant research streams. Besides, this Chapter explores the existing literature in relation to personality traits, cultural characteristics and consumer behaviour in general, in order to discover different buyer behaviour patterns. It also introduces the theories upon which our study is being anchored and concludes with the gaps in the extant studies.

2.2 Definitions

Stockpiling Behaviour: involves the purchase and storage of goods for future use in anticipation of expected shortages

Reactive health-minded buying behaviour: the tendency to prioritize buying products that are considered as essential to one's own and public safety during a pandemic, such as face masks, and sanitizers.

Proactive health-minded buying behaviour: the tendency to purchase products that support one's health and well-being such as vegetables, fruits and vitamins.

Personality Traits: are defined as consistent patterns of behaviour, feelings and actions that are stable over time, differ across individuals and influence behaviour (McCrae & Costa, 1990).

Cultural Characteristics: accounts for the effects of a society's culture on the values of its members, and how these values relate to their behaviour (Hofstede, 1980).

2.3   Brief Overview of Pandemics

"Pandemic" describes the widespread occurrence of disease in excess of what might normally be expected in a geographical region (Porta, 2008). A disease is not a pandemic merely because it is widespread or kills many people, it also needs to be infectious (Dumar, 2009). Some of the most brutal pandemics in human history are the Bubonic Plague in Ancient Greece (430 BC) and the Roman Empire (A.D.165-180,250-271,541-542), Black Death in Asia and Europe (1346-1353) and cocoliztli epidemic in Central America (1545-1548), while in more recent years among the deadliest pandemics are the Spanish Flu (1918-1920), Asian flu (1957-1958), AIDS pandemic and epidemic (1981-present), H1N1 Swine Flu pandemic (2009-2010) and Ebola epidemic (2004-2006) (Stanciu et al., 2020). There have been many studies exploring the impact of pandemics throughout the years which have shown different degrees of impact on the global economy as the scale of the pandemic increases. However, for the purposes of this research, the literature review will focus on the most recent pandemics of the 21st century, namely the SARS-CoV-1, MERS and SARS-CoV-2.

The SARS-CoV-1 was first identified at the end of February 2003 during an outbreak that emerged in China and spread to four other countries (WHO, 2022). SARS was the first severe and readily transmissible new disease to emerge in the 21st century and showed a clear capacity of the virus to spread along the routes of international air travel. The SARS-Cov pandemic came to an end in July 2003, once appropriate infection control practices were implemented. The SARS-Cov-1 pandemic had shown how quickly the virus can impact the global market. MERS-CoV was first reported in 2012 in several countries in the Middle East, Africa and South Asia. In total, 27 countries have registered 2500 cases leading to over 900 known deaths due to the infection and related complications, as of 2021 (ECDC, 2021). It is believed that MERS-CoV originated from bats, however, humans are typically infected from camels, either during direct contact or indirectly (WHO, 2020).

The first official data on the infections with a new strain of coronavirus, SARS-CoV-2, was documented in China, and later the virus spread to Europe, EuroAsia and America (Mayo Clinics, 2020; Hui et al., 2020). The coronavirus SARS-CoV-2, mostly referred to as the COVID-19 pandemic, is a global health crisis that has already had a shocking impact on the world economy,

and, despite the fact that the world had experienced recent coronavirus outbreaks (SARS-CoV and MERS), the COVID-19 pandemic may be the most infectious and deadliest among the coronaviruses (Shang, Li and Zhang, 2021). The current pandemic (COVID-19) has led to severe global socioeconomic disruption, the cancelation or postponement of different events (e.g., cultural, political, religious and sports) and widespread shortages of supplies exacerbated by panic buying. Even though the previous pandemics may provide some indication of the economic effects of unprecedented infectious diseases, evidence suggests that the current pandemic is very different to those previously experienced, and hence it warrants academic research in a greater depth.

2.4   Organization of Literature Review Chapter

The remaining literature review chapter is organized into five sub-sections. The first sub-section (Section 2.5) focuses on the effects of a pandemic on businesses, with a special interest on the more recent pandemics that humanity has experienced, namely SARS-CoV-1, MERS and SARS-CoV-2. Sub-Section 2.6, "Pandemics and Consumer Behaviour", explores the literature on the effects of different pandemics on consumers' behaviours narrowing it down to the most current pandemic, COVID-19. Based on this review, three research streams have been identified: (i) shorter-term consumer adapting behaviours caused by the COVID-19 pandemic (e.g., hoarding), (ii) longer-term consumer adapting behaviours caused by the COVID-19 pandemic (e.g., potentially transformative changes in consumption and social identity), and (iii) factors affecting consumer behaviour during a pandemic (e.g., personality), which are analysed in detail in sub-sections 2.6.1, 2.6.2 and 2.6.3 respectively. Sub-section 2.7, "Personality Traits and Consumer Behaviour", broadly explores this topic, while sub-sections 2.7.1 and 2.7.2 attempt to delve deeper into exploring the literature on the Big Five Traits, the Dark Triad and consumer behaviour, in order to discover different behaviour patterns of consumers in different contexts. The next sub-section, "Cultural Characteristics and Consumer Behaviour" aims to explain how culture influences human behaviour in general and illustrates the impact it may have on consumer behaviour. The next section of the literature review introduces some influential theories upon which our study is anchored. Specifically, Personality theories, Hofstede's Theory (Hofstede, 1980), Commodity theory (Brock, 1968), Prospect theory (Kahneman and Tversky, 1979), Psychological Reactance Theory, "Risks-as-feelings" theoretical perspective and the Diffusion of

Innovation Theory (Rogers, 1962) are discussed. Finally, the gaps in the extant literature are provided.

2.5   Pandemics and Businesses

While the current study focuses on consumer behaviour during a crisis, it is also important to explore in detail a pandemic's devastating effects on businesses, since the reactions of consumers and businesses to a pandemic are strongly interrelated. Indeed, the contemporary world has been challenged by unparalleled disease outbreaks (Lin et al. 2020; Chew et al. 2004; Nigmatulina and Larson 2009), with significant adverse impact on the efficiency of operations. COVID-19 has proven to be an unprecedented challenge for companies. Due to the speed with which COVID-19 spread around the world, many countries effectively shut down over the spring of 2020 in order to contain the outbreak (Jeronimus, 2020). The measures imposed by the governments around the world had dramatic consequences.   It has forced many businesses to close, leading to a large disruption of commerce in most industry sectors. Retailers and brands faced many short-term challenges, such as those related to the supply chain, the workforce, cash flow, consumer demand, sales, marketing and health and safety. There have been numerous studies trying to address the impact of pandemics on businesses. Such disruptive impacts frequently yield the ripple effects (Ivanov et al. 2018; Pavlov et al. 2019b; Ivanov 2020a). The spread of airborne infectious diseases such as SARS and MERS does not simply reduce people's outdoor activities (Kim, 2015; Wang, 2014;Sung, 2016; Kim et al., 2016) but affects a nation's economy at large.

Swift (2009) suggested that during a pandemic, due to illness and fear of infection, the productivity of employees falls sharply reducing aggregate supply. Lockdowns imposed by governments lead to lower retail sales and drastically reduce leisure activities such as visits to restaurants, theatres and sporting events. Hence, the intervention from the government significantly affects supply chains, which subsequently has an impact on international trade. The effects of pandemics on businesses are sectorally specific, with hospitality and personal services being more adversely affected, whereas medical-equipment and pharmaceutical sectors are the ones which are likely to benefit from the outbreak. Keogh-Brown and Smith (2008) attempted to analyze the macro-economic impact of the 2003 SARS-CoV pandemic with units of assessment being the country and economic sector. Their findings suggest that the largest economic impact is related to overall

GDP and investment, with the sectors most affected by the outbreak being restaurants, hotels and tourism. The highest record of losses has been recorded in Hong Kong and China, while Canada and Singapore recorded minor effects. Nonetheless, Keogh-Brown and Simth (2008) study also showed that these losses did not have long-term effects as they were mostly succeeded by equivalent gains in the following month, quarter or year. Fernandes and Tang (2020) examined transaction-level trade data for Chinese companies and found that companies in regions with local transmission of SARS-CoV-1 experienced lower import and export growth.

Further, Tanaka (2021) reviewed the literature on the economic impacts of SARS, MERS and COVID-19 on the Asian economies. The review indicated that the economic impacts of MERS on Asia were limited to South Korea with the tourism industry being the sector that absorbed the biggest shock. In a somewhat similar vein, Joo et al. (2019) attempted to determine the economic impact of the MERS outbreak on the tourism and travel-related service sectors in Korea and concluded that the outbreak was correlated with a dramatic reduction of 2.1 million visitors corresponding with US $2.6 billion in tourism loss, while estimated loses in the accommodation, food and beverage service, and transportation sectors were US $542 million, US $359 million, and US $106 million, respectively.

The COVID-19 pandemic brought many companies to the stage of survival. Their survival largely depended on the adoption of management strategies that could enable them to overcome the sharp drop in orders and at the same time the rise in the price of raw materials (Wen, Wei and Wang, 2020). Besides, as the pandemic was causing major changes in consumption habits mainly due to the fear of contamination and social distancing regulations, it has led to a pressing need for a global transformation to tackle this new environment (Sheth, 2020). The studies of Sjodin et al. (2020) and Gordon et al. (2020) state that, in order to accommodate these changing consumer demands, companies required responsive systems to facilitate the rapid adaptation of supply chains. Pantano et al. (2020) attempted to synthesize the challenges that retailers were facing during the COVID-19 pandemic so as to provide guidelines that will help companies deal with the challenges caused by the pandemic. They concluded that retailers should focus on agile retailing, recognize their new role as retailers in society and put their consumers at the core by improving customer relationship management systems (Pantano et al., 2020). Further, Fernandes (2020) attempted to examine the

economic impact of the COVID-19 crisis across industries and countries and found that the spread of the pandemic has seen economies struck by a simultaneous demand and supply shocks. The pandemic caused an especially serious shortage in supplies of goods manufactured in China. Due to the growing nationalism and protectionism for industrial sovereignty, many countries have imposed export ban, resulting in shortage of medical supplies, such as personal protective equipment, pharmaceutical drugs and other medical products (Shang, Li and Zhang, 2021). The studies of Govindan et al. (2020) and Ivanov (2020a) also presented the devastating impact of the COVID-19 on global supply chains.

Notably, the impact of COVID-19 on businesses has gained the attention of scholars (e.g., Choi 2020; Govindan et al. 2020; Ivanov 2020a; Lin et al. 2020; Sarkis et al. 2020) and industry experts (Business Insider 2020; Deloitte 2020; Forbes 2020a, b; Fortune 2020; Harvard Business Review 2020; Institute for Supply Chain Management—ISM 2020). A report by Fortune (2020) indicated that 94% of the companies listed in the Fortune 1000 list faced supply chain disruptions due to the health crisis. Chetty et al. (2020) used transaction data for small and medium-sized businesses in the USA and revealed that the decline in consumption associated with the spread of COVID-19 had a significant negative impact on the continuation of small and medium-sized businesses and the employment of their workers. Similarly, Miyakawa, Oikawa and Ueda (2020) evaluated firms exits in Japan during COVID-19 and found that the pandemic increased firms exits by around 20% compared to the previous year.

Due to increasing globalization, urbanization and international travel, experts strongly believe that pandemics will inevitably re-occur (Saunders-Hatings and Krewski, 2016; Madhav et al., 2017), however, their timing and severity remains unpredictable (Taubenberger et al., 2007). Still, despite the frequency, prevalence and serious consequences of pandemics, their effects on businesses have been largely overlooked in the literature.

2.6 Pandemics and Consumer Behaviour

Consumer behaviour research refers to the study of individuals or groups who are in the process of searching to purchase, use, evaluate and dispose products and services to satisfy their needs (Rajagobal, 2020). It also includes studying the consumer's emotional, mental and behavioural

responses that precede or follow these processes (Kardes, Cline and Cronley, 2011). Changes in consumer behaviour can occur for different reasons, including personal, economic, psychological, contextual, and social factors. However, in dramatic contexts and circumstances, such as a disease outbreak or a natural disaster, some factors have a more significant impact on consumer behaviour than others. Indeed, situations that potentially disrupt social lives, or threaten individuals' health, have been proven to lead to strong behavioural changes (Leach, 1994).

The effect of the Covid-19 pandemic differs among socioeconomic strata: age, gender, culture, and personality. Nonetheless, all humans were affected: only via secondary stress, as observed after Ebola, or the mental health and financial consequences of prolonged social isolation, as observed after pandemics such as SARS and MERS. People and societies experienced different intensities of threat and emotions, such as anxiety and frustration, and behaved differently. Policies and citizen adherence influenced infection risk, mortality, and resilience during social isolation and prolonged social mitigation measures (Jeronimus, 2020).

COVID-19 has proven to be a highly infectious, lethal and fast-moving disease, making it a severe threat with a broad scope. This virus, as it has moved across borders, caused much disruption, destroying consumers' routines (Campbell et al., 2020). Consumers' lives consist of countless norms, beliefs and practices that comprise consumers' experience of the world, and these are conditioned around consumers' prior experiences. Norms regarding others' choices and behaviours, according to Goldstein, Cialdini and Griskevicius (2008), not only guide or influence how consumers behave, but they also guide how they expect others around them to behave; norms are collectively defined, socially enforced and vary widely depending on the collective. Also, consumers have numerous beliefs about what is real, true and appropriate, and this shapes their expectations and responses. For example, many consumers expect their local stores to be stocked with their favourite brands and products, and they expect to send their children to school during the academic year. Evaluating the effect of disruption on consumer routines is important for understanding consumers' experiences.

When all what has been taken for granted for years, comes to get questioned, due to a pandemic like COVID19, this puts people on quicksand. During pandemics, a series of tensions arise

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between the State and citizens that increase social discrimination and call into question the ability of the State to tackle the situation at hand (Price-Smith, 2009). In this social, economic and political instability, the consumer is subjected to a systematic stress that is felt as a "loss of control over his or her environment" (Botti and McGill, 2011). According to Durante and Laran (2016), the stress determines whether the individual should save money in order to accumulate resources that would offer him comfort, or whether to manifest an impulsive behaviour in purchasing products that he considers absolutely necessary.

The remarkable economic and social implications of the COVID-19 pandemic and its unique features have inspired numerous studies in different disciplines, including consumer behaviour. The latter focused on pandemic induced behaviours such as consumption shifts (Kansiime et al., 2021; Pakravan-Charvadeh et al., 2021), impulsive buying (Naeem, 2021), stockpiling and panic buying (Billore and Anisimova, 2021; Keane and Neal, 2021; Naeem, 2021; Prentice, Quach and Thaichon, 2021), product and brand substitution (Knowles et al., 2020), and shifts in channel preferences (Mehrolia, Alagarsamy and Solaikutty, 2021; Pantano et al., 2020). Further research attributed these COVID-19 induced behaviours to consumers' socio-economic status, a different way of life and influence on predisposed beliefs (Milaković, 2021), changes in the consumers' buying environment such as stockouts, supply and demand disruptions (Prentice et al., 2021), and external stimuli such as information and social media exposure (Laato, Islam, Farooq and Dhir, 2020; Naeem, 2021). It was also reported that a significant number of people have lost their jobs (Montenovo et al., 2020). COVID-19 has affected consumers' disposable income or affordability (Mahmud and Riley, 2021), lifestyle (Sánchez-Sánchez et al., 2020), and awareness (Li et al., 2021)—in short, their way of life—making them change their pre-COVID spending habits.

Thus, based on the literature review, three research streams have been identified: (i) shorter-term consumer adapting behaviours caused by the COVID-19 pandemic, (ii) longer-term consumer adapting behaviours caused by the COVID-19 pandemic, and (iii) factors affecting consumer behaviour during a pandemic.

2.6.1 Shorter-term Consumer Adapting Behaviours Caused by the COVID-19 Pandemic.
Shorter-term consumer adapting behaviours refer to those behaviours that were exhibited by consumers as soon as the COVID-19 pandemic broke out and during the first few months of this

major health crisis. Disruptions in peoples' daily experiences, such as in the case of COVID-19, present a rare moment. Consumers tend to stick to their habits stubbornly, resulting in very slow adoption of beneficial innovations that require behaviour change. At the outbreak of COVID-19, consumers all around the world were forced to change their behaviours in an unprecedented way. Several studies have attempted to identify how consumers behaved during the early days of the pandemic. For instance, Stanciu et. al (2020) examined the behaviour of Romanian consumers and found that the pandemic and strict prevention measures imposed by the government significantly reduced consumers' social activities: the consumers tended to provide for only basic necessities, leave their homes mainly to procure food or financial services, and increasingly use online shopping. Sheth (2020) analysed immediate effects of the COVID-19 pandemic on such consumer behaviours as hoarding, improvisation and embracing technology, and showed that consumers quickly adopted new behaviours (e.g., online shopping) out of necessity. Interestingly, the author predicts that these behaviours are likely to persist in the future as new, modified habits. Redman (2020) suggests that the severity of COVID-19 has given rise to the stockpiling behaviour among certain consumers, who restrict the number of visits to the store and purchase products in large quantities. Besides, Chronopoulos, Lukas and Wilson (2020) examined British consumers' spending responses to the COVID-19 pandemic at different periods; incubation (1st -17th January), outbreak (18th January – 21st February), fever (22nd February - 22nd March), lockdown (23rd March-10th May) and "stay alert" (11th May-18th June) period; and found that although spending declined from the incubation up to and during the lockdown, a week after the "stay alert" period, a strong increase in grocery spending was recorded, along with panic-buying and stockpiling behaviour. In a similar vein, McKinsey (2020) carried out a survey on Indian consumer sentiments during the coronavirus crisis and found that 76% of consumers cut back on their purchases and started saving up their money. Consumers' priorities have shifted as they deprioritise buying nice-to-have items and curtailing consumption with the exception for groceries and at-home entertainment (McKinsey, 2020). Abdin and Kumar (2020) also explored how the COVID-19 pandemic impacted the consumption pattern of consumers in India among rural and urban consumers. The study revealed that the pandemic had a profound impact on consumers' habits who had shifted into spending largely on essentials only. The study, as in the case of Sheth (2020), further revealed that these changes in consumers' consumption habits would continue even after the pandemic as a new habit.

As the pandemic was evolving, more researchers attempted to identify other effects of COVID-19 on initial consumer reactions. For instance, a study by Craven et al. (2020) highlights the impact of the pandemic on consumer behaviour conveying that there is a significant surge in e-commerce, change in brand preferences and decline in discretionary spending. Similarly, Jo, Shin and Kim (2021) examined changes in credit and debit card transactions by industry before and after the outbreak of COVID-19 and found that the e-commerce sector has shown gradual growth, while the sectors of food, beverage and leisure have experienced a sharp decrease. Further, Puttaiah, Raverkar and Avramakis (2020) found that there has been a drastic increase in downloads for business and videoconferencing apps, 58% of US consumers' stated that they were spending more money online and 42% indicated they have been purchasing more through mobile devices since the beginning of COVID-19.

Kirk and Rifkin (2020) investigated many unusual consumer patterns that came to dominate the early days of COVID-19 pandemic during each of the three phases; reacting, coping and longer-term adapting. These unusual consumer patterns appeared to be hoarding and rejecting during the reacting phase, maintaining social connectedness, do-it-yourself behaviours and changing views of brands during the coping phase and potentially transformative changes in consumption and individual and social identity during the longer-term adapting phase (Kirk and Rifkin, 2020). Bounie, Camara and Galbraith (2020) examined the changes in consumer behaviour during the first months of the COVID-19 pandemic in France. Specifically, they investigated the changes in consumer mobility, anticipatory behaviour in response to announced restrictions, and the contrasts between the responses of online and traditional point-of-sale consumption expenditures to the shock. The study found that many consumers switched over to online shopping options that mitigated the overall impact of the shock. Surico et al. (2020) analysed the consumption pattern based on transaction data in the UK and found that consumers stockpiled essential goods such as groceries in the initial phases of lockdown. The study further revealed that large expenditure changes were seen in services; retail expenses such as clothing, shoes, apparel, toys and book purchases experienced a fall after the first week of March 2020.

To sum up, based on the extant studies, the most common shorter-term consumer adapting behaviours included stockpiling essential goods, cutting back on discretionary spending by

focusing on essential purchases, increased online shopping and shifting to home centric lifestyles (i.e., investing in DIY, home office equipment and home entertainment).

2.6.2   Longer-Term Consumer Adapting Behaviours Caused by the COVID-19 Pandemic.

In response to the multiple waves of this pandemic, consumers were settling into new patterns of behaviour for considerable lengths of time. Indeed, the existing research suggests that COVID-19 has caused consumers exhibiting behaviours which will be lasting much more than just during the COVID-19 period (Puttaiah, Raverkar and Avramakis, 2020). Many such changes may have been forced on consumers due to the pandemic catching people off guard; however, some pandemic-induced behavioural changes are expected to have an uplift beyond COVID-19 and lockdowns and are more likely to "stick" for years to come (Deloitte, 2020). Thus, we can classify these longer-term consumer adapting behaviours in a different stream of studies. As consumers were attempting to manage the pandemic, their homes have quickly transitioned into classrooms, gyms, broadcast studios and doctors' offices (Kirk and Rifkin, 2020). Human interaction and socializing was done through a laptop screen, while new skills began to emerge through do-it-yourself activities. Interestingly enough, even technologically challenged populations have learned new skills (Kirk and Rifkin, 2020). Thus, one can argue that a crucial longer-term outcome of the COVID-19 pandemic is the massive rise in the learning and use of technologies (Baicu et al., 2020; Sheth, 2020).

The lockdown, social distancing and the fear of contamination has led many consumers to rapidly adopt purchasing behaviours mediated by technology such as online shopping. This created an unprecedented "online awareness" among populations (Zwanka and Buff, 2020). Indeed, Gu et. al. (2021) claim that consumer technological awareness has dramatically increased, and consumers have become more experienced and confident in the use of online channels for their purchases. For instance, Ali (2020) examined the impact of COVID-19 on consumer buying behaviour in Iraq and found that the pandemic had encouraged Iraqi consumers to embrace technology as hinted by the surge in online purchases. Similarly, a survey conducted by Deloitte (2020) found that 30-40% of consumers who used online channels during the lockdown claimed that they would continue to utilize these channels in the future. This survey further supports the fact that the pandemic has a long-lasting impact on the usage of online channels for goods and services. In addition, Crispell (2020) also stresses technology-based changes in consumer habits stating that their dependencies

on online platforms will increase. It is a fact that this accelerated shift to online shopping, as well as to other forms of delivery, were initially forced by store closures; brick-and-mortar stores and restaurants innovated during lockdowns by offering their customers alternative service such as take-out, drive-through and delivery services (Crispell, 2021). Digital commerce has also seen a boost as new consumers migrated online for grocery shopping. These services have been embraced by consumers and are more likely to remain popular in the long run, even post-outbreak. Demand for shopping online will accelerate, as per Donthu and Gustafsson (2020), and is most likely to also result in more focused business investment in online shopping platforms, including the development of immersive Virtual Reality (VR) technologies for Virtual Commerce (V-Commerce), in place of brick-and-mortar stores (Khatri et. al., 2022). Alcaniz, Para and Giglioli (2019) suggest that, in future, *two purchase channels will coexist: a channel with virtual stores, in which it will be possible to interact virtually with virtual sellers and products, and another channel with physical flagship stores, in which the consumer can have a real interaction with real sellers and products."*

In addition to the shift online, there are other noticeable changes in consumers' purchasing behaviour. Surveys have found consumers in several regions worldwide to shift to value-based purchasing, which prioritizes obtaining maximum value for the consumer for the money spent (Puttaiah, Raverkar and Avramakis, 2020; Accenture, 2020). Consumers have focused on essentials and reduced discretionally spending (McKinsey, 2020). They have become more mindful of what they are buying. They are striving to limit food waste, shop more cost consciously and buy more sustainable options (Accenture, 2020). A further observation is that consumers exhibited a higher love for local; a desire to shop local reflected in both products bought (for instance, locally sourced, artisanal) and the way in which consumers shop (for instance, supporting community stores) (Accenture, 2020). This tendency is foreseen to be among the behaviours that will endure beyond this pandemic crisis.

Further, Olson (2020) states that, a major longer-term swift will be observed in the field of telemedicine. Despite facing significant resistance from regulators and consumers before the COVID-19 outbreak (Olson, 2020), this domain appears to have cemented its presence in healthcare. Consumers relied on telemedicine during the outbreak of the virus due to the restriction

measures as well as fear of contamination (Thompson, 2020); and this tendency is likely to persist in the future.

Another long-term consumer adapting behaviour in response to COVID-19 might be a change in mobility patterns (Puttaiah, Raverkar and Avramakis, 2020). Changing mobility patterns are reflected in reduced use of public transport, predominantly due to safety and hygiene considerations. Health considerations have become more important than speed and cost of reaching a destination, and this suggests that there will be a greater use of private vehicles and more careful use of shared mobility options (McKinsey, 2020).

To sum up, it seems that COVID-19 has triggered long-term consumer adapting behaviours that are expected to persist beyond the pandemic period. These include the rise in technological adaptation, increased online shopping, and a shift to value-based purchasing and preference to local products.

2.6.3   Factors Affecting Consumer Behaviour During a Pandemic

A substantial number of studies have attempted to examine the factors explaining the differences in consumer behaviours during the spread of the pandemic. For instance, Adolfo Di Crosta et al. (2021) examined consumer behaviour during the COVID-19 crisis and its psychological antecedents. In particular, they explored the foundations of consumer behaviour by examining mood states and emotional responses to an emergency, perceived economic stability, self-justification of purchases, and personality traits. Their study took place during the first peak period of the contagion in Italy and revealed that: (i) consumer behaviour in terms of buying non-necessities was predicted by depression and (ii) consumer behaviour in terms of buying necessities and non-necessities was predicted by personality traits, perceived economic stability and self-justifications for purchasing. In a similar vein, Svajdova (2021) sought to identify changes in consumer behaviour because of political, legislative and economic factors caused by the spread of COVID-19 in the Czech Republic. The study concludes that government-imposed restrictions led to a change in consumer behaviour, with an increase in online sales of food, drugstore goods, clothing, footwear, and electronics. Specifically, despite the rise in online purchases, the demand for clothing, footwear, and electronics decreased overall during the period when physical stores were closed due to government measures.

Further, several studies have attempted to examine the factors that cause panic buying during the COVID-19 crisis. For instance, the study of Yuen et al. (2020) established four key factors causing panic buying: perception, fear of the unknown, coping behaviour and social psychology. The authors concluded that when consumers perceive the probability and consequences of contracting a disease to be high, they are motivated to undertake self-protective activities, including panic buying, to minimise perceived risk. Similarly, Omar et al. (2021) examined how psychological factors such as uncertainty, perceptions of severity, perceptions of scarcity and anxiety affected the panic purchasing behaviour of Malaysian consumers during the COVID-19 pandemic. Their study suggested that consumer perceptions of uncertainty in regards to the COVID-19 pandemic, their perceptions of severity of the pandemic outbreak, along with their fear of scarcity that the stores would run out of food supplies, positively influences their anxiety levels and, hence, stimulates panic buying behaviour. Therefore, their study also confirms that anxiety is an important antecedent of panic purchasing. This has also been supported by other studies which state that anxiety, fear, perceived scarcity and uncertainty are among the most important antecedents of panic purchasing (e.g., Sim et al., 2020; Dickings and Schalz, 2020).

Yue-Qian et al. (2021) focused on exploring the relationship between the severity of public health emergencies (e.g. COVID-19) and individual irrational consumer behaviours and found a positive relationship between them. The study suggested that people who strongly perceive scarcity and are prone to negative attitudes are more likely to demonstrate irrational consumer behaviours such as hoarding once the public considers a public health emergency as severe.

Demographic factors have also been found to affect consumer behaviour during COVID-19. For instance, Hassen et. al. (2022) examined gender impacts of the COVID-19 pandemic on food behaviours in North Africa and found that compared to men, women: (i) tend to consume more food out of fear, anxiety and boredom; (ii) prefer to eat more unhealthy food most probably due to the negative feelings related to the pandemic; (iii) tend to stockpile a greater amount of food, possibly to minimize visits to supermarkets in fear of contamination; and (iv) tend to modify their shopping habits more often. These results are somewhat supported by other studies such as the one by Li, Futalan and Mahmot (2020). Their study revealed that female consumers during the COVID-19 pandemic have made huge changes to their buying behaviour. The same study also revealed that more educated individuals experienced greater changes in their buying behaviour as

a result of the pandemic (Li et. al., 2020). Besides, AbdulHussein, Cozzarin and Dimitrov (2022) examined the effect of demographics on changes in consumer spending behaviours during the pandemic on different product categories (e.g., technology, internet services, shopping and travelling) and how this change has been affected by demographic factors. Their findings indicated that: (i) younger consumers, compared to their counterparts, were more likely to have increased online spending on product categories related to internet connectivity and streaming services, (ii) female consumers exhibited increased spending in online learning services and home exercise equipment, (iii) consumers living in urban areas exhibited a higher probability of online spending on products such as computers, smartphone devices, internet connectivity as well as food delivery services; and (iv) more educated consumers exhibited a higher probability of increased online spending on products related to online learning and streaming services (AbdulHussein et al., 2022).

Overall, despite the aforementioned studies, research on consumer behaviour during pandemics is scarce and fragmented and warrants further attention of scholars. This is especially true in the case of personality and cultural factors, a gap that this research aims to fulfil.

2.7   Personality Traits and Consumer Behaviour

One of the gaps in existing research on consumer behaviour is a small number of studies addressing the effect of personality on human responses to a pandemic (e.g. Micalizzi, Zambrotta and Bernstein, 2020; Zajenkowski et al., 2020; Nowak et al., 2020; Wang et al., 2020). Personality traits reflect people's characteristic patterns of feelings, thoughts and behaviours. Individuals are born with innate differences in temperament (Panksepp and Biven 2012; Rothbart, 2011) that elaborate into adaptive personality systems over adolescence, each of which is attuned to the sociocultural world in which they live and grow (Jeronimus, 2019; Larsen, Buss and Wissmeyer, 2017; McAdams, 2015; John, Naumann and Soto, 2008). Personality differences of individuals can be summarized in five broad trait factors known as the five-factor model (FFM) or the Big Five. According to this model, there are five basic personality traits: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to new experiences, which were developed through a combination of lexical and statistical approaches by Costa and McCrae (1989). This personality complex captures individual characteristic patterns of affect, cognitions, reactions, needs, motivations, and values that are typically consistent across time and context and useful to

distinguish one individual from another (Baumert et al., 2017; Damien et al., 2019; Larsen et al., 2017).

It could be argued that an individual's personality, rather than any other factor, can be a good predictor of human behaviour, since it tends to be stable throughout an individual's course of life (Costa and McCrae, 1985). There is a belief that discrepancy in human behaviour can be sufficiently recapitulated in terms of the Big Five personality traits (Costa and McCrae, 1992; Revelle and Loftus, 1992). Indeed, many studies have used the Big Five model in an attempt to explain specific behaviours. The model has been used to explain academic behaviour (Paunonen and Ashton, 2001; Farsides and Woodfield, 2003), environmental behaviour (Hirsh and Dolderdman, 2007; Hirsh, 2010), and over the past three decades it has been used to explain different types of consumer behaviour (Howard, 1994; Gohary and Hanzaee, 2014; Tsao and Chang, 2010; Fujiwara and Wagasawa, 2015; Turkyilmaz and Erdam, 2015; Sofi and Najar, 2018; Lissitsa and Kol, 2021).

The FFM, despite being widely accepted, excessively focuses on the "bright" aspects of personality and lacks consideration of the "impolite" aspects of personality (Block, 2010). To make up for the limitations of traditional personality research (Paulhaus and Delroy, 2002; Stead et al., 2012), Paulhus and Williams (2002) developed the Dark Triad traits (Narcissism, Machiavellianism, and Psychopathy) which are linked by a core of disagreeableness, low levels of empathy, and an opportunistic life strategy (Figueredo et al., 2006; Jonason and Tost, 2010; Jonason et al., 2011). These three socially aversive personally traits complement the Big Five traits and are considered to be predictive of cold-hearted, self-serving, and destructive attitudes and behaviours (Harrison, Summers and Menneck, 2018). The Dark Triad of personality has attracted enormous research interest in the past two decades. Considering the dark core of the Dark Triad, the field has focused on predicting a wide range of aversive psychosocial outcomes, including aggression and violence (Pailing et al., 2014; Dinic and Wertag, 2018; Knight et al., 2018; Paulhus et al., 2018); low affective empathy (Wai and Tiliopoulos, 2012; Jonason and Kroll, 2014; Pajevic et al., 2018), strong motives for self-enhancement, achievement, power, money and hedonism, (Jonason et al., 2008; Lee et al., 2013; Kajonius et al., 2015; Jonason and Ferrell, 2016; Balakrishna et al., 2017), counterproductive and coercive behaviours in the workplace (O'Boyle

et al., 2012; Spain et al., 2013; Jonason et al., 2014, 2018; Spurk et al., 2015); a heartless "love style" characterized by high levels of infidelity, active prowling, game playing, practical utility, avoidant attachment style, and a preference for casual relationships (Jonason and Kavanagh, 2010; Jonason and Buss, 2012; Jonason et al., 2012a; Koladich and Atkinson, 2016; Unrau and Morry, 2017; Alavi et al., 2018); and immature defence mechanisms (Richardson and Boag, 2016). Researchers have only recently been starting to use the Dark Triad in explaining consumer's behaviour, such as consumer's online shopping behaviour (Shivani and Godwin, 2018) and consumer's unethical behaviour (Egan et al, 2015).

Importantly, the Dark Triad personality traits seem to be relevant in predicting consumer behavioural outcomes during the COVID-19 pandemic, since the crisis might provoke some consumers to show 'dark' characteristics of their personality (e. g., engaging in stockpiling) (Jeronimus, 2020). Recently, Nowak et al. (2020) examined the relationships between the Dark Triad and behaviours related to the COVID-19 pandemic and found that individuals characterized by the Dark Triad traits engage less in preventive behaviours and more in hoarding behaviours. Thus, given the negative association between dark personality traits and both protective health behaviours and empathy, individuals who are high on these traits may underestimate the risks associated with COVID-19 and be less concerned about how others are affected by the pandemic (Harding, Smith and Jordan, 2021).

2.7.1 Big Five Traits and Consumer Behaviour

As already mentioned, many studies have used the Big Five model to explain different behaviours (e.g., academic behaviour or environmental behaviour), but the model has also been used in an attempt to discover the behaviour patterns of consumers. For instance, the Big Five have been used in the past to examine its relationship with impulsive and compulsive buying. One such study is by Shahjehan, Qureshi, Zeb and Saifullah (2012) which found that impulsive and compulsive buying behaviours are affected by all Big Five traits, and both behaviours are strongly and positively correlated with the trait of Neuroticism, implying that individuals that experience emotional instability, anxiety, moodiness, irritability and sadness are more likely to display impulsive buying behaviours. The relationship between Big Five and compulsive and impulsive buying behaviour has been further examined by Gohary and Hanzaee (2014). Specifically, the

authors studied the relationship between the Big Five personality traits and different shopping motivation variables (compulsive and impulsive buying, hedonic and utilitarian values). Using the sample of 247 college students, the authors concluded that Conscientiousness, Neuroticism and Openness to Experience are predictors of compulsive buying, impulsive buying and utilitarian shopping values, with significant differences between males and females on these traits. In particular, females were more neurotic, exhibited more compulsive buying tendencies and shopped more for hedonic purposes (Gohary and Hanzaee, 2014). Similarly, Erçis and Ünalan (2017) examined associations among the Big Five personality dimensions and compulsive buying and variety seeking tendencies. The results revealed that four out of the five personality traits, namely Extraversion, Agreeableness, Conscientiousness and Openness to Experience, were positively correlated with a variety seeking tendency, while Extraversion was positively related with a compulsive buying tendency and Conscientiousness was negatively related to a compulsive buying tendency.

Khan (2019) also investigated the role of personality in engaging in an impulsive buying behaviour. The study took place in Pakistan and had a sample of 384 participants from different shopping malls in Karachi. The results of this study imply that the personality traits of Extraversion, Conscientiousness, Neuroticism and Openness to Experience are associated with impulse buying behaviour: individuals scoring high on these traits will tend to buy things immediately. Notably, this study showed no association between impulsivity and the trait of Agreeableness. The Big Five traits have also been used to explore the link between personality and unethical consumer behaviour. Egan and Taylor (2010), based on a sample of 114 normal shoppers, investigated the degree to which demographics and personality correlated with a person's attitudes towards shoplifting and other aspects of unethical consumer behaviour (such as changing price tags and fraudulent refunds). They found that individuals who scored lower in Conscientiousness and Agreeableness were associated negatively with unethicality, while people who scored higher in Emotional Stability best predicted attitudes to shoplifting and other unethical behaviours, perhaps because being calm is necessary in effective theft or fraud.

The link between personality traits and online purchase intentions has also received a lot of research attention. Tsao and Chang (2010) investigated the impact of personality traits of e-shoppers on their shopping behaviour and found that hedonic purchase motivation is positively

influenced by Neuroticism, Extraversion and Openness to Experience, whereas consumers who have higher levels of Neuroticism, Agreeableness or Openness to Experience, tend to be utility-motivated to shop online. The effect of Big Five personality traits on online impulsive buying behaviour has also been examined by Indrajaya and Mahesha (2022) who, using a sample of 100 respondents (users of a website for their purchases), confirmed that Extraversion, Conscientiousness, and Neuroticism have a positive and significant impact on online impulse buying. The authors suggested that website owners or administrators should target people high on these traits to generate more sales from online impulsive buying.

The Big Five traits have also been used to investigate the effect of consumer personality on preferences towards brand personality. For example, Mulyanegara, Tsarenko and Anderson (2009) explored the relationship between consumer personality and brand personality as measured by the Big Five dimensions. Their findings show that some dimensions of the Big Five are notably associated with preferences toward particular dimensions of brand personality. Specifically, they found that Conscientious consumers demonstrate preferences towards "Trusted" brands to reflect their reliable characteristics, whereas Extroverted consumers are motivated by "Sociable" brands to reflect their outgoing nature (Mulyanegara et al., 2009). Their study also revealed gender differences. Male consumers high on Neuroticism and female consumers high on Conscientiousness showed a greater preference towards "Trusted" brands, as a means to reduce their anxiety.

Besides, several studies have also explored the relationship between pro-environmental behaviours and all Big Five dimensions. For instance, Fraj and Martinez (2006) attempted to investigate the influence of personality on ecological consumer behaviour. Their study concluded that personality is a multifaceted concept which is positively related to ecological behaviour. Specifically, they suggested that eco-friendly firms should focus on people characterized by Extroversion, Agreeableness and Conscientiousness in order to persuade them to demand their products (Fraj and Martinez, 2006). Hirsh and Dolderman (2007) investigated the extent to which the Big Five personality traits predict Environmentalism and Consumerism. They used a sample of 106 undergraduate students at the University of Toronto and found that that Consumerism was negatively associated with Agreeableness, while Environmentalism was positively associated with both Openness to Experience and Agreeableness. Further, Chaturvedi, Kulshreshta and Tripathi

(2020) investigated younger consumers' intentions to purchase organic food in an emerging market and reported that all Big Five Traits are correlated positively with buying intentions for organic food.

2.7.2   Dark Triad and Consumer Behaviour

One area of personality which has received little attention in consumer studies is the trio of antisocial personality traits, the Dark Triad. Nonetheless, there have been some attempts to explore the link between Dark Triad and consumer behaviour. Specifically, researchers have attempted to identify the relationships between the Dark Triad and online shopping behaviour of consumers or their online transaction propensity. For instance, Shivani and Godwin (2018) found that Machiavellianism, Narcissism and Psychopathy positively influence consumer's online shopping behaviour. The results of this study can provide useful insights into understanding the needs and preferences of probable customers who are surfing items over online domain (Shivani and Godwin, 2018). Jin, Wang and Ji (2019) examined the relationship among the Dark Triad personality traits, internet use preferences and internet adaptation. Their findings revealed significant associations among the Dark Triad, internet use preference and internet adaptation. The results showed that psychopathy was a stronger predictor of Internet adaptation than Machiavellianism or Narcissism. One possible reason is that individuals with a high psychopathy are impulsive, lack empathy and responsibility (Qin and Xu, 2013) and have negative social adaptation characteristics (Repacholi et al., 2003). Since Internet adaptation is a special kind of social adaptation, it should be highly correlated with psychopathy.

Blair, Gala and Lunde (2022) investigated the mediating role of consumer self-confidence and aggressive interpersonal orientation between the Dark Triad personality traits and consumer behaviour. Using two different experiential settings, a watch and restaurant menu items, the researchers concluded that individuals with the Dark Triad possess more significant attitudes toward the product than others, higher intention to recommend the product and higher intention to purchase the product. Further, the study revealed that consumer self-confidence mediates the Dark Triad-consumer behaviour relationship, and this relationship is sequentially mediated by aggressive interpersonal orientation of the consumer (Blair, Gala and Lunde, 2022). This study can be useful for researchers and marketing managers in understanding who the Dark Triad consumers are and the variables associated with their consumption attitudes and intentions.

Karabiyik and Alagoz (2020) used the Dark Triad Personality test to help profile the factors of the Consumer Styles Inventory. The findings showed that the most important three factors for Machiavellian personalities are habitual consumer, decision and perfectionism; for Psychopath personalities - careless consumer, confused by over-choice and fashion consciousness; and for narcissist personalities - perfectionism, habitual consumer and price consciousness. Thus, the Dark Triad Personality test meaningfully profiled the Consumer Styles Inventory. The study of Guido et al. (2020) developed a scale of luxury consumption motivations and investigated consumers' luxury consumption behaviour using the Dark Triad and the Big Five, and revealed that there is a different relationship between externalized luxury consumption motivations (mainly related to external motives driven by ostentation, elitism, desire to feel fashionable or belong to a group) and internalized luxury consumption motivations (mainly related to internal motives driven by individual lifestyles, hedonism, culture of luxury and interests for quality). In a somewhat similar notion, Iaia et al. (2022) attempted to investigate the masstige perception of smartphone brands through the lens of the antecedents of consumers' behaviour and the dark side of personalities. The relationship has been explored considering the technological propensity of consumers, by analyzing three market leader brands in the smartphone industry. Their study found a positive relationship between Narcissism and mass prestige perception, while Machiavellianism showed a negative and significant relationship with the mass prestige perception only in the case of the brand perceived as having mass prestige. Further, the study showed a positive relationship between all traits and technological adaptation propensity (Iaia et al., 2022). These results could help marketers better understand and satisfy consumers regarding their approach to masstige brands. Ahn (2023) attempted to examine the impact of Dark Triad in brand personalities on consumer behaviour. A causal model of the Dark Triad in brand personality, moral disengagement, negative word-of-mouth, and patronage cessation has been developed. The findings revealed that Machiavellianism and Psychopathy have a significant relationship with moral disengagement, leading to customers' negative behavioural intentions toward luxury brands (Ahn, 2023). The study offers novel insights for luxury brand managers by highlighting negative aspects of brand personality that explain poor performance and negative customer behaviours.

A few studies explored the relationships between the Dark Triad traits and unethical consumer behaviours. For instance, Egan, Hughes and Palmer (2015) investigated the relationships between

general personality traits, the Dark Triad, moral disengagement and unethical consumer attitudes. Their study concluded that Dark Triad Personalities demonstrate moral disengagement which results in unethical consumer attitudes. In particular, the study found correlations between unethical consumer attitudes, lower Agreeableness, lower Conscientiousness, higher moral disengagement, higher Psychopathy, and higher Machiavellianism. Interestingly enough, this study did not find that Narcissism predicted either moral disengagement or unethical consumer attitudes.

The relationship between the Dark Triad traits and unethical consumer behaviour has also been the focus of study by Harrison, Summers and Mennecke (2015). They developed an ethical decision-making model that described how psychological factors affect the development of unethical intentions to commit fraud. They evaluated the effects of the Dark Triad on fraud intentions and behaviours in the context of an online purchasing decision. The authors concluded that all Dark Triad affect fraud behaviours but, importantly, each Dark Triad element affects different factors involved in fraudulent decision-making. Specifically, in comparison to Narcissism, Machiavellianism and Psychopathy have been found to have a stronger influence on fraud intentions (Harrison et al., 2015). The effects of narcissism on perceptions of motivation and capabilities were significant, albeit not substantive, while, in contrast, the effects of Machiavellianism on opportunity and motivation and the effects of psychopathy on rationalization are both significant and substantive. These disparate effects of the three Dark Triad have important ramifications, because individuals with a combination of higher scores on Machiavellianism, Narcissism and Psychopathy possess a special collection of undesirable psychological traits that stimulate every phase in the cognitive process of fraud.

Karampounioti, Hennings and Wiedmann (2018) attempted to investigate whether anthropomorphic communication (the ability to perceive humanlike behaviour in communication) about cruel business tactics affects the formation of explicit and implicit brand attitudes and shed light on the role of consumers' personality traits in perceiving anthropomorphic cues and in forming brand attitudes. This study examined whether consumers with more distinct Dark Triad traits differ from those with stronger empathetic traits. The results provide evidence that anthropomorphic communication about cruel business tactics affects the formation of explicit and

implicit brand attitudes. Moreover, a resulting impact from explicit and implicit brand attitudes on related brand perception and behaviour was shown. In addition, the specific expressions of empathetic and dark tendencies were shown to have a significant impact on the perception of anthropomorphized stimuli, which is capable of influencing human behaviour to a great extent (Karampounioti et al. 2018). Further, the results clearly indicated that Consumer Psychopaths (the cluster of consumers with a tendency to score higher on Dark Triad traits and lower on empathetic factors) are positively stimulated by the sight of tortured, exploited, and mistreated animals. This effect is leading to the continuous emergence of megalomaniacal and self-centered societal members and consumers whose impaired conscience regarding cruelty actually enhances unethical business practices. This study offers valuable insights to companies in addressing how individual traits can lead to different perceptions of brands or companies involved in cruel practices.

Hence, understanding the Dark Triad consumers is important for marketers. Researchers increasingly investigate the psychology of the Dark Triad (Muris et al., 2017); however, there is lack of research on using the Dark Triad as a vehicle to study consumer behaviour during a pandemic (Pilch and Gornik-Durose, 2016). By examining consumer behaviour through the lens of the Dark Triad, researchers can gain a deeper understanding of the psychological motivations driving consumer decisions during a pandemic. This can inform public health interventions, marketing strategies, and crisis management efforts aimed at mitigating the negative impacts of crises on individuals and society.

2.8 Cultural Characteristics and Consumer Behaviour

Culture, as well as regional subculture and familial values, all influence the formation of an individual's cultural values (Nayeem, 2012). Hence, from the beginning of an individual's existence, he/she experiences the benefits and restrictions of a particular culture, and these, according to De Mooij (2010), may become a major influence upon consumers' purchasing decisions. For instance, some cultures (e. g., Greeks) have a general trait of caution towards new experiences. Consumers from these backgrounds are more likely to rely on traditional values (Manrai et al., 2001), which implies that these individuals tend to learn through observation rather

than immediately purchase new or innovative products. This approach creates limitations in terms of product preferences or choices (Leo, Bennett and Hartel, 2005).

Differences in cultural values between consumers may cause difficulties for researchers in understanding consumer behaviour in a multicultural context. Nonetheless, marketing researchers accept that culture is one of the most important underlying determinants of consumer behaviour (De Mooij, 2010), and they have consistently used cultural dimensions, for example, individualism-collectivism, to measure the impact of culture on buyer tendencies (e.g., Luna and Gupta, 2001). Previous studies explored the effect of cultural differences on consumer complaint behaviour (Liu and McClure, 2001; Ergun and Kitapci, 2018), consumer retailing (De Mooij & Hofstede, 2002), impulse buying (Kacen and Lee, 2002; Kongakaradecha and Khemarangsan, 2012; Dameyasani and Abraham, 2013; Cakanlar and Nguyen, 2019), consumer behavioural intentions and decision-making styles (e.g. Chan and Botelho, 2010; Nayeem, 2012; Asamoah and Chovancova, 2016; Saglam and Abdullahi, 2021). These will be briefly discussed below.

Liu and McClure (2001) examined cross-cultural differences in consumer complaint intentions and behaviour. Several important findings emerged from their study relevant to Western managers. First, this study has empirically confirmed that dissatisfied consumers in a collectivist culture (South Korean consumers) are less likely to engage in voice behaviour but are more likely to engage in private behaviour than those in an individualistic culture (US consumers). Second, they found that dissatisfied US consumers (individualistic culture) are more likely to stay than those who did not. However, due to the cultural differences, it is the opposite case with South Korean consumers; when dissatisfied, South Korean consumers who voiced dissatisfaction are less likely to stay than those who did not. Third, the differences in relation to a third-party behaviour (i.e. complaining to a consumer agency) as well as non-action response, are not significant, which implies that, when dissatisfied, consumers in either a collectivist or an individualistic culture are less likely to engage in a non-action response, but are more likely to engage in action responses of voice and private action, and less likely to take third-party action.

The impact of cultural dimension on customer complaint behaviour has also been the focus of Ergun and Kitapci's study (2018), who investigated this relationship specifically in the tourism

industry. The results of this study were consistent with the previous research which suggested that the tendency of individuals to report their dissatisfaction to hotel management (public action) was found to be high in societies where power distance is high, while these societies are also involved in more word-of-mouth communication (private action) (Ngai, Heung, Wong and Chan, 2007; Goodrich and DeMoij, 2013). Mooij and Hofstede (2002) investigated the possible influence of culture on consumer consumption by using cultural dimension and several purchase behaviours in various product and services categories in 13 European countries. In terms of technology and income levels, cultural differences across countries do not homogenize consumer behaviour, but, to the contrary, consumer behaviour becomes more heterogeneous because of the existence of these differences.

Another topic that received attention from scholars was the influence of culture on impulse buying. For example, Kacen and Lee (2002) emphasize individualism/collectivism as an essential factor that affects consumers' impulse buying behaviour. Their study asserts that people in collectivistic cultures tend to be less engaged in impulse buying than people in individualistic cultures, mainly due to the fact that customers in individualistic cultures tend to make buying decisions more independently and are more self-focused than in collectivistic cultures. However, there are other studies that offer a counter view, suggesting that collectivism has a stronger relationship with impulse buying behaviour (e. g., Kongaradecha and Khemarangsan, 2012). They suggest that this is because what consumers think and their willingness to buy items could be heavily influenced by others' opinion. This view is also supported by the study of Abraham and Dameyasani (2013) who also found a positive relationship between collectivism and impulse buying, with their interpretations following the same logic as Kongakaradecha and Khemarangsan (2012). Similarly, Cakanlar and Nguyen (2019) examined the influence of culture on impulse buying across three countries, namely Sweden, Turkey and Vietnam. Their results showed no relationship between impulse buying behaviour and collectivism for Turkey and Vietnam, however in Sweden there was a strong, significant and positive relationship. This positive relationship between buying behaviour and collectivism can be attributed to the distinctive nature of Swedish culture, which has the characteristics of sameness, equality and conformity (Triandis and Gelfand, 1998).

Several studies have also examined the impact of cultural dimensions on consumer behaviour intentions and decision-making styles. For instance, Chan and Botelho (2010) conducted a cross cultural study in Brazil, the United States and Japan to investigate the relationship between national culture and consumer decision-making styles in the purchase of cell phone. Their main assumption was that consumer decision-making style is intrinsic with one's cultural background reflected in one's attitude and behaviour. The findings showed that consumers from individualistic cultures (Americans) are more quality conscious, brand conscious, more innovative and more likely to practice hedonistic shopping than consumers from collectivistic cultures (Japanese and Brazilians). They have also found that consumers from masculine cultures (Japanese) are more innovative than consumers from feminine cultures (Brazilians). On a somewhat similar notion Nayeem (2012) investigated the differences between individualism-collectivism and consumer decision behaviour in relation to automobile purchases. The author looked at several stages of the consumer decision-making process and identified possible differences between individualist (Australian) and collectivist (Asian) consumers and how it influences purchase intentions. The results of this research showed that there were no differences in individualism observed between Australian-born and Asian-born respondents; however, there were differences in collectivism observed between these two groups, such that Asian-born participants scored higher on collectivism. Results also found that Asian-born consumers are more brand conscious and involve a number of family/friends in their decision making. In contrast Australian-born consumers do not believe in group decision making and uses internet as the most important source of information (Nayeem, 2012).

Asamoah and Chovancova (2016) explored the effect of cultural orientation on the purchasing decisions of consumers in the Czech Republic and Ghana with reference to the different age groups and sex. In particular, the research determined the cultural orientation of both countries with respect to respondents buying behaviour and perception of fast food products and services (Asamoah and Chovancova, 2016). The study concludes that due to its importance, the dimensions of culture should be used as predictors to determine how consumers differ or converge in their behaviour in different countries. Thus, culture can serve the purpose of defining consumer behaviour and enable managers to develop strategies for specific markets.

The impact of Hofstede's culture dimensions on consumer behaviour intentions (i.e., word of mouth, complaining behaviour, purchase intentions, price sensitivity) has also been the focus of Saglam and Abdullahi's study (2021) who attempted to examine this impact between Turkey and Somali. Their findings determined that Hofstede's culture dimensions did not have an effect on consumer behaviour in Somalia. This could be attributed to the structure of the Somali society in which consumers do not have the opportunity to exhibit behaviourally word-of-mouth communication, purchasing, price sensitivity and complaining behaviour. On the other hand, in Turkey power distance and uncertainty avoidance had a positive effect on word-of mouth communication, while long-term orientation had a positive effect on price sensitivity and complaining behaviour intention.

Still, as mentioned in the Introduction, this study departs from the common usage of Hofstede's dimensions at the country level and uses these characteristics at the individual level. There have been a few studies that have successfully applied this individual level approach to culture while exploring different aspects of consumer behaviour. For instance, Yoo and Donthu (2005) examined the relationship between cultural orientations at the individual level and consumer ethocentricism and found that Collectivism, Masculinity and Uncertainty Avoidance are positively related to consumer ethnocentrism, while Long-term Orientation is negatively related to consumer ethnocentrism. The individual approach to culture was also adopted by Leonidou, Leonidou and Kvasova (2010) while exploring the factors that shape consumer environmental attitudes and behaviour. The study indicated that pro environmental attitudes of a consumer are positively influenced by their level of Collectivism and Long-term orientation. Besides, Al-Nasser, Yusoff, Ismal and Al-Nasser (2013) attempted to determine the cultural differences identifications and its effect on E-service quality perception. Further, Leonidou, Kvasova, Christodoulides and Tokar (2019), attempted to identify personality drivers and behavioural outcomes of consumer animosity and the moderating role of cultural characteristics, and found that consumer animosity was a stronger predictor of product avoidance in the case of consumers with a higher level of Power Distance, Uncertainty Avoidance, Collectivism and Masculinity.

2.9   Underlying Theories

Our study is theoretically anchored on Personality theories, Hofstede's Theory (Hofstede, 1980), Commodity theory (Brock, 1968), Prospect theory (Kahneman and Tversky, 1979), Psychological Reactance Theory (Brehm, 1966), Risk-as-Feelings Theory, and Diffusion of Innovation Theory (Rogers, 1962).

Personality theories have been used throughout history to address what makes up the personality of an individual. Personality is described as a person's characteristics, such as repeated behavioural mannerism overtime or an individual's characteristic patterns of thinking, feeling, and behaving, that make a person unique (Weinberg and Gould, 1999). A widely used definition of personality was proposed by Allport (1961, p.28): "*Personality is the dynamic organization within the individual of those psychophysical systems that determine his characteristic behaviour and thought"*. Personality is generally stable, although it can be influenced by environmental factors. An individual's personality causes them to react to certain scenarios and people. These theories then look to understand why people develop different character traits and respond to external and internal stimuli differently.

There are different theories that attempt to explore and explain human personality, including the causes, motivations for thoughts, behaviours and social interactions. These theories have evolved over time, often integrating prior research. Sigmund Freud is credited as the pioneer of psychodynamic theories, introducing concepts like the id, ego and superego (Freud, 1923, 1949). Freud proposed that an individual's personality emerges from the interplay of three aspects: the ***unconscious id,*** driving primal urges like sexuality and aggression; the ***reality-oriented ego***, mediating between the id and societal norms; and the ***superego***, representing internalized moral standards. Freud further emphasized the role of early childhood experiences in shaping personality development.

The humanistic theory of personality assumes that people are basically good and want to become their best selves. This goodness and motivation for self-improvement is innate and pushes each person to reach their potential. The humanistic theory focuses on a person's tendency to choose good behaviours and on the uniqueness of each person and their efforts to be good and achieve

self-actualization. Among the most known humanistic approaches to personality are Abraham Maslow's Hierarchy of Needs (1943) and Carl Rogers' Self-actualization theory (1951). According to Abraham Maslow, people develop their personalities by fulfilling each of their needs in a hierarchical order, starting from the most basic needs such as physiological needs and safety, towards more 'advanced' needs such as love and belonging, esteem, self-actualization. Maslow developed this theory in response to the more negative and pessimistic views on personality that existed during that time, such as Freud's pessimistic view of human nature. Many behaviourists believed that humans have little control over their personalities and can be subjected to conditioning; however, Maslow strongly believed that humans could take control over their personalities as they attempted to achieve self-actualization. He approached the study of personality by focusing on subjective experiences, free will and the innate drive toward self-actualization, and expanded the field of humanistic psychology by including an explanation of how human needs change throughout an individual's lifespan, and how these needs influence the development of personality.

Carl Rogers (1951), along with Maslow, focused on the growth potential of healthy individuals and contributed to our understanding of the self and personality. Both their theories focus on individual choices and do not hold that biology is deterministic; rather they emphasize free will and self-determination. Rogers believed that the primary goal of all humans is to self-actualize or become the best version of themselves. He further believed that everyone exists in a constantly changing world of experiences that they are the center of. An individual reacts to changes in their phenomenal field (a person's subjective reality) which includes external objects and people as well as internal thoughts and emotions. According to Rogers, all behaviours are motivated by self-actualizing tendencies, which drive an individual at his highest level.

Among the personality theories, the most influential is the Trait Perspective Theory. The trait perspective of personality is centred on identifying, describing, and measuring the specific traits that make up human personality. It proposes that people's personalities vary according to which basic personality traits are more dominant, and in this sense each trait is seen as a continuum. Among the more well-known trait theories are those develop by Gordon Allport (1937), Raymond Cattell (1946a, 1946b, 1946c) and Hans Eysenck (1947,1952).

Gordon Allport, a leading trait theorist, believed in the uniqueness of individuals, rejecting the idea of classifying people based on a few traits (Allen, 2016). He defined traits as "a generalized neuropsychic system (peculiar to an individual) with the capacity to render many stimuli functionally equivalent, and to initiate and guide consistent (equivalent) forms of adaptive and expressive behaviour", implying that the traits of an individual are not fictional but real and inherent within a person. Allport further emphasized that the traits are socially significant habits (Allport, 1927) and contributed to reducing thousands of personality-describing words to a manageable list. He contributed to the formation of values scales and rejected both a psychoanalytic approach to personality, which he thought was too deeply interpretive, and a behavioural approach, which he thought did not provide deep enough interpretations from their data. He emphasized the uniqueness of each individual and the importance of the present context, as opposed to past studies, in understanding the personality.

Trait theory, notably advanced through factor analysis, has led to significant developments. Raymond Cattell, utilized this method to condense Allport's traits into 16 fundamental source traits, forming the basis of his 16PF personality assessment (Cattell, 1946, 1957). Each trait, ranging from Warmth to Tension, was measured across a spectrum, allowing for a nuanced understanding of individual personalities and behaviours. Similarly, Hans Eysenck's hierarchical model emphasized three key factors: Extraversion/Introversion, Neuroticism/Stability, and Psychoticism/Socialization (Eysenck, 1964). Utilizing factor analysis, he devised the Eysenck Personality Inventory to measure these traits, grounding his theory in physiology and genetics, although he acknowledged the influence of learned habits on personality.

The most popular and well-established trait theory is the Five-Factor Theory. Several researchers supported the belief that there are five core personality traits (Power & Pluess, 2015), known as the Big Five. Evidence of this theory has been growing for many years in psychology, starting with the research of Fiske in 1949. This theory has since then been expanded by other researchers, including Norman (1967), Smith (1967) Goldberg (1980) and McCrae and Costa (1987). The Big Five Theory states that personality is made up of five distinct traits, namely Extraversion, Agreeableness, Conscientiousness, Neuroticism and Openness to experience, and each trait has a

range that goes from one extreme to another with each individual falling somewhere along that range. Thus, when psychologists talk about Introverts (e.g. quiet, withdrawn, reserved) and Extroverts (e.g. outgoing, social, talkative), they do not refer to two distinct types of people but rather they mean people who score relatively low or relatively high along this continuum. Scores on the Big Five traits are mostly independent which implies that an individual's position on the continuum for one trait tells very little about their standing on the other traits, and thus all five scores are needed to describe most of an individual's personality. The Big Five Theory is the most popular theory in personality and the most accurate approximation of the basic trait dimensions (Funder and Fast, 2010) and, as such, it has been used for the purpose of this study. It is likely to describe personality profiles in the selected sample in the most accurate way and accordingly help relate them to buyer behaviours during a pandemic.

The second underlying theory that could explain consumer's response to a pandemic is Hofstede's Cultural Dimension theory. Culture is a powerful force in regulating human behaviour (Nayeem, 2012). According to Arnould and Thompson (2005), culture comprises of a common set of behaviour patterns that are transmitted and preserved by the members of a particular society through various means. For instance, members within the same culture have similarities of language (Lee, 2001), pattern instruction (Kelley & Wendt, 2002) and imitation (Barney, 1986), and they share the same values (Hofstede, 2001). These values are likely to have an effect on the behaviour of consumers and lay down the choice of criteria expressed by individual consumers. Cultural values can be thought of as the vehicles which transfer culturally-determined knowledge from one generation to another; that is, they are the form in which culture is stored and expressed (Mourali, Laroche, and Pons, 2005; Triandis, 1995). As a consequence, values persist over time, and it may therefore be suggested that they can have an effect on how consumers behave. This further influences individuals' decision making regarding their choices not only for their everyday needs, but also for more important purchases (Luna & Gupta, 2001). Since culture forms one's identity (Markus and Kitayama, 1991; Vignoles, 2018), it is generally accepted by marketing researchers as one of the most important underlying determinants of consumer behaviour (De Mooij, 2010). Hofstede's typology of culture suggests that individuals in one country form a uniform cultural group, nonetheless it has been found that individual consumers within one country are also culturally distinct which results in differences in their buying behaviour. This study

therefore implies that culture can also be used as a predictor of consumer individual responses to a pandemic and uses individual cultural orientations as the unit of analysis.

Our research is also anchored on Brock's (1968) Commodity theory. This theory deals with the psychological effects of scarcity and suggests that scarcity enhances the value or desirability of anything that can be possessed, is useful to its possessor, and is transferable from one person to another. Thus, commodity theory lies on two key principles. The first principle is that a "commodity" will hold more value for an individual based on the extent that it is considered scarce. "Commodity" may refer to a product, some attitude-relevant information, a trait or anything for which there exists the possibility of possession by the individual (Wright, Greenberg and Brehm, 2004). The second main premise of commodity theory is that threat increases both commodity-seeking behaviour as well as the tendency of individuals to withhold commodities from others (Brock, 1968). Scarcity may cause stress, anxiety and fear or panic which leads people to building private stocks or even placing orders for more than what they actually need (Rajkumar, 2020). Psychological uncertainties of this kind have the tendency of stimulating behavioural phenomena like hoarding and extensive stockpiling in food markets to prepare for future uncertainty. Hence, Brock's (1968) theory is relevant to examination of hoarding behaviours, since it clearly states that the value of a product is positively related to its scarcity, and perceived shortages experienced during the beginning of COVID-19 pandemic might explain frequent stockpiling behaviours at that time. Further, as COVID-19 itself is linked to psychological distress (Qiu et al., 2020), it may confer additional motivation to stockpile or panic buying.

This research is further based upon the Prospect theory (Kahneman and Tversky, 1979). According to this theory, people's preferences for risk-seeking versus risk-aversive options can be influenced by information they possess framed in terms of gains versus losses. Specifically, people tend to prefer risk-aversive options when they are confronted with gains, while, when logically equivalent information emphasizes losses, they tend to lean towards risky choices. In the context of our research, the Prospect theory can explain why people tend to be risk-averse and engage in stockpiling or hoarding essential items. If perceived future inability to obtain necessary goods is judged as risky, risk aversion could motivate hoarding as a means of protecting oneself from risky events, even if the likelihood of occurrence is low. Hence, based on the Prospect theory, to avoid

potential losses in the face of uncertainty from the coronavirus outbreak, consumers might have stockpiled essential items. Further, Prospect theory may also provide an explanation for reactive and proactive buyer behaviours; that is the tendency of individuals to buy more products essential for their public safety (e.g., sanitizers and masks), as well as purchase more products that will support their health and well-being. Influenced by the fear of possible contamination, based on this theory, individuals will tend to prefer options that minimize potential risks.

Our research is further based on the Psychological Reactance Theory (Brehm, 1966). This theory posits that when something threatens or eliminates people's freedom of behaviour, they experience psychological reactance; a motivational state that drives freedom restoration (Brehm, 1966). The amount of reactance will highly depend on the importance of the threatened freedom and the perceived magnitude of the threat (Steindl et al., 2015). People tend to behave adversely when a threat is imposed on their freedom (Brehm, 1966; Kim and Runyan, 2011), (i.e., exhibiting the opposite action, against their normal routine). Thus, when consumers were confronted on the national news statements that many shelves were running empty, this triggered a feeling of threat of product availability. Such an assumption results in making consumers feeling a loss of control, which in turn increases their perceived needs of such products, even if, in reality, they do not have such a need (Pantano and Willens, 2022). The empty shelves in stores were interpreted by consumers on the one hand as a social proof signal, which consequently led to herding or copycat behaviour. The reasoning behind this behaviour was that if other people are frantically buying these products, then they must be valuable (and thus become scarce) for the coming lockdown period. Product scarcity in supermarket shelves as such activated a competitive mind-set in consumers, seeing others as adversaries and exhibiting territorial behaviour by claiming bulks of certain products for themselves and their offsprings. Thus, an alternative explanation of the hoarding reactions at the very beginning of the COVID 19-outbreak, can be found in Psychological Reactance Theory. According to survival psychology, individuals may experience behavioural changes as a result of certain events, such as natural disasters, terrorist attacks as well as healthcare crises (Forbes, 2017). During such periods of uncertainty, individuals try to gain a sense of control through acquiring products and panic buying (Ballantine, 2013; Yuen et al., 2020). As per Loewestein, Weber, Hsee and Welch (2001), as panic continues to grow, consumer logic is often offset by feelings of anxiety, rather than logical cognitive inferences. Rational consumers evaluate

both the desirability and likelihood of the end result and use this information to form a final decision (Loewenstein et al., 2001). Nonetheless, the theoretical perspective of "risk-as-feelings" describes a tendency toward irrational consumption during perceived high-risk situations, such as during a crisis (Slovic et al., 2004). The uncertainty and strain that consumers experience at the time of making decisions can potentially lead to panic buying. Emotional responses to stressful events often deviate from logical cognitive assessment, where the theory of "risks-as-feeling" explains the excessive consumption of specific goods that consumers might judge to have been reasonably purchased at the time, including those that may have been hoarded unnecessarily. Therefore, the theory of "risks-as-feelings" can be used as a foundation for conceptualizing buying panic behaviours, so that fear during a crisis or shock leads consumers to shift their traditional spending patterns towards purchases that might otherwise take place at different times, in different volumes or perhaps not carried out at all.

Finally, this study also utilises the Diffusion of Innovation (DOI) Theory (1962) which is one of the oldest social science theories. Developed by Rogers in 1962, this theory attempts to explain how, over time, an innovation (e.g., an idea, a product or a behaviour) gains momentum and diffuses through society. It analyses how the social members adopt new innovative ideas and how they have reached the decision towards adapting this new idea. Adoption means that a person does something differently than they used to, whether that is a purchase or use of a new product or performing a new behaviour (LaMorte, 2022). It should be emphasized that this adoption does not happen simultaneously in a society, but rather it can be seen as a process where some individuals will be more willing to adopt than others. As the theory suggests, there are five adopter categories; innovators (characterized by those individuals who would like to be the first in trying the innovation and represent the 2.5% of the group); early adopters (characterized by those individuals who feel comfortable with change and adopting new ideas and represent the 13.% of the group); early majority (characterized by those individuals who adopt an innovation before the average person does but with proof that the innovation works prior to adopting and represent the 34% of the group); late majority (characterized by those individuals who are more sceptical in adopting a new innovation and will do so only after the majority has generally accepted and adopted the new innovation and represent the 34% of the group); and laggards (characterized by those individuals

who are more conservative and traditional and they are the last to proceed to a change to new technologies and represent the 16% of the group) (Rogers, 1962).

According to the DOI, there are five main factors that influence adoption of an innovation; *relative advantage* (the degree to which an innovation is perceived as better than the idea, product or behaviour it replace), *compatibility* (the consistency of the innovation with the values, experiences, and needs of the adopting individuals), *complexity* (how difficult the innovation is to use), *triability* (the degree to which the innovation can be tested before adopting) and *observability* (the extent to which it provides tangible results to the adopter) (LaMorte, 2022). The innovation-decision process of the theory describes how individuals, groups or communities, adopt or reject an innovation, with the goal being to reduce the uncertainty about the innovation. This process consists of five steps; namely, knowledge, persuasion, decision, implementation and confirmation. These five steps do not necessarily need to be followed consecutively. According to Hayden (2014), the knowledge is the stage at which the individual must be aware of the innovation (i.e., that the innovation exists), the persuasion stage is seen as the development of attitude towards the innovation, the decision stage is where a decision is being made as to whether or not to use the innovation, the implementation stage is where the innovation is being tested and the confirmation stage is the stage at which the innovation is perceived as positive and reinforces the decision being made by the adopter. The DOI theory has been applied successfully in many fields such as communications, criminal justice, public health, and marketing. This theory is used extensively by marketers in order to understand the rate at which consumers are likely to adopt a new product or a service. In the context of our study, this theory can be used to predict the propensity of consumers to adopt new products (in our case, digital technology), as well as adopt new behaviours (in our case, pro-active and reactive health-minded tendencies, such as buying more antiseptics and health-related products).

2.10 Gaps in the Literature

Although prior research has extensively explored personality traits and cultural dimensions in consumer behaviour (e.g., Costa and McCrae, 1992; Hofstede, 1980), significant gaps can still be identified. Most studies rely on the Big Five traits, which focus on the "bright" aspects of

personality (Block, 2010), while neglecting the "dark" traits that may manifest under crisis conditions, such as Narcissism, Machiavellianism, and Psychopathy (Paulhus and Williams, 2002). Recent findings indicated that these traits played a critical role in behaviours such as stockpiling and risk perception during the COVID-19 pandemic (Nowak et al., 2020). Yet, these traits have not been integrated with overall consumer behaviour models.

Moreover, while Hofstede's cultural dimensions have been widely used in consumer behaviour studies, they are predominantly applied at the national level, which often overlooks individual variations within countries (Yoo and Donthu, 2005). During crises, individual-level cultural orientations such as Power Distance and Uncertainty Avoidance can significantly influence consumer responses, yet their role in pandemic-specific contexts is underexplored. This limitation has been an obstacle to a nuanced understanding of cultural influences on behaviour during unprecedented global health crises.

Finally, while existing research identifies factors such as fear and uncertainty as drivers of consumer behaviour during crises (Rogers and Cosgrove, 2020), there is limited understanding of how these interact with stable personality traits and dynamic cultural factors. This lack of interdisciplinary focus creates a critical gap in the literature, which this thesis aims to address by integrating these dimensions into a unified framework.

2.10.1 Novelty and Importance
In sum, this thesis makes three key contributions to the literature:

1. It uniquely incorporates the Big Five and Dark Triad traits to the conceptual model to provide a comprehensive understanding of personality's effect on consumer behaviour during pandemics.
2. It innovatively applies Hofstede's cultural dimensions at the individual level, revealing variations often masked by national-level analyses.
3. It focuses on six pandemic-specific consumer behaviours, providing actionable insights for businesses and policymakers in crisis contexts.

2.10.2 Research Questions
To address these gaps, this thesis investigates the following:

- How do personality traits (Big Five and Dark Triad) influence consumer behaviour during the COVID-19 pandemic?
- How do individual cultural orientations (Hofstede's dimensions) influence behaviour during the COVID-19 pandemic?

CHAPTER 3: CONCEPTUAL MODEL AND HYPOTHESES DEVELOPMENT

3.1 Conceptual Model

Figure 1 shows our conceptual model which posits that the Big Five traits, the Dark Triad and Hofstede's Dimensions influence consumer buying behaviour. Also, four demographic factors—gender, age, income group, and educational level—are used as control variables on consumer buying behaviour.
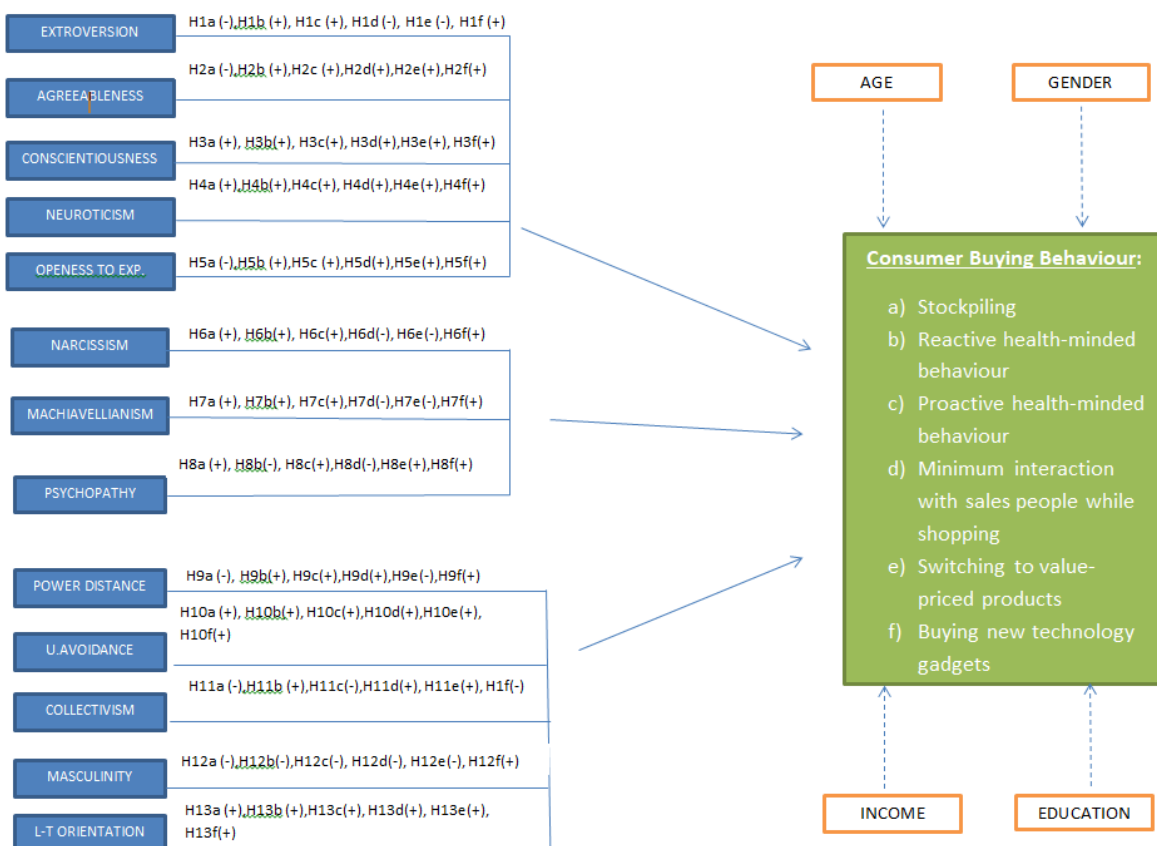
Figure 1: Conceptual Model

3.2 The Hypotheses

3.2.1 Extraversion

Extraversion refers to the extent to which an individual is energetic, talkative, and outgoing (McCrae and Costa, 1985; McCrae and John, 1992). Extroverts benefit more from social interactions than introverts (Emmons, Dienner and Larsen, 1986) and are generally characterized by warmth, optimism, and excitement-seeking (McCrae and John, 1992). Extraversion accounts for more variability in human behaviour than any other trait and therefore can be especially useful in studying differences in consumer actions (Jeronimus, 2020). When in groups, extraverts engage in multiple interactions with others and draw attention to themselves, while introverts tend to be quiet, low-key and disconnected from the social world. Guido, Capestro and Peluso (2007) examined the effects of personality on shopping experiences and found that introverts' shopping behaviour tended to be utilitarian, while extroverts' shopping behaviour tended to be hedonic. Since hedonism is not associated with hoarding, during the periods of crisis and especially the pandemic, extraverts are expected to engage in stockpiling to a lesser degree than introverts. Besides, one of the facets of extraversion is positive thinking/optimism (Chamorro-Premuzic, 2015) which might discourage a hoarding tendency in general and during a pandemic. Also, introverts are likely to minimize the number of interactions in physical shops and thus should be more prone to stockpiling of products. Further, previous research has demonstrated that extraversion is associated with various health-minded behaviours, such as meeting sleep recommendations, following a healthy diet, and participating in regular physical activities (Magee, Heaven and Miller, 2013; Obara-Golebiowska and Michalek-Kwiecien, 2020; Zolotareva et al., 2022). The latter is likely to make extraverted individuals more prone to buying healthy foods during a pandemic to support their immune systems. Besides, given the fact that extroverted individuals benefit from social interactions, it is likely that they will buy more health-minded products during the pandemic, such as face masks and hand-sanitizers, to safeguard their own health but also be able to maintain to some degree the social interaction they seek. It also seems that extraverts are less likely to minimize their interactions with sales people and more likely to buy technological equipment and switch to digital platforms to facilitate their continuous interaction with people (Folk et al.; 2020; Pantell and Shields-Zeeman, 2020; Ludeke et al., 2021; Lee, Malcein and Kim, 2021). Besides, as extroverts tend to be guided by impulse and hedonic

purchases, it is expected that they will be less likely to switch to value-based products, services or brands during the pandemic. Hence, we may hypothesize that:

H1a: Consumers with a higher score on Extraversion are less likely to exhibit stockpiling behaviour during a pandemic.

H1b: Consumers with a higher score on Extraversion are more likely to show reactive health-minded buying during a pandemic.

H1c: Consumers with a higher score on Extraversion are more likely to show proactive health-minded buying during a pandemic.

H1d: Consumers with a higher score on Extraversion are less likely to minimize their interaction with sales people during a pandemic.

H1e: Consumers with a higher score on Extraversion are less likely to switch to valued price products/services/brands during a pandemic.

H1f: Consumers with a higher score on Extraversion are more likely to buy new technology gadgets during a pandemic.

3.2.2   Agreeableness

Agreeableness is related to altruism, trust, affection and other prosocial behaviours (John and Srivastava, 1999). Agreeableness reflects individual differences regarding cooperation and social harmony (Howard and Howard, 1995). Agreeable individuals value getting along with other people, and they are thought to be more friendly, generous, and helpful (Rothmann and Coetzer, 2003). Similar to extraverts, people who score high on the trait of Agreeableness have a more optimistic view of human nature. They hold the belief that people are essentially truthful, decent, and trustworthy. Disagreeable individuals, however, place self-interest above getting along with others, are indifferent toward other peoples' well-being and unlikely to sacrifice themselves for other people. Disagreeable people are more likely to cause harm. Since agreeable people are considerate toward others and in general characterized by altruistic behaviour (Chamorro-Premuzic, 2015), it is expected that they won't damage others by stockpiling and will prioritize

products essential to public safety such as face masks and sanitizers. They are also likely to take care of their own short-term and long-term health, since Agreeableness was also found to be positively associated with healthy habits (Obara-Golebiowska and Michalek-Kwiecien, 2020; Zolotareva et. al., 2022). Further, agreeable individuals, due to their altruism, may minimize their interaction with sales people during the pandemic to avoid spreading the virus to others, in the event that they carry an infection. Moreover, individuals high on Agreeableness may also be more likely to purchase technological equipment to facilitate social distancing. Besides, it is expected that agreeable people will be more likely to switch to value-priced products as part of their humane behaviour and concern for communal goals (Hirsh and Dolderman, 2007; Puente-Diaz and Arroyo, 2015), especially at the time of a world health crisis. We may therefore hypothesize that:

H2a: Consumers with a higher score on Agreeableness are less likely to exhibit stockpiling behaviour during a pandemic

H2b: Consumers with a higher score on Agreeableness are more likely to show reactive health-minded buying during a pandemic

H2c: Consumers with a higher score on Agreeableness are more likely to show proactive health-minded buying during a pandemic

H2d: Consumers with a higher score on Agreeableness are more likely to minimize their interaction with sales people during a pandemic.

H2e: Consumers with a higher score on Agreeableness are more likely to switch to value-priced products/services/brands during a pandemic.

H2f: Consumers with a higher score on Agreeableness are more likely to buy new technology gadgets during a pandemic.

3.2.3   Conscientiousness

Conscientiousness is described as the tendency of an individual to be organized, dependable, and show self-discipline (Costa and McCrae, 1992). Conscientiousness has been linked to educational

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accomplishment and the desire and determination to achieve high results. The focused individual concentrates on limited goals but has the aptitude to accomplish them all, whereas the individual who is thought of as a more flexible and impulsive will sway from one task to another (Howard and Howard, 1995). The more conscientious an individual is, the more competent, dutiful, orderly and responsible, he/she appears to be (Costa and McCrae, 1992). It should also be noted that individuals who are conscientious require the same degree of responsibility and order from others. Conscientious people have a need to be prepared for all types of situations, and the scenes of panic-buying during a pandemic might facilitate their engagement in hoarding behaviours. Further, since conscientious individuals are long-term planners, responsible, strictly adhere to rules and take obligations to others seriously (McCrae and Costa, 1985), they are likely to take good care of their own health and health of others. Conscientiousness individuals have also been found to engage in a range of other healthy behaviours such as smoking less and eating healthier foods (Bogg and Roberts, 2004; Kern and Friedman, 2008; Lodi-Smith et al., 2010), and thus they will be more prone to resorting to proactive and reactive health-minded buying. Notably, Zolotareva et al (2022) and Obara-Golebiowska and Michalek-Kwiecien (2020) suggested that Conscientiousness is a predictor of healthier lifestyle. In fact, conscientiousness is the most reliable and robust Big Five predictor of health behaviours (Hampson and Friedman, 2008; Gotz et al, 2020), including adherence to medical advice (Hill and Roberts, 2011), and individuals high on this trait are therefore more likely to minimize their interaction with sales people during a pandemic. In addition, conscientiousness was found to be a predictor of frugality (Lastovicka et al., 1999; Puente-Diaz and Arroyo, 2015), and hence individuals high on Conscientiousness are more likely to switch to value-priced products during a period of uncertainty and economic instability as in the case of the pandemic. Besides, due to their need to always be prepared, it may be expected that individuals with high levels of conscientiousness are more likely to buy items that will facilitate remote working to safeguard their own health and the health of others by adhering to social distancing measures. We can therefore posit that:

H3a: Consumers with a higher score on Conscientiousness are more likely to exhibit stockpiling behaviour during a pandemic.

H3b: Consumers with a higher score on Conscientiousness are more likely to show reactive health-minded buying during a pandemic.

H3c: Consumers with a higher score on Conscientiousness are more likely to show proactive health-minded buying during a pandemic.

H3d: Consumers with a higher score on Conscientiousness are more likely to minimize their interaction with sales people during a pandemic.

H3e: Consumers with a high score on Conscientiousness are more likely to switch to value-priced products/services/brands during a pandemic.

H3f: Consumers with a higher score on Conscientiousness are more likely to buy new technology gadgets during a pandemic.

3.2.4   Neuroticism

Neuroticism refers to the extent to which an individual is emotionally unstable, anxious and irritable. Neurotic individuals are more easily triggered by stimuli in their environment and show a higher degree of sensitivity towards the events in the external world (Howard and Howard, 1995). They are highly depressive, impulsive and defenceless. Previous studies have shown that there is a positive relationship between neuroticism and impulse buying (Shahjehan, et al., 2012; Silvera, et al., 2008). Specifically, anxiety of neurotic people leads them into impulse purchases which are perceived as a way of gaining relief from the distress they feel. Besides, a recent study by Dammeyer (2020) found a positive association between Neuroticism and self-reported stockpiling behaviours. Thus, we may anticipate that during periods of uncertainty and stressful situations, such as the COVID-19 pandemic, people who score high on Neuroticism may exhibit strong neurotic tendencies that can facilitate stockpiling. Also, neurotic individuals are more worried, depressed, and fearful with regard to their health (McCrae and John 1992) and are expected to take extra measures to protect their well-being. In fact, some experimental researchers have found that Neuroticism is the most significant trait that leads people to more robust conditioned fear responses (e.g., Orleans-Pobee, 2017). Besides, neuroticism, apart from fear of disease, positively correlates with germ avoidance behaviours (Duncan, Schaller and Park, 2009) and, individuals with higher levels of neuroticism are therefore expected to socially distance and minimize their interaction with sales people as an important measure of protecting themselves from infection. They are also more likely to switch to value-priced products during periods of crisis due to the fear of uncertainty and lack of predictability of what might actually happen (Garcia and Zoellner, 2017). Thus, they

might be more economic in their spending as a means of gaining some form of control over the situation. In a similar vein, individuals with a neurotic nature may well result into impulsive purchases such as new equipment (e.g., laptops, printers) to be prepared for unexpected situations such as a lockdown that may require them to work from home. Hence, we may hypothesize:

H4a: Consumers with a higher score on Neuroticism are more likely to exhibit stockpiling behaviour during a pandemic.

H4b: Consumers with a higher score on Neuroticism are more likely to show reactive health-minded buying during a pandemic.

H4c: Consumers with a higher score on Neuroticism are more likely to show proactive health-minded buying during a pandemic.

H4d: Consumers with a higher score on Neuroticism are more likely to minimize their interaction with sales people during a pandemic.

H4e: Consumers with a high score on Neuroticism are more likely to switch to value-priced products/services/brands during a pandemic.

H4f: Consumers with a high score on Neuroticism are more likely to buy new technology gadgets during a pandemic.

3.2.5   Openness to Experience

Openness to experience refers to the extent to which an individual is creative, open to ideas and imaginative, with an interest in varied sensory and cognitive experiences (Howard and Howard, 1995). Openness is also reflected in a strong intellectual curiosity and preference for novelty. A great deal of psychometric research has demonstrated that these two facets are significantly correlated (McCrae and Costa, 1992), and therefore the trait of openness can be viewed as a universal personality trait consisting of a set of specific traits, behaviours, and tendencies that cluster together. Open individuals tend to be curious about both inner and outer worlds and experience both negative and positive emotions more keenly than closed individuals (Matzler

et al., 2006). Past researchers have reported a positive relationship between openness and intelligence (DeYoung, et al, 2005; Zurawicki, 2010). Higher intellectual abilities of open individuals are likely to make them more aware of the damage of hoarding to others, as well as importance of respecting the health of others and maintaining their own well-being at the time of a pandemic. Other studies have also found that people who score high on Openness to Experience exhibit greater flexibility in changing their routine and reflecting on current events (Whitbourne, 1986) which makes them more open to reasonable alterations in life during a pandemic (Tesch and Cameron, 2003). As a result, this flexibility might refrain them from engaging in stockpiling behaviour, and, indeed, Dammeyer (2020) confirmed that Openness to Experience was associated with lower levels of extra shopping during COVID-19. Besides, open individuals are likely to minimize their interaction with sales people as a further measure of protecting themselves and others from possible infection (Ludeke, et. al, 2021). Further, given that frugal values (i.e. self-discipline in spending and efficient use of existing resources) represent more the exception than the norm in today's society, it may be argued that their adoption might involve greater cognitive flexibility, which is a key facet of Openness to Experience. Thus, individuals high on this trait may be more willing to switch to value-priced products during the pandemic. This may further be supported by the fact that Openness is related to higher intellectual abilities which is likely to make open individuals more economical during the times of uncertainty. Moreover, due to the fact that individuals high on openness are more willing to consider new ideas and experiences, are more creative, innovative, flexible and adaptable (Gavoille and Hazans, 2022), they are more likely to buy technological gadgets which facilitate working from home during a health crisis (e. g., printers, fax machines and scanners). This could be explained by the tendencies of open individuals to be in professional employment that allows remote work (John and Thomsen, 2014; Mongy, Pilossoph and Weinberg, 2020). Thus, we may hypothesize that:

H5a: Consumers with a higher score on Openness are less likely to exhibit stockpiling behaviour during a pandemic.

H5b: Consumers with a higher score on Openness are more likely to show reactive health-minded buying during a pandemic.

H5c: Consumers with a higher score on Openness are more likely to show proactive health-minded buying during a pandemic.

H5d: Consumers with a higher score on Openness are more likely to minimize their interaction with sales people during a pandemic.

H5e: Consumers with a higher score on Openness are more likely to switch to valued-price products/services/brands during a pandemic.

H5f: Consumers with a higher score on Openness are more likely to buy new technology gadgets during a pandemic.

3.2.6   Narcissism

Narcissism is characterized by the pursuit of ego gratification, vanity, and dominance (Paulhaus and Williams, 2002). Narcissism places self-importance and entitlement at the core of the construct (Krizan and Herlache, 2018). In other words, Narcissism is a concern with one's self to the extreme. Grandiose narcissism is characterized by feelings of superiority as well as interpersonal exploitativeness (Campbell, Rudich and Sedikides, 2002). In contrast, vulnerable narcissism is characterized by hypersensitivity, defensiveness and withdrawal (Cain et al., 2008). Those who score high in vulnerable narcissism show a diminished interest in affiliation, communal values, and prosocial behaviour (Campbell and Foster, 2007; Cisek et al., 2008). Lee et al. (2013) demonstrated that narcissists' consumer decisions are guided by their need to distinguish themselves positively from others. They do so by purchasing goods that are scarce, unique, exclusive, and customizable. They perceive acquisition of such goods as an opportunity to validate, sustain, and elevate their exclusivity. Since these individuals are ego-centered and possess an increased feeling of superiority and entitlement, during a pandemic they are more likely to engage in hoarding behaviour as well as both reactive and proactive health-minded behaviours to safeguard their own well-being. Past studies have shown that narcistic rivalry (a narcissistic tendency to devalue others) is negatively associated with a tendency to maintain social distancing (Blagov, 2020; Zajenkowski et al., 2020), and it is therefore expected that individuals high on narcissism are less likely to minimize their interactions with salespeople. Further, since narcissistic individuals are guided by feelings of superiority and the need to distinguish themselves from

others, they are less likely to switch to value-priced products during the pandemic, and are more likely to purchase new technological equipment. Thus, we may posit that:

H6a: The higher the level of Narcissism of an individual, the higher his/her level of stockpiling behaviour during a pandemic

H6b: The higher the level of Narcissism of an individual, the higher his/her level of reactive health-minded buying behaviour during a pandemic

H6c: The higher the level of Narcissism of an individual, the higher his/her level of proactive health-minded buying behaviour during a pandemic

H6d: The higher the level of Narcissism of an individual, the less likely he/she is to minimize interaction with salespeople during a pandemic.

H6e: The higher the level of Narcissism of an individual, the less likely he/she is to switch to value-priced products during a pandemic.

H6f: The higher the level of Narcissism of an individual, the more likely he/she is to buy new technology gadgets during a pandemic.

3.2.7   Machiavellianism

Machiavellianism refers to the extent to which an individual is cynical, cold, manipulative, amoral, unprincipled and focused on personal gain (Paulhaus and Williams, 2002; Furnham et al., 2013). Individuals who score high on this trait focus on money, power and competition and place little emphasis on community building, self-care and family commitment; they aim to win at any cost (Spielberger and Butcher, 2013). Further, Machiavellians have been found to have little regard in adhering to moral or ethical standards. Various studies (e. g., Al-Khatib et al. 1997; Erffmeyer et al. 1999; Rawwas 1996; Vitell et al. 1991) have investigated the impact of Machiavellianism on consumer ethics and concluded that people with a high degree of Machiavellianism are more accepting of unethical consumer practices (Pilch and Turska 2015). Further, it has been found that individuals who score high on Machiavellianism are less likely to engage in helping behaviours than those who score lower on this dimension (Elias 2015; Wolfson 1981). Machiavellians possess

a "cool detachment" that makes them less emotionally engaged with others and/or less concerned with saving face in a potentially embarrassing situation that arises as a consequence of their actions (Christie and Geis, 1970; Vitell et al., 1991). Thus, Machiavellians are more likely to accept and engage in various unethical behaviours (Ruiz-Palomino and Bañón-Gomis 2016) including consumption patterns, such as hoarding products that are of necessity during a pandemic. Further, as in the case of Narcissists, Machiavellians are focused on their self-interest and personal gain and thus they are more likely to adopt a health-minded behaviour. Besides, they are less likely to minimize their interaction with salespeople as a result of their low levels of emotional engagement with others and lack of concern. They are also less likely to switch to value-priced products during the pandemic due to their tendency to focus on personal gain and prestige, and, as in the case of Narcissism, are expected to purchase new and more expensive technological gadgets. We may therefore hypothesize that:

H7a: The higher the level of Machiavellianism of an individual, the higher his/her level of stockpiling behaviour during a pandemic.

H7b: The higher the level of Machiavellianism of an individual, the higher his/her level of reactive health-minded buying behaviour during a pandemic.

H7c: The higher the level of Machiavellianism of an individual, the higher his/her level of proactive health-minded buying behaviour during a pandemic.

H7d: The higher the level of Machiavellianism of an individual, the less likely he/she is to minimize interaction with sales people during a pandemic.

H7e: The higher the level of Machiavellianism of an individual, the less likely he/she is to switch to value-priced products during a pandemic.

H7f: The higher the level of Machiavellianism of an individual, the more likely he/she is to buy new technology gadgets during a pandemic.

3.2.8 Psychopathy

Psychopathy refers to the extent to which an individual is callous, impulsive, antisocial and prone to risk taking (Paulhaus and Williams, 2002). Psychopaths have a reduced capacity for relationship building, guilt, or loyalty to anyone beyond themselves. They demonstrate high levels of grandiosity and shallow emotion (Babiak and Hare, 2006). Psychopathy is the most malevolent trait of the Dark Triad (Rauthmann, 2012), and individuals who score high on it show low levels of empathy combined with high levels of egoism, thrill-seeking and irresponsibility (Cooke and Michie, 2001; Jones and Paulhus, 2011). Given the tendency of psychopaths to exhibit antisocial behaviours (Benning et al., 2003), psychopaths must be more prone to hoarding products during a pandemic, ignoring masks and sanitizers, but at the same time they are likely to exhibit higher levels of proactive health-minded behaviour as a result of their egoistic attitude. Besides, similar to Narcissists and Machiavellians, people who score high on Psychopathy have been found not to conform to social distancing regulations and measures (Bagov, 2020; Zajenkowshki et al., 2020). Thus, it can be asserted that individuals with high levels of Psychopathy are less likely to minimize their interaction with salespeople. Further, Psychopaths, due to their egoistic nature and lower levels of empathy, are more likely to switch to value-priced products during the pandemic as a means to safeguard that they will always be in possessions of items that may be of necessity to others, as well as buy new equipment (e.g., laptops) as a result of their grandiosity and desire for attention. Thus, we may anticipate that:

H8a: The higher the level of Psychopathy of an individual, the higher his/her level of stockpiling behaviour during a pandemic.

H8b: The higher the level of Psychopathy of an individual, the lower his/her level of reactive health-minded buying behaviour during a pandemic.

H8c: The higher the level of Psychopathy of an individual, the higher his/her level of proactive health-minded buying behaviour during a pandemic.

H8d: the higher the level of Psychopathy of an individual, the less likely he/she is to minimize interaction with sales people during a pandemic.

H8e: The higher the level of Psychopathy of an individual, the more like he/she is to switch to value-priced products during a pandemic.

H8f: The higher the level of Psychopathy of an individual, the more likely he/she is to buy new technology gadgets during a pandemic.

3.2.9   Power Distance

Power Distance refers to the extent to which less powerful individuals "expect and accept that power is distributed unequally" (Hofstede, 2001, p.98). Individuals characterized by large power distance are more likely to accept a power hierarchy, exhibit greater reliance on the centralized authority and greater tolerance towards inequalities in power and wealth (Hofstede, 2001). Past studies (e. g., Kim and Zhang, 2014; Yoo and Donthu, 2005) have shown that individuals who score high on Power Distance are unlikely to disagree with their superiors, question authority and show more loyalty to their nation. In high power-distance cultures there is less decision-making autonomy, and during a crisis, people can be expected to exhibit orderly and norm-governed behaviour (Van Bavel et al., 2020). Thus, at the individual level, we speculate that people who score high on Power Distance rely on mutual obligations and generally obey authorities. Hence, these individuals are likely to follow the governmental anti-hoarding and health-enhancement recommendations/rules and comply with the prevention measures such as use of masks. They are also expected to follow the social distancing measures and thus minimize interactions with sales people. Besides, power distance status/conspicuous consumption is one realm which has been found to be strongly associated with status/conspicuous consumption (Souiden, M'Saad and Pons, 2011). For instance, Gao et al. (2016) demonstrated that consumers with a high level of power distance believe that status consumption is effective for social signalling, especially when surrounded by others' with on-par or inferior status. This is rationalized by the fact that these consumers abide to the idea that people should be ranked and placed at their defined position in a social stratum, and thus, individuals who score high on Power Distance will be less likely to switch to valued-priced products. However, this may well suggest that they will also be more likely to purchase new technological gadgets. Therefore, we can hypothesize that:

H9a: The higher the level of Power Distance of an individual, the lower his/her level of stockpiling behaviour during a pandemic.

H9b: The higher the level of Power Distance of an individual, the higher his/her level of reactive health-minded buying behaviour during a pandemic.

H9c: The higher the level of Power Distance of an individual, the higher his/her level of proactive health-minded buying behaviour during a pandemic.

H9d: The higher the level of Power Distance of an individual, the more likely he/she is to minimize interactions with sales people during a pandemic.

H9e: The higher the level of Power Distance of an individual, the less likely he/she is to switch to value-priced products during a pandemic

H9f: The higher the level of Power Distance of an individual, the more likely he/she is be to buy new technology gadgets during a pandemic.

3.2.10 Uncertainty Avoidance

Uncertainty Avoidance refers to the extent to which an individual is tolerant towards uncertainty and ambiguity (Hofstede, 2001). This dimension evaluates the way in which people respond to the ambiguities embedded in everyday life (Hofstede, 1980). Individuals with higher levels of uncertainty avoidance feel more uncomfortable in unfamiliar situations and are intolerant of different opinions and behaviours. They tend to be threatened by the unknown and are less likely to take on any kind or risk (Hofstede, 1997). On the contrary, individuals with a lower score on this dimension are more comfortable with the unknown, exhibit greater tolerance for different views and are more likely to accept risk (Hofstede, 2001). It can therefore be suggested that people with strong uncertainty avoidance follow norms rigidly, whereas those with weak uncertainty avoidance are more flexible (Hofstede, 1994). Hence, during a pandemic, individuals who score high on Uncertainty Avoidance are more likely to feel more stressed, anxious and worried seeking to control the environment, events and situations. Rojas-Mendez (2021) argued that every worry (i.e., a disturbing cognition that a state of an object will become discrepant from its desired state) involves some potential danger to a personal or collective object in at least one of the main domains of life (e.g., social relations, health and safety, environment, meaning in life, economics, achievement in work and studies). Therefore, individuals who score high on Uncertainty Avoidance are more likely to engage in stockpiling behaviour as well as take extra measures to

protect their health and well-being in an attempt to reduce the high level of uncertainty caused by a pandemic. They are also more likely to minimize their interaction with sales people in fear of a possible infection. They may also be more prone to purchasing private-label or store-branded products, as a way of both safeguarding product availability in stores and being economical during periods of crisis, as well as buying more technological gadgets to be prepared to work from home. Both of these behaviours may minimize their anxiety, reduce uncertainty and help them gain some form of control over these unexpected situations. Thus, we may posit that:

H10a: The higher the level of Uncertainty Avoidance of an individual, the higher his/her level of stockpiling behaviour during a pandemic.

H10b: The higher the level of Uncertainty Avoidance of an individual, the higher his/her level of reactive health-minded buying behaviour during a pandemic.

H10c: The higher the level of Uncertainty Avoidance of an individual, the higher his/her level of proactive health-minded buying behaviour during a pandemic.

H10d: The higher the level of Uncertainty Avoidance of an individual, the more likely he/she is to minimize interaction with sales people during a pandemic.

H10e: The higher the level of Uncertainty Avoidance of an individual, the more likely he/she is to switch to value-priced products during a pandemic.

H10f: The higher the level of Uncertainty Avoidance of an individual, the more likely he/she is to buy new technology gadgets during a pandemic.

3.2.11 Collectivism

The Collectivism vs. Individualism dimension considers the degree to which societies are integrated into groups and their perceived obligations and dependence on groups (Hofstede, 1997). Individualism refers to the extent to which people act as individuals rather than as members of a group (Hofstede, 1997). Individualists are independent of their groups and consider the achievement of their personal goals of primary importance, while collectivists are interdepended within their groups and support the group goals even at the expense of their own needs (Triandis,

2001). Individualists behave primarily on the basis of their own attitudes, the "I" exists by itself rather than as part of "we", while collectivists tend to comply with the norms of the referent groups (Han, 2017). Schwartz and Bilsky (1987) observed that collectivism embraces motivations such as being prosocial (active protection or enhancement of welfare of others), security (safety, harmony, and stability of society), and restrictive conformity (restraint of actions and impulses which are likely to harm others and violate sanctioned norms). Individualistic consumers are likely to make autonomous decisions, with less consideration of the societal entities to which they belong (Hofstede, 2011; Krause, 2015), while collectivistic consumers are most likely to sacrifice personal interests for the welfare of others (Mooij and Hofstede, 2011) and restrain their actions and impulses to harm the nation or violate the nation's expectations (Schwart and Bilsky, 1990). Based on the above, we anticipate that collectivists are less likely to resort to stockpiling products during a pandemic and tend to prioritize products essential to public safety. On the contrary, individualists are more likely to take care of their own short-term and long-term health. Further, as collectivists are characterized by prosocial behaviour, they are expected to minimize their interaction with sales people during the pandemic. Also, at the times of crisis, collectivists are more likely to switch to valued-based products (i.e., buy more store-branded goods) to ensure that products are always available in stores for other members of their community. It could also be argued that people who score high on Individualism may be more prone to buying new technological products, since these individuals tend to buy products that offer more personal benefits. Thus, we may anticipate that:

H11a: The higher the level of Collectivism of an individual, the lower his/her level of stockpiling behaviour during a pandemic.

H11b: The higher the level of Collectivism of an individual, the higher his/her level of reactive health-minded buying behaviour during a pandemic.

H11c: The higher the level of Collectivism of an individual, the lower his/her level of proactive health-minded buying behaviour during a pandemic.

H11d: The higher the level of Collectivism of an individual, the more likely he/she is to minimize their interaction with sales people during a pandemic.

H11e: The higher the level of Collectivism of an individual, the more likely he/she is to switch to value-priced products during a pandemic.

H11f: The higher the level of Collectivism of an individual, the less likely he/she is to buy new technology gadgets during the pandemic.

3.2.12 Masculinity

Masculinity refers to the dominant gender role pattern in a society, "men are supposed to be assertive, tough and focused on material success; women are supposed to be more modest, tender and concerned with quality of life" (Hofstede, 2001; p.297). Individuals who score high on Masculinity value assertiveness, are more competitive, ambitious and tend to dominate in all settings, while individuals high on femininity value nurturance and tend to be more modest and cooperative. De Mooij (2011) explained the role of masculinity in purchasing products and brands, especially those that serve as luxury products or are identified as symbols of status and success. According to his study, the need for appearance, in all purchase and consumption-related situations, could be the strongest for individuals who score high on masculinity. Notably, individuals with high levels of Masculinity consume to show, while individuals who score high on femininity consume to use. Extant studies have further shown that masculine cultures (and individuals) are more field-independent in a decision making process, while feminine cultures (and individuals) are more field-dependent (De Mooij and Hofstede, 2002; Hofstede et al., 2010; De Mooij, 2011) and thus rely more on their clues from the environment when making decisions. In a similar vein, feminine individuals are believed to show more care for others, and hence these individuals are more likely to take all precautionary measures (e.g., buying masks) to safeguard the health of their loved ones, as well as purchasing products that support one's health and well-being. Besides, it is expected that masculine individuals will refrain from engaging in stockpiling behaviours as this will not add value to their status. The same refers to their possible nonconformity with social distancing measures and unwillingness to minimize their interaction with sales people. Further, it is expected that individuals with high levels of Masculinity will be less likely to switch to value-priced products or brands due to their innate need to distinguish themselves from others, and will be more likely to buy new technological items to display their material possessions (Singh, 2005). Hence, we can posit that:

H12a: The higher the level of Masculinity of an individual, the lower his/her level of stockpiling behaviour during a pandemic.

H12b: The higher the level of Masculinity of an individual, the lower his/her level of reactive health-minded buying behaviour during a pandemic.

H12c: The higher the level of Masculinity of an individual, the lower his/her level of proactive health-minded buying behaviour during a pandemic.

H12d: The higher the level of Masculinity of an individual, the less likely he/she is to minimize their interaction with sales people during a pandemic.

H12e: The higher the level of Masculinity of an individual, the less likely he/she is to switch to value-priced products/brands/services during a pandemic.

H12f: The higher the level of Masculinity of an individual, the more likely he/she is to buy new technology gadgets during a pandemic.

3.2.13 Long-Term Orientation

Long-Term Orientation "stands for the fostering of virtues oriented towards future rewards, in particular, perseverance and thrift" (Hofstede, 2001, p.359). Short-Term Orientation refers to "the fostering of virtues related to the past and present, in particular, respect for tradition, preservation of "face" and fulfilling social obligations" (Hofstede, 2001, p. 359). Individuals who score high on Long-Term Orientation focus on the future in a way that delays short-term success in favour of success in the long term. Thus, they value persistence, perseverance, saving, long-term growth and the capacity for adaptation. They opt for planning and hard-work for future benefit (Bearden et al., 2006). On the contrary, people who score high on Short-Term Orientation tend to focus on the near future and place a stronger emphasis on the present. They respect tradition, focus and depend on the past and emphasize the stability of societies. Further, people who score high on Short-Term Orientation tend to resist change and hence they have less potential for learning and progress compared to people who are more long-term oriented (Wang and Zhai, 2022). Past research indicates that people who are high on Long-Term Orientation have a high level of self-control and

a thorough plan for their future goals (Bearden et al., 2006; Nepomuceno and Laroche, 2017; Wang and Zhai, 2022). They have also been found to exhibit a tendency to buy products that are an actual or utilitarian need (Joshanloo and Park, 2021), and, as such, they are more likely to resort to stockpiling during a pandemic to acquire those products that provide a functional or practical benefit. Besides, long-term oriented individuals sacrifice the present for future rewards and strive to extend their life expectancy by giving more attention to health (Mahlich, et al., 2018). Hence, they are more likely to exhibit higher levels of reactive and proactive health-minded behaviours as well as minimizing their interaction with sales people while shopping during the pandemic. Further, individuals who score high on the trait of Long-Term Orientation are expected to switch to valued-priced products/service/brands during a health crisis, since they tend to demonstrate frugality during the hard times for the long-term benefit. Besides, they are more likely to buy new technological gadgets, as these items represent an actual or utilitarian need (Joshanloo and Park, 2021) during a pandemic. Thus, we may hypothesize that:

H13a: The higher the level of Long-Term Orientation of an individual, the higher his/her level of stockpiling behaviour during a pandemic.

H13b: The higher the level of Long-Term Orientation of an individual, the higher his/her level of reactive health-minded buying behaviour during a pandemic.

H13c: The higher the level of Long-Term Orientation of an individual, the higher his/her level of proactive health-minded buying behaviour during a pandemic.

H13d: The higher the level of Long-Term Orientation of an individual, the more likely he/she is to minimize their interaction with sales people during a pandemic.

H13e: The higher the level of Long-Term Orientation of an individual, the more likely he/she is to switch to value-priced products during a pandemic.

H13f: The higher the level of Long-Term Orientation of an individual, the more likely he/she is to buy new technology gadgets during the pandemic.

CHAPTER 4: RESEARCH METHODOLOGY

The Research Methodology Chapter provides an outline of the research methods that were used for the purposes of this research. In particular, the Chapter begins by setting the scene of the outbreak of the Covid-19 pandemic in Cyprus. It provides a detailed timeline of the restrictions posed by the government, the number of reported positive cases as well as the number of deaths due to the pandemic, as well as why Cyprus is considered as an appropriate setting to study consumer behaviour during a pandemic. This is followed by the research design and its justification, the method of data collection, as well as a description of the measurement scales. The researcher further describes the data collection techniques. The Chapter concludes with the discussion on ethical issues relevant to this study.

4.1   COVID-19 Situation in Cyprus

The setting for this research is the Republic of Cyprus. While Cyprus has not been hit hard by the coronavirus infection, it still seems to be an appropriate setting to study consumer behaviour during a pandemic, because this small island with the population of 875,900 has recorded 660,854 Covid-19 cases and 1364 deaths as of 05th January 2024 (WHO, 2024). More importantly, Cyprus was under a strict lockdown for 2 months during the spring of 2020, when the pandemic first hit the country. Cyprus confirmed its two first positive Covid-19 cases on March 9th 2020; a 25-year-old man returning from a trip in Italy and a 64-year-old heart surgeon returning from a medical convention in England (KNews, 2020). On March 11th, four more cases were recorded forcing the Minister of Health to issue the first Decree forbidding gatherings of over 75 people in theatres, cinemas, restaurants, cafeterias, bars, ice cream parlours, and event halls, until March 31st, 2020 (Knews, 2020; PIO Coronovirus, 2020). Schools were also forced to shut down as of March 13th, 2020. Following this situation, on March 14th flight cancelations began, while from March 16th until April 30th 2020 only people with negative coronavirus medical certificate could enter the Cyprus Republic and passengers arriving at both International airports (i.e., Larnaca and Paphos airports) were quarantined for a fortnight (Knews, 2020; Cyprus Mail, 2020). On March 15th 2020, the Minister of Transport, Communications and Works issued a Decree prohibiting all local flights effective as of April 18th 2020 and for a period of thirteen days (Government Gazette, 2020), while on March 21st 2020 the first death was confirmed (Reuters, 2020; Cyprus Mail, 2020). Given this

situation and in an attempt to effectively address the spread of the coronavirus, the Government implemented a nationwide lockdown. The lockdown took effect as from 24th of March 2020 until 13th of April 2020. During the lockdown people were banned from leaving their homes with the exclusion of specific cases such as transfer to and from workplace, transfer for the purposes of purchase or supply of basic necessities and other 'justified' circumstances.

Besides, all persons were required, as per the issued Decree, under all circumstances, to carry identification and additional proof as to the purpose of their movement. Any individual violating the above restrictions faced a 150 Euro fine, which was later increased to 300 Euros. In addition, during the period of the lockdown (i.e., 24th of March 2020 – 13th of April 2020), all parks, playgrounds, open-air sport spaces and public gathering areas, among others, squares, dams, excursion sites, beaches, marinas, were closed (PIO Coronovirus, 2020). Moreover, the same Decree suspended the operations of all retailers, except all food and beverage retailers (e.g., supermarkets, grocery stores, butchers, fish markets, bakeries, pastry shops, fruit markets, liquor stores), pharmacies, food and beverage services, gas stations, kiosks and mini markets (Government Gazette, 2020). The Decree further prohibited the operation of open markets, bazaars and itinerant sales and work on construction sites was terminated during the same period (Government Gazette, 2020).

The above restrictions became even stricter with the issuance of another Decree by the Minister of Health on the 08th of April 2020. This Decree extended the existing lockdown up until 30th of April 2020, but also introduced a prohibition of any movement of persons from 9:00 pm until 6:00 am, with the exception of those individuals holding a Confirmation of Movement of an Employee Certificate which certified the necessity of movement between the times mentioned above (Government Gazette, 2020). Further, this Decree provided that any movement apart from the purposes of employment is prohibited throughout the day and only allowed once a day, in exceptional cases, and after permission has been obtained by sending an SMS message to a special number (PIO Coronavirus, 2020). The lockdown was further extended until 21st of May 2020.

The initial easing of the restrictions began on May 4th 2020, allowing some businesses to reopen, including construction and certain retail outlets, while a night-time curfew remained in place

(Reuters, 2020). Full movement relaxation occurred on May 21st, with 923 cases and 24 deaths recorded by that date (KNews, 2020). Flight bans were lifted on June 9th, although some restrictions persisted from travellers from highly affected countries, such as UK and Russia, Cyprus major sources of tourism. Hotels resumed operations on June 1st, and gathering restrictions were lifted on June 24th 2020 (KNews, 2020). The summer of 2020 was a "slowdown" period, as Covid-19 cases were rarely reported and thus people were able to enjoy a more relaxed summer.

On September 14th, 2020, over 107,000 students returned to schools following a period of minimal new Covid-19 cases (KNews, 2020). However, almost a month later, on October 12th, the Ministry of Health implemented additional emergency measures for Limassol and Nicosia due to increased cases (KNews, 2020). Subsequently, on October 22nd, a partial lockdown was imposed on Limassol and Paphos (KNews, 2020).. Following the emergence of the Omikron variant, a nationwide curfew and early closing times for restaurants were reinstated on December 29th 2020, along with a ban on gatherings in houses other than permanent residences (KNews, 2020). With rising cases and deaths, a full lockdown was implemented from January 10th to January 31st, 2021, later extended until February 28th with stringent measures including a night curfew and limited outdoor activity (Government Gazette, 2021). Restrictions were eased on March 1st, 2021, despite increasing cases, due to the vaccination program. However, a fourth lockdown was imposed from April 26th to May 9th, 2021, despite progress in vaccination in an attempt to cobat a spike in infections (PIO Coronovirus, 2021). By May 21st, 47% had received their first vaccine dose, prompting gradual relaxations from May 29th, including lifting the curfew and reopening of various venues. Further relaxations occurred on October 7th, 2021, but measures like mask mandates and Safe Pass requirements remained in place in 2022, along with social distancing and capacity restrictions (PIO Coronovirus, 2022). Additional easing of measures began in mid-April 2022, signaling a return to normalcy.

Cyprus was on a solid growth path prior to the outbreak of the Covid-19 (Mallis and Matsi, 2020). The economy of the country has suffered extensively as a result of different restrictions and confinement measures as described above. In the first quarter of 2020 economic growth slowed down considerably, 0.8% (year-on-year), reflecting a significant fall in external demand for goods and tourism (Philenews, 2020), while the Consumer Confidence Indicator (CCI) experienced a

sharp drop from -4.4 in February 2020 to -22.6 in March 2020 and subsequently to -32.5 in April 2020 (PWC, 2020). Tourism, one of the main economic sectors in Cyprus, has been hurt severely, since airlines had to suspend their operations, hotels shut down and borders were closed restricting entrance into the country. The last five years, prior to the COVID-19 hitting the country, have been record breaking in both the number of tourist arrivals and revenues. In 2019 Cyprus welcomed almost 4 million visitors with total revenues estimated at €2.7 billion which sharply fell to a record low of €392.000 in 2020 and €1.9 million in 2021 (Cyprus Profile, 2023; Trading Economics, 2023). According to CyStat, in March 2020, just before the ban of travelling was imposed, the number of visitors in Cyprus reached just 55.342 compared to 169.934 in March of 2019, recording a sharp decrease of 67.4%, while in June of 2020, when the ban for traveling was slowly lifted, arrivals of tourists reached 9.119 compared to 509.662 in June 2019, recording a decrease of 98,2% (CyStat, 2023). April and May 2020 recorded no visitors and hence no revenue from tourism. In comparison to other European countries, Cyprus experienced the most severe decline of tourist arrivals for the year 2020 (IMF, 2021).

The impact of the coronavirus on the retail industry has also been widely felt as traditional brick-and-mortar stores have been significantly affected (KPMG, 2020). Retail is also considered a key sector of the Cypriot economy contributing around 5.3% to the country's GDP and employing 9% of the local workforce (EY, 2020). The sector achieved an annual turnover of €5.5 billion in 2019, marking an annual growth of approximately 3.5% since the 2013 economic crisis (EY, 2020). COVID-19 had a huge impact on the retail sector which forced them to reconsider operations, sales channels and supply chain management. Consumers were faced with their deflated social lives due to social distancing and restricted mobility, became more concerned about their health and financial security and prioritized spending on necessity goods. The latter resulted in changes in product demand and shopping channel preferences, albeit in different ways across each product category, such as an increase in grocery sales, higher tickets per visit due to less frequent visits, demand for delivery, switching to neighborhood shops from hypermarkets, growth of online channels, increased traction for technology goods and gadgets, reduction in apparel demand due to reduced social interaction and stockpile on vitamins and supplements (EY, 2020).

Consumer behaviour was also heavily affected by the media. The pandemic was dominating the news and, in the absence of authentic information on COVID-19, all kinds of disinformation, misinformation, half-truths, conspiracy theories and rumours abounded. When the first case was reported in Cyprus, the coverage in the news was so intense that caused emotional responses of fear, anxiety and concern in the community. News was reporting the number of cases on a daily basis, promoting hand hygiene and social distancing along with other preventive measures, which created anxiety among the public leading to stockpiling of face masks and hand sanitizers. News also projected the empty shelves in supermarkets instilling further stress onto consumers and subsequent stockpiling of necessities.

Thus, Cypriot consumers have had a lot of pandemic-related experiences and could make an appropriate sample for this study.

4.2 Research Design

Research can only be interpreted in a meaningful way if there is a clear understanding of the philosophical principles that affect the research outcomes. In social sciences there are two key philosophical principles; ontology and epistemology (Moon and Blackman, 2014). Ontology, also referred to as the "study of being", is concerned with what really exists in the world, while epistemology is thought of as the "study of knowledge" (Moon and Blackman, 2014). In other words, ontology deals with what constitutes reality and how we can make sense of its existence and epistemology deals with what constitutes valid knowledge and how we can acquire this knowledge. There are two main philosophies that need to be considered: positivism and interpretivism. Positivism posits that society shapes individuals, and it emphasizes the influence of 'social facts' in shaping individual actions. This position puts extra emphasis on the importance of employing quantitative research to get an overview of the society in its entirety and reveal social trends. People's actions can be largely explained by the social standards they have been exposed to, their social class, gender and ethnic background. Thus, in positivist research, scholars search for associations between two or more variables. Interpretivism aims at gaining an in-depth understanding of the lives of participants to get an empathetic insight of why people act in a certain way. This position usually employs a qualitative approach which enables a close interaction with the participants.

The aforementioned quantitative and qualitative paradigms draw their claims from different philosophical perceptions about how people achieve scientific knowledge and what constitutes valuable and valid knowledge (Keong, Md Husin and Kamarudin, 2021). The distinction between these two paradigms is often framed in terms of using words rather than numbers, or using open-ended questions rather than closed-ended ones. Quantitative and qualitative approaches should not be viewed as rigid, distinct categories, but rather as different ends to a continuum. In the middle of these two approaches resides a third one; the mixed methods study. Qualitative research aims at gaining an in-depth understanding of social phenomena (Keong et. al., 2021). Quantitative research refers to the systemic empirical exploration of social phenomena through statistical, mathematical or numerical data or computational techniques (Given, 2008). A quantitative approach uses measurable data to formulate facts. In mixed methods, the researcher collects and analyses both quantitative and qualitative data within the same study (Bowers, et al., 2013; Creswell and Clark, 2017). This method draws on potential strengths of both approaches, allowing to investigate diverse viewpoints and reveal associations that exist between the complex layers of multidimensional research questions.

For the purposes of this study, a quantitative approach has been chosen. This method tests objective theories by examining the relationship among variables (Aliaga & Gunderson, 2000). The rationale behind the chosen method lies in the fact that a quantitative view is described as being "realist" and "positivist". According to Muijis (2011), there is a distinctive "truth" or "reality" that the investigator needs to apprehend. Further, a quantitative approach allows the researcher to explore a problem without influencing it. Hence, this approach is free of any prejudices and objective, it allows to prove a theory or evidence that can be generalizable (Muijs, 2011). Based on this philosophy, the data collected will be about an observable reality searching for regularities and causal relationships in order to facilitate generalisation. Starting with an exploration of existing theories a set of hypotheses has been developed as illustrated in the previous section. These hypotheses have been tested through statistical analyses to be supported, in whole or in part, or rejected, leading to the further development of theories.

4.3 Method of Data Collection

This research consisted of 2 studies of consumer buying behaviour during a pandemic. Study 1 examined the link between personality and consumer behaviour, while Study 2 identified the relationship between individual cultural characteristics and consumer behaviour. Both studies used a quantitative approach, and the data were collected through structured questionnaires. Structured questionnaires have been chosen due to the fact that they contribute significantly to reliability of research by reducing variation in questioning and thus ensuring greater consistency (Muijs, 2011). Structured questionnaires also minimize an interviewer bias by eliminating the ability of interviewers to influence answers in any way, either purposely or accidentally (Babbie, 2010). The questionnaires included questions that contained lists of pre-coded items for each of the operationalized constructs. The items were measured on a 5-point Likert scale (ranging from 1=strongly disagree to 5= strongly agree) with the exception of sociodemographic characteristics. The questionnaires for both Studies consisted of three parts. The questionnaire for Study 1 included: (a) psychological traits, (b) consumer behaviour patterns; and (c) demographic characteristics (age, gender, marital and family status, education and income), while the questionnaire for Study 2 included: (a) individual cultural orientations, (b) consumer behaviour patterns; and (c) demographic characteristics (age, gender, marital and family status, education and income) (See Appendix 1-2 for questionnaires).

4.3.1 Rationale for Conducting Two Separate Studies

The decision to conduct two separate studies in this research was underpinned by a combination of theoretical, methodological, and practical considerations, ensuring that the research objectives were addressed comprehensively and with clarity.

From a **theoretical perspective**, the separation of studies allowed for a focused investigation of the two distinct dimensions of consumer behaviour during a pandemic. Study 1 concentrated on personality traits, examining the Big Five and the Dark Triad, while Study 2 explored individual cultural characteristics. By addressing these dimensions separately, the research aligned with the theoretical frameworks of personality psychology and cultural dimensions theory. This approach enabled a deeper exploration of each dimension's unique influence on consumer behaviour, which prevented dilution of findings and ensured theoretical rigor.

From a **methodological standpoint**, combining personality traits and cultural dimensions into a single study would have introduced significant complexities in data collection and analysis, since it would imply a huge number of constructs and variables. Separating the studies ensured that each dataset remained manageable, enabling more precise statistical analyses and hypothesis testing. This methodological design facilitated clearer insights into the relationships between different constructs, enhancing the robustness and interpretability of the results.

From a practical perspective, another reason for conducting two separate studies was an attempt to minimize consumer fatigue. Administering a single study that required respondents to answer an extensive set of questions encompassing both personality traits and cultural dimensions could have resulted in respondent disengagement, incomplete surveys, or even biased responses. By conducting two separate studies, each with a more manageable scope, we ensured higher-quality data and more reliable results. Besides, by conducting two complementary studies, this research captured the nuanced effects of personality and culture on consumer behaviour during a pandemic while providing a basis for cross-validation of findings. Together, these studies offer a comprehensive and multidimensional understanding of consumer behaviour during crises, contributing significantly to both theoretical advancement and practical application.

4.4 Measurement Scales

The measurement scales in this research were based on prior studies in an attempt to maximize both the reliability and validity of the results. All scales used were translated to Greek from the original English version. The details of the measurement scales are provided below.

4.4.1 Personality

4.4.1.1 Big Five
In 1985 Costa and McCrae published the NEO Personality Inventory that became a breakthrough in personality research. This NEO-PI measured three broad personality dimensions: Neuroticism, Extraversion, and Openness to experience, but it did not include facet scales for the newly added Agreeableness and Conscientiousness. Soon, the Revised NEO PI- R was created. It included 240 items which permitted differentiated measurement of each of the Big Five (Costa & McCrae, 1992; Costa & McCrae, 1995). However, the Revised NEO PI was found to be quite lengthy and, for this

reason, Costa & McCrae (1992) developed a shorter version, the 60-item NEO-FFI, based on the NEO PI version. The NEO-FFI scales are correlated to a large extent with the NEO PI-R scales, which implies that these shorter scales inherit a substantial portion of the validity of the longer ones (John and Srivastava, 1999).

In 1991, John, Donahue, and Kentle constructed the Big Five Inventory to address the need for a short instrument that will help measure the components of the Big Five. The 44-item BFI was developed with the objective to create an inventory that would be brief and at the same time allow for the efficient and flexible assessment of the five dimensions. Similarly, Soto and John (2017) developed shorter versions from the BFI-2 60-item questionnaire (Soto and John, in press); the 30-item short form (BFI-2-S) and the 15-item extra-short form (BFI-2-XS) to address those situations in which the full set of the questionnaire may not be feasible, and a shorter version is needed. As Burisch (1984) observed, "*Short scales not only save testing time, but also avoid subject boredom and fatigue . . . there are subjects . . . from whom you won't get any response if the test looks too long*".

For the purposes of this research, the Big Five Inventory-2-S (BFI-2-S) developed by Sotto and John (2017) was used. The choice to utilize this shorter version is based on two primary factors: (a) it maintains the reliability and validity of the complete measures (i.e., BFI-2), and (b) it provides researchers with time-saving benefits compared to the full BFI-2, thereby reducing respondent fatigue. The BFI-2-S scale contains 30 items and each of the traits are represented by 6 descriptive phrases. *"I am someone who is outgoing, sociable"*, *"I am someone who worries a lot."* and *"I am someone who is dominant, acts as a leader"* are some sample phrases that were used.

4.4.1.2   The Dark Triad

The Dark Triad is a term used to describe a consolation of the three socially undesirable personality traits: Narcissism, Psychopathy, and Machiavellianism (Paulhus and Williams, 2002). The Dark Triad has been traditionally assessed with the use of three different tests, each of which have been developed individually. Most commonly, the Narcissistic Personality Inventory (NPI) was used as the measure of Narcissism, the MACH-IV - for Machiavellianism and the Self-Report Psychopathy Scale (SRP) - for Psychopathy (Paulhus, 2013). However, the format differences

among these three different sets of tests, multiple choices versus scale ratings, complicated administration and analysis. With over 90 items spread across these three scales, it was remarkably inefficient for researchers to measure the Dark Triad. As a result, in 2010, Jonason and Webster developed a more concise and efficient 12-item version of the Dark Triad (called 'the Dirty Dozen'). The Dirty Dozen has been used to measure personality characteristics in this study, since a large number of examinations have asserted the utility of this scale (e.g., Jonason, Valentine, Li and Harbeson, 2011; Jonason and Webster, 2012; Rauthmann, 2012; Lee et al., 2013; Carter, Campbell and Muncer, 2014; Aghababaei, Mohammadtabar and Sffarinia, 2014). Despite some criticisms concerning the content of Psychopathy and Machiavellianism subscales, as well as more nuanced facets of Psychopathy (Miller, Price and Campbell, 2012; Furnham, Richards and Paulhus, 2013; Jones and Paulhus, 2014), the Dirty Dozen items have been found to possess reasonable psychometric properties (Jonason and Webster, 2010; Jonason et al., 2011; Jonason and Luévano, 2013), showed acceptable convergent and discriminant validity and proved to be reliable over time and across a number of tests (Jonason and Webster, 2010). In general, short measures are appealing due to the elimination of item redundancy and hence reduction of participant fatigue and frustration (Burisch, 1984, 1997; Saucier, 1994; Jonason and Webster, 2010). Thus, the use of this specific measurement scale in our study did not only reduce participant fatigue but also allowed for all three constructs to be measured using the same response format. The scale consists of four items assessing individual differences in Machiavellianism (e.g., *"I tend to manipulate others to get my way"),* Psychopathy (*e.g.," I tend to lack remorse")* and Narcissism (*e.g., "I tend to seek prestige or status").*

4.4.2   Individual Cultural Characteristics

The dominant metric of culture is Hofstede's (1980; 2001) five-dimensional measure of cultural values. Hofstede's dimensions have been popular for a number of reasons. Notably, these cultural facets fully cover and extend major conceptualizations of culture developed through decades, the dimensions have been empirically developed, replicated and found to be the most important theory of culture types (Chandy and Williams 1994; Søndergaard 1994). Further, according to Kale and Barnes (1992), researchers who used Hofstede's dimensions found meaningful relationships between national cultures and important demographic, geographic, economic and political indicators of a society. Hofstede's metric has been mainly used in a way that all individuals are equally assigned Hofstede's national culture indices by their own identity. Aaker and Lee (2001),

for instance, treated all Chinese as collectivists and all Americans as individualists, and Dawar and Parker (1994) grouped participants in their study based on national identity and assigned Hofstede's national indices to them accordingly. While this is acceptable when the unit of analysis is a country or culture, this approach is not appropriate when a study attempts to examine the effect of an individual's cultural orientation. Past studies tried to use Hofstede's metric to measure individual cultural orientations, but they found quite a few methodological difficulties (e.g., Robinson 1983; Hoppe, 1990; Sondergaard, 1994, Spector, Cooper and Sparks, 2001; Money and Nevins, 2005). In an attempt to overcome these issues, Yoo and Donthu (2002) developed the CVSCALE (Individuals Cultural Values Scale) to assess Hofstede's cultural dimensions at the individual level. This 26-item scale measures the individual level of Hofstede's dimensions of culture with adequate psychometric properties in terms of reliability and validity. This tool allows researchers and business practitioners to assess the cultural orientations of individuals and use primary data instead of cultural stereotypes (Yoo and Donthu, 2002). Our study uses the latter scale for assessing the individual characteristics. *"People in higher positions should make most decisions without consulting people in lower positions", "It is important to have instructions spelled out in detail so that I always know what I' m expected to do", "Individuals should sacrifice self-interest for the group" and "It is important to manage money carefully"* are some sample phrases used.

4.4.3   Consumer Buying Behaviour

4.4.3.1   Stockpiling Scale
Hoarding behaviours were measured using the scale which has been recently developed by Nowak et. al. (2020). The scale consists of 3 items, *"At the beginning of the pandemic (or currently) I stockpiled larger amount of food products than usual (e.g., Flour, milk, canned goods), "At the beginning of the pandemic (or currently) I stockpiled more cleaning products than usual (e.g. wipes, toilet paper, washing powder)" and "At the beginning of the pandemic (or currently) I stockpiled more protective goods than usual (e.g., gloves, masks)".* Respondents were asked whether they performed these behaviours at the beginning of the outbreak of the pandemic or whether they were still performing these behaviours at the time of completing the questionnaire.

4.4.3.2   Reactive and Proactive Health-minded Buying Behaviour
Scales for reactive and proactive health-minded buying behaviours have been developed by the researcher based on the existing relevant literature (e.g., Stanciu et al., 2020; Sheth, 2020; Laato

et al., 2020; Pantano et al., 2020; Arora and Grey; 2020; Nielsen, 2021), since there were no prior well-validated scales. Two scales of individual differences in reactive and proactive health-minded behaviours were created, and each scale consisted of three items. *"During the outbreak of the current pandemic, I have bought a lot of protective masks"* and *"During the outbreak of the current pandemic, I have bought more food that strengthens my immune system (e.g., vegetables and fruits)"* are sample phrases used.

4.4.3.3   Other Behaviours

Apart from the three primary consumer behaviours (stockpiling, reactive and proactive health-minded behaviours), additional three behaviour patterns have been added to the model, namely, minimum interaction with salespeople while shopping, switching to valued-price products/services/brands and buying more technological gadgets. Similarly, the scales to measure these behaviours have been developed by the researcher following extensive research of the topic (Stanciu et al., 2020; McKinsey, 2020; Accenture, 2020; Singh et. al., 2020; Ali, 2020; Gu et al., 2021).

The scale measuring the interaction with sales people while shopping included 3 items: *"During the outbreak of the current pandemic, I have found myself to avoid contact with sales people"*, *"During the outbreak of the current pandemic, I preferred shopping with contactless checkout"* and *"During the outbreak of the current pandemic, I preferred cashless transactions while shopping"*. The scale measuring consumer switching to valued-priced products/services/brands included 4 items: *"During the outbreak of the current pandemic, I have cut back on buying non-essential items"*, *"During the outbreak of the current pandemic, I have found myself checking the prices even for small items"*, *"During the outbreak of the current pandemic, I have bought products essential for my health and nutrition"*, and *"During the outbreak of the current pandemic, I have bought more private-label or store branded goods to save money"*. Last, the scale measuring consumer interaction with technological gadgets included 2 items; *"During the outbreak of the current pandemic, I have bought new equipment to facilitate remote working"* and "*During the outbreak of the current pandemic, I have switched to digital platforms for day-to-day needs"*.

4.4.4 Demographics

The data on age, gender, educational level, and household income were collected to examine the effect of demographic variables on the differences in consumer personality and buying behaviour.

4.5 Refinement and Validation of Measurement Scales

To address concerns regarding scale development and validation, this section elaborates on the multi-step process undertaken to ensure the reliability, validity, and generalizability of the scales. While some scales, such as the Big Five Inventory-2-S, the Dirty Dozen, Hofstedes's dimensions and the CVSCALE, were adopted from well-established studies, others—particularly those developed by the researcher for reactive and proactive health-minded buying behaviours and additional consumer behaviours—underwent a rigorous refinement process. This part mainly focuses on the scales developed by the researcher.

A pilot study was conducted to pre-test the research instruments (Van Tejlingen and Hundley, 2001) and identify potential flaws or unclear items in the questionnaires (Welman and Kruger, 1999). This pilot study involved 10 Cypriot consumers and provided valuable insights into the clarity, structure, and feasibility of the scales. Participants were encouraged to provide feedback on any ambiguous or unclear items to ensure that all questions were phrased clearly and aligned with the research context. The results indicated no issues related to the duration, flow, or structure of the questionnaires, with all participants reporting that the questions were easy to comprehend and respond to.

Building on the feedback from the pilot study, we undertook a comprehensive validation process, with particular emphasis on the scales developed specifically for this research. This process included the use of both Cronbach's alpha (α) to assess internal consistency and Confirmatory Factor Analysis (CFA) to evaluate structural validity. All constructs demonstrated Cronbach's alpha values exceeding 0.60, a threshold generally considered acceptable for reliability. To further validate the scales, CFA was conducted to assess their structural validity, ensuring alignment with theoretical expectations. The analysis confirmed that all constructs demonstrated strong dimensionality, with standardized factor loadings exceeding the recommended threshold of 0.50. This step was particularly critical for the researcher-developed scales, as it provided empirical

evidence that these scales effectively captured the intended constructs (see Chapter 5 for detailed results).

The iterative process of reliability analysis and CFA underscore the meticulous thought and effort invested in developing and validating the scales. For scales adopted from established research, the focus was on ensuring contextual relevance and accurate translation to the Cypriot context. For the researcher-developed scales, the process was more extensive, involving multiple rounds of refinement to ensure theoretical coherence and empirical robustness. This comprehensive approach underscores the methodological robustness of the study and addresses potential concerns regarding the validity and generalizability of the measurement instruments.

4.6 Sample

The target population for this research were consumers who permanently reside in the Republic of Cyprus regardless of their ethnic background (consumers from the "Turkish Republic of Northern Cyprus" were not included). The sampling method employed for the purposes of this research was the stratified random sampling. This sampling strategy is a widely used statistical technique in which a population is divided into different sub-groups based on some common characteristics and then different elements are randomly selected from these groups to form the final sample (Sarndal et. al., 2003). In particular, the population was divided into 4 smaller sub-groups based on the geographical area (the four major towns of Cyprus, namely Nicosia, Larnaka, Limassol and Paphos), in line with the specific quotas regarding age and gender. The mall intercept method was employed, whereby respondents are intercepted in shopping malls or other public places, screened for their appropriateness, given a questionnaire on the spot or invited to a research facility nearby to complete the questionnaire (Lavrakas, 2008). The mall intercept method is used frequently in marketing studies.

Thus, the data collection process implied random intercepting of participants in large shopping malls (e.g., grocery stores and retail stores) located in each of the four major towns in Cyprus as per the quotas specified. The researcher approached every 5th person entering the store and asked whether they would be willing to participate in the study. Study 1 was carried out during the months of September–December 2021 amidst news of a new lockdown due to the increasing infections and multiple deaths, while Study 2 was carried out during the months of March –May

2022. During the latter period, even though Covid-19 cases were still recorded in high numbers, the mortality rate was not as high (due to the occurrence of the Omikron variant which proved to be less severe). 600 consumers were approached by the researcher (300 participants per study), 438 consumers agreed to participate (a response rate of 73%), and this resulted in **426** valid questionnaires. Specifically, we collected 206 valid questionnaires for Study 1 and 220 valid questionnaires for Study 2. 12 collected questionnaires were excluded from further analysis due to having incomplete responses. Several questions were left unanswered and thus they have been eliminated from the analysis in an attempt to secure the validity of the results. Participants' age ranged from 18 to over 65, with the majority of the participants falling into the age group of 35-44 for both Studies. A reasonable split between male and female respondents (41.7% vs 58%) was achieved for Study 1, while for Study 2 the majority of the respondents were females (77.7%). The educational distribution of the sample indicates that in Study 1 95.2% had a college degree or higher, while 4.9% had a high school degree, while in Study 2 100% of the respondents had a qualification of college degree and higher. Among 206 people that participated in Study 1, 37.4% were single and 60.7% were married, while in Study 2, 60.9% were married and 36.6% were single. There was also a reasonable balance between participants with children (59.2%) and participants without children (40.8%) in Study 1, and the same was true for Study 2 (60.2% vs 39.8%). The income distribution for Study 1 showed that 38.8% of the sample had a yearly household income of more than €30.000, whereas 54.1% of respondents reported a household income lower than €30.000, while in Study 2 45.9% of the sample indicated having a yearly household income of more than €30.000 and 54.1% having less than €30.000 (see Table 1).

	Study 1	Study 2
Gender	**Male** = 86 (41.7%),	**Male** = 49 (22.3%),
	Female = 120 (58.3%)	**Female** = 171 (77.7%)
Age range	**18**=0 (0%),	**18**=2 (9%),
	19-24=47 (22.8%),	**19-24**=11 (5%),
	25-34=37 (18.8%),	**25-34**=64 (29.1%),

	35-44=66(32%),	**35-44**=106 (48.2%),
	45-54=50 (24.3%),	**45-54**= 25 (11.4%),
	55-64=2 (1%),	**55-64**=6 (2.7%),
	65+=4 (1.9%).	**65+**= 6 (2.7%).
Marital Status	**Single**=77 (37.4%),	**Single**=85 (36.6%),
	Married=125 (60.7%),	**Married**=134 (60.9%),
	Divorced=4 (1.9%).	**Divorced**= (5%).
Family Status	**With children**= 122 (59.2%),	**With children**= 102 (60.2%),
	Without children=84 (40.8%).	**Without children**=118 (39.8%).
Educational Level	**High school**=10 (4.9%),	**High school**=0 (0%)
	College=27 (13.1%),	**College**= 30 (13.6%),
	Undergraduate=50(24.3%),	**Undergraduate**=41(18.6%),
	Postgraduate= 119 (57.8%).	**Postgraduate**= 149 (67.7%).
Yearly Household Income range (in Euros)	**0-15000**=60 (29.1%),	**0-15000**=62(28.2%),
	15000-30000=66 (32%),	**15000-30000**=57 (25.9%),
	30001-45000=41 (19.9%),	**30001-45000**= 64 (29.1%),
	45001-60000=21(10.2%),	**45001-60000**=32 (14.5%),
	60001+=18 (8.7%).	**60001+**=5 (2.3%).

Table 1: Demographic profile of respondents

4.7 Analysing data

Each of the completed questionnaires has been carefully checked for errors and subsequently entered into the computer using the Statistical Package for the Social Sciences (SPSS, version 20). Regression analyses were undertaken to test the hypothesized links in the conceptual model to establish the strength of relationship between the identified variables.

4.8   Ethical Considerations

Conducting research involving the collection of personal data necessitates strict adherence to ethical principles. Key ethical considerations include maintaining confidentiality and anonymity, obtaining informed consent, and ensuring beneficence.

Confidentiality and anonymity are pivotal in safeguarding the privacy of research participants. These principles are intrinsically linked to the ethical duty of beneficence, encompassing both professional and personal ethics. Israel and Hay (2012) assert that researchers must guarantee participants that their data will remain confidential and that their identities, opinions, and personal information will not be disclosed under any circumstances. This commitment is fundamental to building trust and protecting participants' privacy, thereby fostering a secure environment for candid responses. Informed consent is a cornerstone of ethical research. It is predicated on the principle that participants have the right to be fully and honestly informed about the research in which they are invited to participate (Nijhawan et al., 2013). This involves providing comprehensive information about the research's nature, objectives, data collection methods, and potential outcomes. Participants must give their consent voluntarily, ensuring it is both informed and freely given. This process is crucial for respecting participants' autonomy and protecting their rights, enabling them to make well-informed decisions about their involvement.

The principle of beneficence, or non-maleficence, requires researchers to maximize the benefits of their research while minimizing the risks of harm or discomfort to participants (Murphy, 2011). Harm can manifest in various forms, including physical, psychological, social, environmental, or economic (Israel and Hay, 2012). Researchers are obligated to implement measures to mitigate these risks, ensuring that the potential benefits of the research justify any potential harm. A thorough assessment and balancing of risks and benefits are critical for ethical research practice, emphasizing the need for precautionary measures to protect participants.

Acknowledging the paramount importance of these ethical principles, this research adhered to rigorous ethical standards to ensure objectivity, reliability, and validity. Prior to commencing the study, approval was obtained from the University's Ethical Committee on June 4, 2021. Given the research's location in Cyprus, additional approval was secured from the Bioethics Committee of

Cyprus on June 15, 2021. These approvals reflect a commitment to upholding the highest ethical standards and underscore the research's legitimacy and credibility.

In accordance with the ethical approvals obtained, participant consent was sought verbally. Participants were approached and provided with detailed information about the study, which focused on personality traits and consumer buying habits during the pandemic. The researcher ensured that participants were comprehensively briefed on the study's objectives, data collection methods, and the intended use of the findings. Participants were explicitly informed that (a) their participation was strictly anonymous and voluntary, (b) all responses would be kept confidential, with data analysis conducted at an aggregate level to individual identification (Tsai & Ghoshal, 1998) and (c) the data collected would be used solely for the purposes of this specific research (Chung & Monroe, 2003).

This meticulous approach to ethical considerations highlights the researcher's dedication to maintaining the highest standards of ethical conduct, thereby enhancing the integrity and credibility of the research findings. The adherence to these ethical principles ensures that the research is conducted in a manner that respects the rights and dignity of all participants, contributing to the robustness and reliability of the study.

CHAPTER 5: RESULTS AND DISCUSSION

This Chapter presents and thoroughly discusses the results obtained from the data collected in both Studies. A series of regression analyses and independent-samples t-tests have been performed for both Studies in order to test the relationships among our variables and identify the differences between various demographic groups. Prior to the analysis, all variables were examined for accuracy in terms of data entry, missing values, and normality, adhering to the established procedures outlined by Cohen et al. (2003), Field (2005), and Tabachnick and Fidell (2007). There were no cases with missing values, while the data appeared to be normally distributed.

5.1 Results and Discussion of Study 1

The section that follows presents the results from the analysis of data collected for Study 1. Study 1 aims at examining the relationships between personality traits (the Big Five and Dark Triad traits) and the six consumer behaviours, namely stockpiling, reactive and pro-active health-minded behaviour, minimum interaction with sales people while shopping, switching to value-priced products/brands/services and buying technology gadgets. The data for Study 1 were collected during the months of September – December 2021.

5.1.1 Correlations

The Pearson's correlation coefficients among variables are displayed in Table 2. As per the table below, Extraversion was significantly positively associated with all consumer behaviours examined (stockpiling, reactive and proactive health-minded behaviour and interaction with sales people), with the exception of switching to value-priced products/services/brands where no association was found. Agreeableness was found to be positively correlated with stockpiling and proactive health-minded buying behaviour, and negatively correlated with the propensity of consumers switching to value-priced products/services/brands during a pandemic, while no associations were found between Agreeableness and the behaviours of reactive health-minded buying, minimizing interaction with sales people and buying more technological gadgets. The correlation analysis further showed that Conscientiousness was positively correlated with stockpiling, proactive health-minded behaviour and propensity to minimize interaction with sales people while shopping during a pandemic, and negatively associated with switching to value-priced products/services/brands. Neuroticism was positively associated with stockpiling, reactive

health-minded buying, propensity of minimizing interaction with sales people while shopping and switching to value-priced products/services/brands during a pandemic. No correlation between Neuroticism, proactive health-minded buying and buying more technological gadgets were found. Besides, Openness to Experience was positively correlated with reactive and proactive health-minded buying, propensity to minimize interaction with sales people and buying more technological gadgets. Machiavellianism was found to only being negatively correlated with stockpiling, while Psychopathy was also found to be negatively correlated with stockpiling, but has also been found to be positively associated with the propensity of switching to value-priced products/services/brands during a pandemic. The trait of Narcissism was found to be positively correlated with only two consumer behaviours, reactive health-minded buying and, as in the case of Psychopathy, switching to value-priced products/services/brands during a pandemic (see Table 2).

Correlations		EXS	AGR	CON	NEUR	OPEN	MAC	PSY	NAR	STOCK	REAC	PROA	IWS	FRUG	IWT
EXS	Pearson Correlation	1	.359**	.352**	-.214**	.387**	.039	-.246**	.217**	.523**	.360**	.456**	.281**	-.021	.371**
	Sig. (2-tailed)		.000	.000	.002	.000	.582	.000	.002	.000	.000	.000	.000	.769	.000
	N	206	206	206	206	206	206	206	206	206	206	206	206	206	206
AGR	Pearson Correlation	.359**	1	.294**	-.376**	.039	-.472**	-.341**	-.196**	.363**	.051	.328**	-.028	-.131	.064
	Sig. (2-tailed)	.000		.000	.000	.573	.000	.000	.005	.000	.464	.000	.691	.060	.361
	N	206	206	206	206	206	206	206	206	206	206	206	206	206	206
CON	Pearson Correlation	.352**	.294**	1	-.102	.288**	-.486**	-.502**	-.352**	.206**	.106	.147*	.175*	-.167*	.120
	Sig. (2-tailed)	.000	.000		.143	.000	.000	.000	.000	.003	.130	.035	.012	.016	.085
	N	206	206	206	206	206	206	206	206	206	206	206	206	206	206
NEUR	Pearson Correlation	-.214**	-.376**	-.102	1	-.027	-.024	-.158*	.224**	.140*	.186**	-.036	.193**	.318**	.032
	Sig. (2-tailed)	.002	.000	.143		.705	.734	.023	.001	.045	.008	.606	.005	.000	.647
	N	206	206	206	206	206	206	206	206	206	206	206	206	206	206
OPEN	Pearson Correlation	.387**	.039	.288**	-.027	1	.020	-.344**	.004	.066	.188**	.182**	.362**	.060	.415**
	Sig. (2-tailed)	.000	.573	.000	.705		.772	.000	.954	.350	.007	.009	.000	.393	.000
	N	206	206	206	206	206	206	206	206	206	206	206	206	206	206

MAC	Pearson Correlation	.039	-.472**	-.486**	-.024	.020	1	.418**	.440**	-.171*	.034	-.065	.105	.011	.019
	Sig. (2-tailed)	.582	.000	.000	.734	.772		.000	.000	.014	.633	.350	.131	.876	.790
	N	206	206	206	206	206	206	206	206	206	206	206	206	206	206
PSY	Pearson Correlation	-.246**	-.341**	-.502**	-.158*	-.344**	.418**	1	.192**	-.189**	-.064	-.105	-.119	.252**	.013
	Sig. (2-tailed)	.000	.000	.000	.023	.000	.000		.006	.007	.362	.131	.089	.000	.850
	N	206	206	206	206	206	206	206	206	206	206	206	206	206	206
NAR	Pearson Correlation	.217**	-.196**	-.352**	.224**	.004	.440**	.192**	1	.019	.289**	.092	.021	.206**	.083
	Sig. (2-tailed)	.002	.005	.000	.001	.954	.000	.006		.783	.000	.190	.764	.003	.235
	N	206	206	206	206	206	206	206	206	206	206	206	206	206	206
STOCK	Pearson Correlation	.523**	.363**	.206**	.140*	.066	-.171*	-.189**	.019	1	.545**	.647**	.395**	.272**	.445**
	Sig. (2-tailed)	.000	.000	.003	.045	.350	.014	.007	.783		.000	.000	.000	.000	.000
	N	206	206	206	206	206	206	206	206	206	206	206	206	206	206
REAC	Pearson Correlation	.360**	.051	.106	.186**	.188**	.034	-.064	.289**	.545**	1	.651**	.484**	.377**	.308**
	Sig. (2-tailed)	.000	.464	.130	.008	.007	.633	.362	.000	.000		.000	.000	.000	.000
	N	206	206	206	206	206	206	206	206	206	206	206	206	206	206
PROA	Pearson Correlation	.456**	.328**	.147*	-.036	.182**	-.065	-.105	.092	.647**	.651**	1	.588**	.403**	.388**

	Sig. (2-tailed)	.000	.000	.035	.606	.009	.350	.131	.190	.000	.000		.000	.000	.000
	N	206	206	206	206	206	206	206	206	206	206	206	206	206	206
IWS	Pearson Correlation	.281**	-.028	.175*	.193**	.362**	.105	-.119	.021	.395**	.484**	.588**	1	.363**	.448**
	Sig. (2-tailed)	.000	.691	.012	.005	.000	.131	.089	.764	.000	.000	.000		.000	.000
	N	206	206	206	206	206	206	206	206	206	206	206	206	206	206
FRUG	Pearson Correlation	-.021	-.131	-.167*	.318**	.060	.011	.252**	.206**	.272**	.377**	.403**	.363**	1	.443**
	Sig. (2-tailed)	.769	.060	.016	.000	.393	.876	.000	.003	.000	.000	.000	.000		.000
	N	206	206	206	206	206	206	206	206	206	206	206	206	206	206
IWT	Pearson Correlation	.371**	.064	.120	.032	.415**	.019	.013	.083	.445**	.308**	.388**	.448**	.443**	1
	Sig. (2-tailed)	.000	.361	.085	.647	.000	.790	.850	.235	.000	.000	.000	.000	.000	
	N	206	206	206	206	206	206	206	206	206	206	206	206	206	206

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 2: Study 1 Correlations

5.1.2   Reliability Analysis

To ensure the methodological robustness of our study, we subjected the constituent constructs to a reliability analysis utilizing Cronbach's alpha coefficient. This statistical measure evaluates the internal consistency of items within a scale, gauging the extent to which they collectively measure a coherent underlying construct. Scores range from 0 to 1, with values surpassing .70 generally considered acceptable, those exceeding .80 indicating commendable reliability, and scores below .60 suggesting potential inadequacies necessitating refinement. The results, presented in Table 3, reveal varying levels of internal consistency across the different constructs, with Cronbach's alpha values ranging from .60 to .98. Constructs such as Extraversion (α = .80), Conscientiousness (α = .78), and Narcissism (α = .84) demonstrated good reliability, suggesting that the items within these constructs are consistent and likely measure the same underlying concept, effectively capturing the dimensions of personality they are intended to measure. In contrast, constructs like Openness to Experience (α = .60) and Buying More Technological Gadgets (α = .60) exhibited lower reliability, suggesting that the items may not be well-correlated and may need to be revised or supplemented with additional items to improve reliability. For instance, the Openness to Experience construct might benefit from a broader range of items to better capture the diversity of this personality trait, while the construct of Buying More Technological Gadgets might require a more comprehensive set of items reflecting different aspects of technology adoption and use during the pandemic.

5.1.3   Descriptive analysis

The Big Five Traits showed average values: Agreeableness (AGR) (M=3.86, SD=.57), Conscientiousness (CON) (M=3.68, SD=.72), Openness to Experience (OPtE) (M=3.56, SD=.46), Extraversion (EXS) (M=3.46, SD=.72) and Neuroticism (NEUR) (M=3.28, SD=.73) (see Table 3). Agreeableness (AGR) had the highest mean score (M=3.86), with the highest item mean score being that of AGR4 *"I am someone who can be cold and uncaring (R)"* (M=4.23, SD=1.00)), followed by AGR5 *"I am someone who is respectful, treats others with respect"* (M=4.18, SD=.82)), AGR1 *"I am someone who is compassionate, has a soft heart"*(M=4.04, SD=.59)) and AGR2 *"I am someone who is sometimes rude to others (R)"* (M=3.76, SD=1.02)).

The construct of Conscientiousness (CON) had the second highest mean score, (M=3.68, SD=.72). CON3 *"I am someone who is reliable, can always be counted on"* (M=4.23, SD=.80) had the highest mean score of all other items of Conscientiousness, followed by CON5 *"I am someone who is persistent, works until task is finished"* (M=4.11,SD=.85) and CON2 *"I am someone who has difficulty getting started on tasks (R)"* (M=3.49,SD=1.09). OPtE1 *"I am someone who is fascinated by art, music or literature"* (M=3.82, SD=1.02), OPtE3 *"I am someone who is original, comes up with new ideas"* (M=3.74,SD=.64), OPtE2 *"I am someone who has little interest in abstract ideas (R)"* (M=3.69,SD=1.02) and OPtE6 *"I am someone who has little creativity (R)"* (M=3.63, SD=.94) were the items with the highest scores, while overall the construct of Openness to Experience (OPtE) reported a mean score of M=3.56 (SD=.46).

Extraversion (EXS) had a mean score of M=3.46 (SD=.72). The items showing the highest mean score are EXS5 *"I am someone who prefers to have others take charge (R)"* (M=3.70, SD=.82), EXS6 *"I am someone who is less active than other people (R)"* (M=3.58, SD=1.09), EXS4 *"I am someone who is outgoing, sociable"* (M=3.85, SD=1.04) and EXS3 *"I am someone who is full of energy"* (M=3.54, SD=.83). The lowest score from the Big Five was reported by Neuroticism (NEUR) (M=3.28, SD=.73). NEUR5 *"I am someone who feels secure and comfortable (R)"* (M=3.88, SD=1.03), NEUR1 *"I am someone who worries a lot"* (M=3.83, SD=1.17), and NEUR6 *"I am someone who is temperamental gets emotional easily"* (M=3.68, SD=1.15) were the items with the highest mean scores.

In contrast, the Dark Triad appeared to be on the lower side of the scale: Narcissism (NAR) (M=2.48, SD=.81), Psychopathy (PSY) (M=2.07, SD=.77), and Machiavellianism (MaCH) (M=2.07, SD=.82) (see Table 3). Out of the three traits Narcissism (NAR) reported the highest construct mean (M=2.48), with items NAR3 *"I tend to seek prestige or status"* (M=2.79, SD=1.22) and NAR2 *"I tend to want others to pay attention to me"* (M=2.57, SD=1.13) showing the highest mean scores, while the constructs of Psychopathy (PSY) (M=2.07) and Machiavellianism (MaCH) (M=2.07) had almost the same mean scores. The items that reported the higher mean scores for the construct of Psychopathy (PSY) were PSY4 *"I tend to be cynical"* (M=2.16, SD=1.09) and PSY2 *"I tend to be unconcerned with the morality of my actions"* (M=2.15, SD=1.13). MaCH3 *"I have used flattery to get my way"* (M=2.59, SD=1.22) and MaCH1 *"I tend to manipulate others*

to get my way" (M=2.08, SD=1.06) are the items of the construct of Machiavellianism (MaCH) that scored the highest mean scores.

When it comes to the six consumer behaviours, the analysis revealed that the highest construct mean was reported by the Reactive Health-Minded Buying Behaviour (REACT) (M=3.67, SD=1.11), followed by the construct of Minimum Interaction with Sales People (MISP) (M=3.20, SD=.95), Buying more Technological Gadgets (TECHNO) (M=3.12, SD=0.86), Proactive Health-Minded Buying Behaviour(PROACT) (M=3.07, SD=.88), Switching to Value-Priced Products/Services/Brands (SWITCH) (M=2.94, SD= .65) and Stockpiling (STOCK) which reported the lowest construct mean (M=2.92, SD=1.24).

Constructs	Items		Mean*(standard deviation)	Construct Mean* (standard deviation)	Cronbach's a
Extraversion (EXS)		*I am someone who…*		3.45 (.72)	.80
	1.	Tends to be quiet (R)	2.99 (1.30)		
	2.	Is dominant, acts as a leader	3.36 (.99)		
	3.	Is full of energy	3.54 (.83)		
	4.	Is outgoing, sociable	3.58 (1.04)		
	5.	Prefers to have others take charge (R)	3.70 (.82)		
	6.	Is less active than other people (R)	3.58 (1.09)		
Agreeableness (AGR)		*I am someone who…*		3.86 (.57)	.69
	1.	Is compassionate, has a soft heart	4.04 (.59)		
	2.	Is sometimes rude to others (R)	3.76 (1.02)		
	3.	Assumes the best about people	3.53 (.95)		

	4.	Can be cold and uncaring (R)	4.23 (1.00)	
	5.	Is respectful, treats others with respect	4.18 (.82)	
	6.	Tends to find faults with others (R)	3.42 (.99)	
Conscientiousness (CON)		*I am someone who…*		3.68 (.72) .78
	1.	Tends to be disorganized (R)	3.73 (1.03)	
	2.	Has difficulty getting started on tasks (R)	3.49 (1.09)	
	3.	Is reliable, can always be counted on	4.23 (.80)	
	4.	Keeps things neat and tidy	3.16 (1.20)	
	5.	Is persistent, works until the task is finished	4.11 (.85)	
	6.	Can be somewhat careless (R)	3.38 (1.19)	
Neuroticism (NEUR)		*I am someone who…*		3.28 (.73) .73
	1.	Worries a lot	3.83 (1.17)	
	2.	Tends to feel depressed, blue	2.69 (1.13)	
	3.	Is emotionally stable, not easily upset (R)	2.71 (.93)	
	4.	Is relaxed, handles stress well (R)	3.21 (1.20)	
	5.	Feels secure, comfortable with self (R)	3.88 (1.03)	
	6.	Is temperamental, gets emotional easily	3.36 (1.15)	
Openness to Experience (OPtE)		*I am someone who…*		3.56 (.46) .36
	1.	Is fascinated by art, music or literature	3.82 (1.02)	
	2.	Has little interest in abstract ideas (R)	3.69 (1.02)	
	3.	Is original, comes up with new ideas	3.74 (.64)	

			Mean (SD)	α
	4.	Has few artistic interests (R)	3.06 (.99)	
	5.	Is complex, a deep thinker	3.41 (1.02)	
	6.	Has little creativity (R)	3.63 (.94)	
Machiavellianism (MaCH)			2.07 (.82)	.80
	7.	I tend to manipulate others to get my way	2.08 (1.06)	
	8.	I have used deceit or lied to get my way	1.85 (1.02)	
	9.	I have used flattery to get my way	2.59 (1.24)	
	10.	I tend to exploit others towards my own end	1.76 (.82)	
Psychopathy (PSY)			2.07 (.77)	.70
	1.	I tend to lack remorse	2.08 (.90)	
	2.	I tend to be unconcerned with the morality of my actions	2.15 (1.13)	
	3.	I tend to be callous or insensitive	1.89 (1.10)	
	4.	I tend to be cynical	2.16 (1.09)	
Narcissism (NAR)			2.48 (.91)	.84
	1.	I tend to want others to admire me	2.44 (1.10)	
	2.	I tend to want others to pay attention to me	2.57 (1.11)	
	3.	I tend to seek prestige or status	2.79 (1.22)	
	4.	I tend to expect special favors from others	2.13 (1.00)	
Stockpiling (STOCK)		At the beginning of the pandemic (or currently)…	2.92 (1.24)	.88
	1.	I stockpiled larger amount of food products than usual (e.g., flour, milk, canned goods)	2.64 (1.40)	

	2. I stockpiled more cleaning products than usual (e.g., wipes, toilet paper, washing powder).	2.66 (1.39)	
	3. I stockpiled more protective goods than usual (e.g., gloves, masks)	3.48 (1.32)	
Reactive Health-Minded Buying Behaviour (REACT)	During the outbreak of the pandemic ..	3.67 (1.11)	.98
	1. I have bought a lot of protective masks	3.68 (1.13)	
	2. I have bought a lot of different sanitizers	3.69 (1.12)	
	3. I have prioritized masks and sanitizers over other products during shopping	3.62 (1.13)	
Proactive Health-Minded Buying Behaviour (PROACT)	During the outbreak of the pandemic …	3.07 (.88)	.64
	1. I have bought more food that strengthens my immune system (e.g., vegetables and fruits).	3.00 (1.07)	
	2. I have bought more vitamins and supplements to boost my immune system.	3.12 (1.35)	
	3. I have added sports to my routine to strengthen my immune system	3.08 (1.03)	
Minimum Interaction with Sales People (MISP)	During the outbreak of the current pandemic…	3.20 (.95)	.60
	1. I have found myself to avoid contact with sales people	3.19 (1.20)	

	2. I preferred shopping from shops with contactless checkout	3.14 (1.20)
	3. I preferred cashless transactions while shopping.	3.26 (1.39)
Switching to Value-Based Products/Services/Brands (SWITCH)	During the outbreak of the current pandemic	2.94 (.65) .59
	1. I have cut back on buying non-essential items	3.19 (1.08)
	2. I have found myself checking the prices even for small items	2.61 (1.04)
	3. I have bought products essential for my health and nutrition	3.38 (.85)
	4. I have bought more private-label or store-branded goods to save money	2.60 (.93)
Buying more Technological Gadgets (TECHNO)	During the outbreak of the current pandemic	3.12 (.86) .38
	1. I have bought new equipment to facilitate remote working (e.g., laptop, printer, scanner, etc)	2.84 (1.13)
	2. I have switched to digital platforms for day-to-day needs	3.39 (1.06)

Table 3: Constructs and Scale Items Mean Scores

*Note: mean scores are based on a five-point scale ranging from 1=strongly disagree to 7=strongly agree
**Note: Items marked with (R) are reversed scored.

5.1.4 Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) was performed using AMOS 26 and bootstrapping (N=2000). CFA enables researchers to validate their hypothesized measurement models by examining the extent to which the observed variables accurately represent the underlying latent constructs they are intended to measure. The dataset includes eight independent variables, namely eight personality traits (Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness to Experience, Machiavellianism, Psychopathy, and Narcissism) and six dependent variables, namely Y1: Stockpiling behaviour, Y2: Reactive health minded behaviour, Y3: Proactive health minded behaviour, Y4: Minimum interaction with sales people, Y5: Switching to value-based products/services/brands, and Y6: Buying more technological gadgets. The sample size was 206 observations and the degrees of freedom (df) were 1634. The model fit is acceptable: chi-square=7877.5, RMR=.190, and GFI=.362. The standardized regression loadings for this model are as follows:

			Estimate
EXS6	<---	F1	.676
EXS5	<---	F1	.604
EXS4	<---	F1	.646
EXS3	<---	F1	.548
EXS2	<---	F1	.684
EXS1	<---	F1	.645
AGR6	<---	F2	.650
AGR5	<---	F2	.504
AGR4	<---	F2	.527
AGR3	<---	F2	.550
AGR2	<---	F2	.715
AGR1	<---	F2	.360
CON6	<---	F3	.702
CON5	<---	F3	.634
CON4	<---	F3	.731
CON3	<---	F3	.539
CON2	<---	F3	.601
CON1	<---	F3	.788
NEUR6	<---	F4	.737
NEUR5	<---	F4	-.535
NEUR4	<---	F4	.783
NEUR3	<---	F4	.609

			Estimate
NEUR2	<---	F4	.661
NEUR1	<---	F4	.675
OPEN6	<---	F5	.571
OPEN5	<---	F5	.589
OPEN4	<---	F5	-.501
OPEN3	<---	F5	.559
OPEN2	<---	F5	.515
OPEN1	<---	F5	.501
MAC4	<---	F6	.926
MAC3	<---	F6	.348
MAC2	<---	F6	.785
MAC1	<---	F6	.762
PSY4	<---	F7	.769
PSY3	<---	F7	1.033
PSY2	<---	F7	.524
PSY1	<---	F7	.576
NAR4	<---	F8	.816
NAR3	<---	F8	.661
NAR2	<---	F8	.806
NAR1	<---	F8	.747
STOCK3	<---	F9	.772
STOCK2	<---	F9	.959
STOCK1	<---	F9	.952
REAC3	<---	F10	.958
REAC2	<---	F10	.976
REAC1	<---	F10	.988
PROA3	<---	F11	.645
PROA2	<---	F11	.543
PROA1	<---	F11	.679
IWS3	<---	F12	.606
IWS2	<---	F12	.786
IWS1	<---	F12	.541
FRUG4	<---	F13	.809
FRUG3	<---	F13	.523
FRUG2	<---	F13	.574
FRUG1	<---	F13	.514
IWT2	<---	F14	.696
IWT1	<---	F14	.545

Table 4: Standardized Regression Weights: (Group number 1 - Default model)

All the 60 standardized regression loadings had values above 0.5 indicating adequate validity of the scales.

5.1.5 Hypotheses Testing

Multiple regression analysis was employed to examine the associations between the personality traits (Big Five and the Dark Triad traits) and all six consumer behaviours. All the models were significant and explained:

i.   45% of the variance of stockpiling behaviour ($R^2 = .451$),

ii.   21% of the variance of reactive health-minded buying ($R^2 = .211$),

iii. 24% of the variance of proactive health-minded buying ($R^2 = .242$),

iv.   23% of the variance of minimum interaction with sales people while shopping ($R^2 = .233$),

v.   25% of the variance of switching to valued-price products/services/brands ($R^2 = .256$),

vi.   27% of the variance of buying more technology gadgets ($R^2 = .272$) (see Table 4).

The section that follows provides a detailed analysis and discussion of the hypotheses testing.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Stockpiling Behaviours	.687[a]	.473	.451	.92195
Reactive-Health Minded Buying	.492[a]	.242	.211	.98828
Proactive Health Minded Buying	.521[a]	.272	.242	.77315
Minimum Interaction with Sales people	.512[a]	.263	.233	.83466
Switching to value-priced products	.534[a]	.285	.256	.56821
Buying more technology Gadgets	.548[a]	.300	.272	.73713
a. Predictors: (Constant), NAR, OPtE, AGR, NEUR, CON, PSY, EXS, MaCH				

Table 5: Model Summary

5.1.5.1 Stockpiling Behaviour

With regard to the Stockpiling behaviour, our analysis indicated that this behaviour was predicted by Extraversion, Agreeableness, Neuroticism, Openness to Experience, Psychopathy and Narcissism, while no associations were found between the traits of Conscientiousness and Machiavellianism (see Table 5).

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t-value	p-value*
		B	Std. Error	Beta		
1	(Constant)	-4.218	1.330		-3.172	.002
	EXTRAVERSION	1.100	.122	.645	8.995	.000
	AGREEABLENESS	-.673	.161	-.312	-4.181	.000
	CONCIENTIOUSNESS	-.081	.126	-.047	-.642	.521
	NEUROTICISM	.764	.110	.448	6.920	.000
	OPENNESS TO EXPERIENCE	-.336	.162	-.125	-2.071	.040
	MACHAVELLIANISM	-.046	.114	-.030	-.401	.689
	PSYCHOPATHY	.208	.112	.129	1.852	.065
	NARCISSISM	254	.089	.187	2.833	.005
a. Dependent Variable: *STOCKPILLING BEHAVIOUR*						

Table 6: Regression Analysis: Independent Variables - EXS, AGR, CON, NEUR, OPtE, MaCH, PSY, NAR. Dependent Variable-Stockpiling Behaviour

***Significant p-value at p≤0.1**

With regards to H2a, Agreeableness negatively affected the formation of stockpiling behaviour by consumers (β= -.312, t=-4.18, p<0.1) (see Table 5). As expected, consumers high on Agreeableness were less likely to exhibit stockpiling behaviour, since Agreeable people are more considerate towards others, are characterized by altruistic behaviour (Chamorrozo-Premuzic, 2015) and thus they would not resort to behaviours that damage other individuals, such as stockpiling products during the pandemic. Past studies have also shown that agreeable people will put their self-interests aside for the sake of others (Cumberland-Li et al., 2004) and are more likely to perform prosocial behaviours (Gerber et al., 2011). The latter may further explain our findings

as to why consumers who score higher on the trait of Agreeableness are more likely to refrain from performing behaviours that will harm others.

In accord with our H4a, the trait of Neuroticism was found to be a significant predictor of consumers' stockpiling behaviour mic (β= .448, t= 6.92, p<0.1). The association between the trait of Neuroticism and stockpiling behaviour of consumers has been the strongest one (β=.448). This finding is in line with several studies such as those of Shadjehan, et al. (2012) and Silvera et al. (2008) which have also found associations between Neurotic people and multiple impulse purchases as a way to gain relief from the distress they may feel. Shadjehan et al. (2012) explained this association by the fact that people who are neurotic tend to experience emotional instability, anxiety, irritability, moodiness and sadness that facilitate stockpiling behaviours as a form of relief from these unpleasant psychological states. Similarly, Silvera et al. (2008) confirmed that people who experience chronic negative emotions use impulse purchases as a means of reducing these negative feelings. Our findings are further supported by the study of Dammeyer (2020) who also found positive associations between the trait of Neuroticism and self-reported stockpiling during the COVID-19 pandemic. Hence, in the context of an unexpected situation and periods with high uncertainty, such as in the case of a pandemic, Neurotic individuals tend to experience strong negative feelings, due to their lower ability to cope with the situation, and this facilitates stockpiling behaviour.

We have further hypothesized that consumers scoring high on Openness to Experience would be less likely to exhibit stockpiling behaviour during a pandemic (H5a). Our hypothesis H5a was also accepted (β= -.125, t=-2,071, p<0.1). Possible explanations might be found in previous research which suggests that people high on Openness to Experience are highly intellectual people (DeYoung, et al, 2005; Zurawicki, 2010) and, as a result of their higher intellectual abilities, they are more aware of the damaging effects of hoarding on other individuals. Our results are also consistent with the study of Demmeyer (2020), one of the few studies conducted during the COVID-19 pandemic. Dammeyer (2020) reported that people who score high on the trait of Openness to Experience are less likely to resort to extra shopping. This is mainly because, people high in Openness to Experience exhibit greater flexibility in dealing with changes and are more open to reasonable alterations in life conditions (Tesch and Cameron, 2003). They may be better

able to adjust to changing circumstances and find alternative solutions to meet their needs without resorting to stockpiling. This finding may further be explained by the fact that open individuals are typically less risk-averse and more open to uncertainty. Therefore they may be less inclined to succumb to panic-buying behaviours driven by fear and uncertainty about the future.

Our study also confirmed H6a and H8a, i.e., consumers' stockpiling behaviour is positively associated with higher levels of Narcissism (β=.187, t=2.83, p<0.1) and Psychopathy (β=.129, t=1.85, p<0.1) respectively (see Table 5). Narcissists are individuals who are highly egoistic and characterized by feelings of superiority and their buying patterns are guided by their need to distinguish, validate and sustain their exclusivity (Raskin and Hal, 191; Lee et al., 2013). Due to having an exaggerated sense of entitlement and hold the belief that they deserve special treatment and privileges, they may feel entitled to hoard resources for themselves, others. Further, Narcissistic individuals might stockpile large quantities of goods as a means to bolster their self-esteem and reinforce their perceived superiority over others who may not have the same resources.. In support of our H8a, Psychopathy has been linked to low levels of shallow emotion and empathy (Babiak and Hare, 2006), high levels of egoism (Rauthmann, 2012), as well as unethical consumer behaviours (Egan, Huges and Palmer, 2015). Thus, the combination of the above characteristics that are associated with the trait of Psychopathy will contribute to stockpiling behaviour during a pandemic, as these individuals will prioritize their own needs and desires without regard for the well-being of other or societal norms.

Nonetheless, three of our eight hypothesis (H1a, H3a and H7a), in regards to consumers' stockpiling behaviour, have been rejected. As for hypothesis H1a, we expected that the higher the levels of Extraversion of a consumer, the less likely that he will exhibit stockpiling behaviour during a pandemic, however, the analysis indicated the opposite association. Our hypothesis relied on the fact that extraverts shopping behaviour tends to be hedonic (Guido et. al, 2007) which is not associated with hoarding behaviours. Further, extraverts are characterized by positive thinking and optimism (Chamorro-Premuzic, 2015) which could have discouraged them from the stockpiling behaviour. One possible explanation for the inverse relationship may be found in the study of Dammeyer (2020) who suggests that Extraverts might have an increased propensity to stockpile because they are more social and more excitement-seeking, and thus resorting to extra

shopping (stockpiling) is related to their intense social activity and doing something active, whereas for others, it appears to be linked to reasons of panic and worry. Another explanation of the inverse relationship is that Extraverts might perceive this behaviour as prevalent among their social circles and develop the need to engage in similar behaviour to conform to social expectations or to avoid feeling left out.

Our hypothesis H3a was also rejected, since no relation was found between the trait of Conscientiousness and consumers' stockpiling behaviour. We expected that Conscientious individuals would be more likely to exhibit stockpiling behaviours during a stressful event as in the case of a pandemic, since they are characterized by their need to always be prepared and as such engage in hoarding. The lack of association between Conscientiousness and stockpiling could be attributed to Conscientious typical tendencies of being self-disciplined, organized and responsible towards others (Costa and McCrae, 1992). Conscientious individuals might consider the possible side effects of stockpiling and demonstrate high self-discipline by refraining from stockpiling behaviours, or they may rely on alternative coping strategies or prioritize adherence to official guidelines and recommendations which discourage stockpiling. Nonetheless, our finding is in line with that of Dammeyer (2020) who suggests that no relation exists between Conscientiousness and extra shopping during COVID-19.

Finally, our study has also failed to establish a link between the trait of Machiavellianism and consumers' stockpiling and hence our H7a is rejected. This is a rather surprising result, as our hypothesis has relied on numerous studies indicating that Machiavellians are very likely to engage in unethical consumption patterns and practices (Pilch and Turska, 2015; Ruiz-Palomino and Banon-Gomis, 2016), such as hoarding products that are of necessity during a pandemic. Further, Machiavellians have been found to be less emotionally engaged with others and less concerned about the effects of their actions which could have explained a link between Machiavellians and stockpiling. Our result could be attributed to the fact that Machiavellians perceive stockpiling as behaviour which is not suitable for their status. As Machiavellians are often attuned to social cues and norms to manipulate others and maintain their social image, stockpiling behaviour may carry negative social connotations (i.e., selfishness and greed) which could damage their reputation or relationships.

Hypotheses	Result
H1a: Consumers with a higher score on Extraversion are less likely to exhibit stockpiling behaviour during a pandemic.	Rejected
H2a: Consumers with a higher score on Agreeableness are less likely to exhibit stockpiling behaviour during a pandemic	Accepted
H3a: Consumers with a higher score on Conscientiousness are more likely to exhibit stockpiling behaviour during a pandemic.	Rejected
H4a: Consumers with a higher score on Neuroticism are more likely to exhibit stockpiling behaviour during a pandemic.	Accepted
H5a: Consumers with a higher score on Openness are less likely to exhibit stockpiling behaviour during a pandemic.	Accepted
H6a: The higher the level of Narcissism of an individual, the higher his/her level of stockpiling behaviour during a pandemic	Accepted
H7a: The higher the level of Machiavellianism of an individual, the higher his/her level of stockpiling behaviour during a pandemic	Rejected
H8a: The higher the level of Psychopathy of an individual, the higher his/her level of stockpiling behaviour during a pandemic.	Accepted

Table 7:Results of testing Hypotheses H1a-H8a

5.1.5.2   *Reactive Health-Minded Behaviour*

The regression analysis indicated that the traits of Extraversion. Agreeableness, Conscientiousness, Neuroticism, Narcissism and Psychopathy affect consumer's reactive health-minded buying behaviour. Openness to Experience and Machiavellianism were not found to be associated with reactive health-minded buying behaviour (see Table 7).

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.168	1.426		-1.521	.130
	EXTRAVERSION	.478	.131	.313	3.646	.000
	AGREEABLENESS	.374	.100	.262	3.738	.000
	CONCIENTIOUSNESS	.474	.147	.180	2.810	.000
	NEUROTICISM	.413	.118	.271	3.491	.001
	OPENNESS TO EXPERIENCE	.218	.174	.091	1.252	.212
	MACHAVELLIANISM	-.048	.122	-.036	-.397	.692
	PSYCHOPATHY	.201	.120	.139	1.671	.096
	NARCISSISM	.242	.096	.199	2.518	.013
a. Dependent Variable: *REACTIVE HEALTH-MINDED BUYING BEHAVIOUR*						

Table 8:Regression Analysis: Independent Variables - EXS, AGR, CON, NEUR, OPtE, MaCH, PSY, NAR. Dependent Variable- Reactive health-minded behaviour

Significant p-values at p ≤0.1

With regards to H1b, Extraversion was found to be a strong predictor of consumers' reactive health-minded buying behaviour (β= .313, t=3.64, p<0.1) ; that is prioritizing products that are essential to one's own health and public safety such as using face masks and sanitizers. Indeed, since Extraversion is characterized by a higher level of sociability, this may explain the link to reactive health-minded behaviour. Extraverts need social interaction irrespective of the situation and, as such, they are more likely to resort to this kind of behaviour. If buying more masks and sanitizers implies being able to continue interacting with people, Extraverts are usually the first to do so.

Our hypothesis H2b has also been accepted. We hypothesized that higher levels of Agreeableness will be positively associated with consumers reactive health-minded buying behaviour, (β= .262, t= 3,73, p<0.1) . This finding is in line with the study of Aschwanden et al. (2020) who found that Agreeableness was positively related to precautions against COVID-19, such as hand washing and buying face masks. This may be explained by the fact that Agreeable people are characterized

by an altruistic behaviour and thus take all measures possible to safeguard the health of others by buying products essential to one's health.

In accord with H3b, the trait of Conscientiousness appeared to be a significant predictor of consumers' reactive health-minded buying behaviour ($\beta= .180$, t= 2.81, p<0.1) (see Table 7). Conscientious individuals are long-term planners, responsible and strictly adhere to rules and take obligation to others seriously (McCrae and Cost, 1985). Thus, they would be more willing to follow the measures imposed by the government such as using masks and sanitizers while interacting with others, but also as a means to safeguard their own health and that of others.

Neuroticism and Narcissism have also been found to be significant predictors of consumers' reactive health-minded behaviour ($\beta=.271$, t=3.49, p<0.1) and ($\beta=.271$, t=3.49, p<0.1) respectively. Hence, our H4b and H6b are accepted. In accord with H4b, consumers who score high on Neuroticism are more likely to exhibit reactive health-minded buying behaviour during a pandemic. This is not a surprising finding since it is a well- established fact that neurotic people are more reactive, overreact to stressors (Mroczek and Almeida, 2004) and accordingly, are more likely to resort to reactive health-minded buying.

Regarding H6b, as we expected, consumers' reactive health-minded buying behaviour was positively associated with higher levels of Narcissism. This could be attributed to the fact that Narcissists place self-importance at the core of their personality (Krizan and Herlache, 2018) and are likely to take any measures necessary to preserve their own personal health.

Despite the fact that most of our hypotheses have been accepted, two of our hypotheses, H5b and H7b have not been supported. The traits of Openness to Experience and Machiavellianism were not found to be of significance when predicting consumers' reactive health-minded buying behaviour. In regards to our H5b, we expected that the higher levels of Openness to Experience of a consumer, the more the reactive health-minded behaviour he/she exhibits. However, no cause-effect relation was found. Potentially, this lack of association may be attributed to the fact that these individuals may be inclined to think that the best way to safeguard their health and that of others is not by using face masks and sanitizers, but rather via other routes, such as maintaining

social distance or being more proactive than reactive. Open individuals may exhibit a more nuanced and rational approach to risks during a pandemic. While reactive health-minded buying behaviour may be driven by fear, anxiety, or uncertainty, individuals high in Openness to Experience may be better equipped to assess risks and make informed decisions based on evidence and reason rather than emotional impulses. They may prioritize long-term health outcomes and sustainability over short-term reactive behaviours.

We also hypothesized that the higher the level of Machiavellianism of an individual, the higher his/her level of reactive health-minded buying (H7b). We assumed that because of Machiavellianists focus on self-interest and personal gain (Paulhaus and Williams, 2002; Furnham et al., 2013), as in the case of Narcissists, they will be more likely to adopt a more health-minded buying behaviour and prioritize products essential to their health. One can suggest that because Machiavellians are so focused on their own self-interest and less concerned with other people, they will resort to other precautionary measures to safeguard their own health, possibly by being vaccinated and hence they would not see the importance of using masks or sanitizers. Besides, using masks and sanitizers may be perceived by them as a measure to protect others and hence they will place little emphasis on such behaviour.

In terms of the trait of Psychopathy, although the association is significant ($p<0.1$), our hypothesis is rejected because the link observed is the opposite of what we have expected. We hypothesized, that the higher the score of Psychopathy in an individual, the lower his/her level of reactive health-minded behaviour during a pandemic (H8b). Our hypothesis revolved around the fact that Psychopaths tend to exhibit antisocial behaviours (Paulhaus and Willians, 2002; Benning et. al., 2003) and hence should ignore any measures towards protecting others such as use of masks or sanitizers. However, the analysis has indicated that Psychopaths are more likely to exhibit such a behaviour. A possible explanation to this finding may be that due to fear of contracting a contagious disease and experiencing negative health outcomes, Psychopaths uses masks and sanitisers, not for the sake of others, but rather as a means of protecting themselves from harm and ensure their own health and well-being.

Hypotheses	Result
H1b: Consumers with a higher score on Extraversion are more likely to show reactive health-minded buying during a pandemic.	Accepted
H2b: Consumers with a higher score on Agreeableness are more likely to show reactive health-minded buying during a pandemic.	Accepted
H3b: Consumers with a higher score on Conscientiousness are more likely to show reactive health-minded buying during a pandemic	Accepted
H4b: Consumers with a higher score on Neuroticism are more likely to show reactive health-minded buying during a pandemic	Accepted
H5b: Consumers with a higher score on Openness are more likely to show reactive health-minded buying during a pandemic.	Rejected
H6b: The higher the level of Narcissism of an individual, the higher his/her level of reactive health-minded buying behaviour during a pandemic	Accepted
H7b: The higher the level of Machiavellianism of an individual, the higher his/her level of reactive health-minded buying behaviour during a pandemic	Rejected
H8b: The higher the level of Psychopathy of an individual, the lower his/her level of reactive health-minded buying behaviour during a pandemic.	Rejected

Table 9:Results of testing Hypotheses H1b-H8b

5.1.5.3 Proactive Health-Minded Behaviour

The model below indicates that Extraversion, Agreeableness, Conscientiousness, Neuroticism, Psychopathy and Narcissism affect consumers' proactive health-minded behaviour during a pandemic, while Openness to Experience and Machiavellianism are not associated it (see Table 9).

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.976	1.115		-1.772	.078
	EXTRAVERSION	.492	.103	.404	4.793	.000
	AGREABLENESS	.471	.135	.306	3.491	.001
	CONCIENTIOUSNESS	.123	.091	.181	2.325	.010
	NEUROTICISM	.234	.093	.192	2.523	.012
	OPENNESS TO EXPERIENCE	.142	.136	.074	1.046	.297
	MACHAVELLIANISM	.003	.096	.003	.036	.971
	PSYCHOPATHY	.169	.094	.147	1.799	.074
	NARCISSISM	.184	.083	.156	1.831	.065

a. Dependent Variable: *PROACTIVE HEALTH-MINDED BUYING BEHAVIOUR*

Table 10:Regression Analysis: Independent Variables - EXS, AGR, CON, NEUR, OPtE, MaCH, PSY, NAR. Dependent Variable-Proactive health-minded behaviour

*Significant p-values at p ≤0.1

In regards to H1c, Extraversion was found to be the strongest predictor of consumers' proactive health-minded behaviour among all other personality traits (β=.404, t=4.793, p<0.1). As hypothesized, the higher the level of Extraversion of a consumer, the higher the level of his/her proactive health-minded behaviour (e.g., buying food, vitamins and supplements that strengthens one's immune system). This is consistent with the study of Magee, Heaven and Miller (2013) who reported the links between Extraversion and a multitude of health-enhancing behaviours, such as physical activity and healthy eating. The study of Zolotareva et al. (2022) also reported a positive relationship between healthy habits and the trait of Extraversion. Specifically their findings indicated that the trait of Extraversion was positively associated with diet, nutrition, and physical activity. Further, people high in Extraversion tend to experience greater amounts of positive affect and optimism, both of which are associated with health and longevity (Danner, Snowdon and Friesen, 2001). Therefore, Extraverts are more likely to act in a proactive way (i.e., buying healthier food and vitamins) during the pandemic as a way to enhance their immune system in this health crisis.

Our study has also confirmed the link between Agreeableness and consumers' proactive health-minded behaviour (β=.306, t=3.491, p<0.1) . Thus, H2c is accepted. The association between the

trait of Agreeableness and consumer's proactive health-minded behaviour was the second strongest association. Similarly, as in the case with reactive health-minded behaviour, agreeable people have been found to follow the measures that will protect them from possible contamination (Aschwanden et. al., 2020) and, as such, they are more likely to buy products such as vitamins and food that strengthen their immune system. Besides, our finding is in line with the study of Zolotareva et al. (2022), who also found that Agreeableness is positively related to diet and nutrition (e.g., eating healthy food such as fresh fruit and vegetables).

As per our research's findings, consumers' proactive health-minded buying is further predicted by Conscientiousness (β=.181, t=2.325, p<0.1) (see Table 9), which suggests that the higher the levels of Conscientiousness of a consumer, the more likely he/she will resort to proactive health-minded buying. Several sociological studies of long-lived individuals imply that particular conscientiousness-related attributes are evident in the oldest old and centenarians. This is consistent with the findings of other studies, such as those of Bogg and Roberts (2004), and Zolotareva (2022) which also reported positive relations between the trait of Conscientiousness and health-related behaviours. Bogg and Roberts (2004), using meta-analytic techniques, examined the associations between specific facets of Conscientiousness and health-related behaviours and found that some facets were more strongly related to health behaviours than others. Specifically, responsibility, self-control and traditionalism were important predictors across health behavioural domains (i.e., diet, tobacco uses, level of physical activity) (Bogg and Roberts, 2004). The link has also been investigated by Zolotareva et. al (2022) who confirmed associations between the trait of Conscientiousness and diet/nutrition and physical activity. Further, our findings are in line with the study of Obara-Golebiowska and Michaelk-Kwiecien (2020) which further confirmed that Conscientiousness is positively related to health behaviours (i.e., correct eating habits that determine the type of food being eaten; preventive behaviours regarding compliance with health recommendations; health practices covering daily habits of recreation, sleep and physical activity; and positive mental attitudes associated with avoiding negative emotions and strong stress) as well as dieting self-efficacy (i.e., ability to resist a variety of eating temptations).

Besides, our study has also confirmed H4c. We hypothesized that consumers' proactive health-minded buying behaviour is positively associated with high levels of Neuroticism (β=.192, t=2.523, p<0.1). Our assumption relied heavily on the fact that Neurotic individuals tend to be more anxious and fearful with regard to their health (McCrae and John, 992) and thus will take all precautionary measures necessary to protect their health and well-being. This can also be supported by the fact that neurotic people show greater distress following challenging life events (Creed et. al, 200; Gallant and Connel, 2003) and thus their response tends to be more intense than normal. Nonetheless, our finding contradicts to the study of Zolotareva et al (2022) that did not reveal any link between Neuroticism, diet and nutrition and physical activity.

Our hypotheses regarding Narcissism (H6c) and Psychopathy (H8c) have also been supported with both traits predicting consumers' proactive health-minded buying during a pandemic (β=.156, t=1.831, p<0.1) and (β=.147, t=1.799, p<0.1) respectively. In regards to our H6c, we hypothesized that individuals who score high on Narcissism, would be more likely to exhibit proactive health-minded buying behaviour during a pandemic. Similarly to reactive health-minded buying behaviour, we expected a positive association between Narcissism and proactive health-minded behaviour due to Narcissists' innate characteristic of egoism and self-importance (Krizan and Herlache, 2018). Since narcissists put extra emphasis on their own self, it makes sense that they would take all those measures necessary to protect their health and well-being especially during a pandemic, by purchasing products that will reinforce their immune system.

As expected Psychopaths are more likely to exhibit proactive health-minded buying behaviours which, in similar vein, can be mainly attributed to their self-centrism, egoism and their high levels of grandiosity (Paulhaus and Williams, 2005, Babiak and Hare, 2006; Rauthmann, 2012). These characteristics will push Psychopaths towards more proactive buying behaviour to eliminate any possibility of their health being affected by the pandemic.

However, similarly to reactive health-minded buying behaviour, the traits of Openness to Experience and Machiavellianism were not found to be of significance when predicting consumers' proactive health-minded buying behaviour. Hence, H5c and H7c are rejected. Based on previous research that reported positive links between Openness and intelligence (DeYoung et

al., 2005; Zurawicki, 2010), we expected that individuals who score high on Openness to Experience would be more likely, due to their high intellectual abilities and their ability to comprehend the possible consequences of a pandemic on their well-being, to exhibit proactive health-minded buying behaviours, such as buying products that will reinforce their immune system.. Nonetheless, this hypothesis has not been accepted with a possible explanation attributed to individual flexibility in dealing with different life events.

We further expected that consumers' high on Machiavellianism will be more likely to exhibit proactive health-minded buying. Thus, H7c is rejected. Our assumption was based on Machiavellians innate characteristic of being highly egoistic with a focus on their self-interest (Paulhaus and Williams, 2002; Furnham et al, 2013), and consequently we expected that they would be more likely to take extra measures in protecting their health and resort into proactive health-minded buying. The rejection of this hypothesis can be explained similarly to the way we explained the lack of association between Machiavellianism and reactive health-minded buying behaviour, i. e., these individuals may not perceive buying healthy food and vitamins as an adequate measure to protect their health and tend to look towards other behaviours that may be considered by them as more effective.

Hypotheses	Result
H1c: Consumers with a higher score on Extraversion are more likely to show proactive health-minded buying during a pandemic.	Accepted
H2c: Consumers with a higher score on Agreeableness are more likely to show proactive health-minded buying during a pandemic.	Accepted
H3c: Consumers with a higher score on Conscientiousness are more likely to show proactive health-minded buying during a pandemic.	Accepted
H4c: Consumers with a higher score on Neuroticism are more likely to show proactive health-minded buying during a pandemic.	Accepted
H5c: Consumers with a higher score on Openness are more likely to show proactive health-minded buying during a pandemic.	Rejected

H6c: The higher the level of Narcissism of an individual, the higher his/her level of proactive health-minded buying behaviour during a pandemic.	Accepted
H7c: The higher the level of Machiavellianism of an individual, the higher his/her level of proactive health-minded buying behaviour during a pandemic.	Rejected
H8c: The higher the level of Psychopathy of an individual, the higher his/her level of proactive health-minded buying behaviour during a pandemic.	Accepted

Table 11:Results of testing Hypotheses H1c-H8c

5.1.5.4   Minimum Interaction with Sales People

When examining the effect of personality traits on the willingness of consumers to have Minimum Interaction with Sales People, we found that Extraversion, Conscientiousness, Neuroticism, Openness to Experience, Machiavellianism and Narcissism are significantly associated with consumers' intention to have minimum interaction with sales people during a pandemic (see Table 11). The traits of Agreeableness and Psychopathy did not show any relationship with the behaviour.

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-3.194	1.204		-2.653	.009
	EXTRAVERSION	.291	.111	.223	2.630	.009
	AGREABLENESS	.161	.146	.097	1.105	.270
	CONCIENTIOUSNESS	.190	.114	.145	1.664	.098
	NEUROTICISM	.474	.100	.363	4.738	.000
	OPENNESS TO EXPERIENCE	.575	.147	.280	3.917	.000
	MACHAVELLIANISM	-.271	.103	-.236	-2.629	.009
	PSYCHOPATHY	.159	.102	.129	1.569	.118
	NARCISSISM	-.175	.081	-.168	-2.157	.032
a. Dependent Variable: *MINIMUM INTERACTION WITH SALES PEOPLE*						

Table 12:Regression Analysis: Independent Variables - EXS, AGR, CON, NEUR, OPtE, MaCH, PSY, NAR. Dependent Variable-Minimum Interaction with sales people

In regards to H3d, the trait of Conscientiousness had a positive effect on consumers' tendency to reduce their time with sales people while shopping (β=.145, t=1.664, p<0.1), and hence this hypothesis has been accepted. Conscientious individuals experience better physical health, partly due to their greater propensity to behave in ways that maintain wellness. Thus, these individuals might be more willing to minimize their interaction with sales people during shopping to decrease the possibility of being contaminated or pass the virus to other individuals. Our finding is in line with previous studies which have shown that the trait of Conscientiousness is the most reliable and robust predictor of health behaviour among the Big Five (Hampson and Friedman, 2008; Hill and Roberts, 2011). For instance, Hill and Roberts (2011) examined whether and how adherence mediates the relation between conscientiousness and physical health and whether these effects differed for adhering to doctor's order (i.e., the probability that a patient will follow a doctor's health instructions) versus adhering to medication regimens (i.e., a patient refilling his medication before running out). Their study concluded that, indeed Conscientious individuals report higher levels of both doctor and medication adherence. The latter explains the links between Conscientiousness and willingness to avoid interactions with sales people.   Further, our results are in line with the study of Gotz et al (2020) who found that social distancing and staying at home was more common in individuals high on Conscientiousness (mainly attributed to their social norms and health behaviour concerns).

In accord with H4d, the trait of Neuroticism has also been found to be a predictor of a consumers' minimum interaction with sales people during shopping (β=.363, t=4.738, p<0.1). In fact, the effect of this Neuroticism was the strongest one (β=.363). As expected, consumers high on Neuroticism are more likely to minimize their interaction with sales people during a pandemic due to their neurotic tendencies. Several studies (e.g., Bolger, (1990), Suls, (2001) and Mroczek and Almeida (2004) have found that indeed when neurotic individuals encounter stressful events, they tend to experience them as more aversive and react with higher levels of negative affect. Individuals high on Neuroticism are more likely to appraise stressors as threats, rather than as challenges. Thus, these individuals are more likely to minimize any interaction with people in order to reduce the possibility of being contaminated by the virus.

Our study has further confirmed H5d, which implied that Openness to Experience would predict consumer behaviour in terms of minimizing their interaction with salespeople (β=.280, t=3.917, p<0.1. The association between Openness to Experience and consumer's propensity to minimize communication with salespeople was less obvious and speculative than other links. Nonetheless, this finding gives credibility to the study of Ludeke et. al (2021), one of the very few studies that found that Openness to Experience is linked to the propensity of exhibiting social distancing behaviours during a pandemic. Notably, John and Thomsen (2014) and Mongy et. al (2020) revealed that open individuals tend to show preference for occupations that allows working from home.

Besides, our analysis showed that both Narcissism and Machiavellianism negatively predict consumer behaviour in terms of interactions with sales people while shopping during a pandemic, (β=.168, t=-2.157, p<0.1) and (β=-.280, t=3.917, p<0.1) respectively. Thus, our H6d and H7d are accepted. Previous research is in accordance with our results and has indicated that narcistic rivalry is negatively associated with engaging in social distancing. For instance, the study of Zajenkowski et. al (2020) examined the role of personality traits and individual differences in perception of the COVID-19 pandemic with regard to the compliance with governmental restrictions to reduce the spread of the virus. This study found that being rivalrous (one of the facets of Narcissism) may lead to unwillingness to comply in a combative way (e.g., protesting restrictions). The same study (Zajenkowski et al., 2020) also supports our finding in regards to H7d, whereby we posited that the higher the level of Machiavellianism in an individual, the less likely he/she would be to minimize his/her interaction with sales people. The authors concluded that being cynical and power-seeking (facets of Machiavellianism), as in the case of Narcissism, create the dispositions that lead individual to challenge any restrictions posed by the government in terms of minimizing the spread of coronavirus.

Nonetheless, three of our hypotheses (H1d, H2d and H8d) have been rejected. The traits of Agreeableness (H2d) and Psychopathy (H8d) were not found to be of significance when predicting consumer interaction with sales people during a pandemic. As for H2d, we expected that consumers high on Agreeableness would be more likely to minimize their interaction with sales people, since agreeable people tend to be more compassionate and caring individuals (McRae and

Costa, 2008) and understand the dangers associated with the virus. However, H2d is not supported. These results contradict the findings of Zajenkowski et al. (2020) who found positive links between the trait of Agreeableness and greater compliance with restriction measures such as social distancing. A possible explanation might be that these individuals will only interact with others only when they are certain they will do no harm to them. If we relate this to our other results on reactive and proactive health-minded buying behaviours (i.e., consumers high on Agreeableness are more likely to buy masks and sanitizers as well products and food that would strengthen their immune system), it makes sense that they would be very careful during any of their interactions with other individuals.

Our H8d is also rejected, since no association was observed between the trait of Psychopathy and minimum interaction with sales people. We hypothesized that the higher the Psychopathy of an individual, the less likely he/she would be to minimize their interaction with sales people while shopping during a pandemic. The fact that no relation was established is rather surprising, since it contradicts other studies that found negative links between Psychopathy (as in the case of Narcissism and Machiavellianism) and social distancing (Blagov, 2020; Zajenkowski et al., 2020). Blagov (2020), for instance, found that Psychopathy predicted harmful behaviours such as ignoring social distancing regulations and knowingly infecting others during COVID-19. In fact, Zajenkowski et al. (2020) state that the Dark Triad *"may create a "perfect storm" of dispositions that lead to an unwillingness to comply"* to social distancing as well as to any other form of restriction.

Finally, H1d is rejected. Specifically, we expected that consumers who are high on Extraversion will be less likely to minimize their interaction with sales people during a pandemic, mainly due to their need for continuous interaction with people. The link appeared to be significant but in the opposite direction. Extroverts find joy in socializing, talking to others, and simply being in the presence of other people and, as such, should be more reluctant to socially distance (Ludeke et al, 2021). A possible explanation of our unexpected finding could be attributed to the fact that extraverts may possess greater psychological resilience during highly and potentially traumatic life events (Oshio, Taku, Hirano and Saeed, 2018). The core elements of the overall resilience include a higher level of self-control and motivation toward accomplishments, a higher level of

positive emotions and engagement with social activity, a higher level of emotional stability, and a lower level of negative effects (Oshio, Taku, Hirano and Saeed, 2018). Thus, during a pandemic, despite the need for socialization, Extraverts may exhibit higher levels of self-control and minimize their interactions with sales people, in the face of possible consequences.

Hypotheses	Result
H1d: Consumers with a higher score on Extraversion are less likely to minimize their interaction with sales people during a pandemic.	Rejected
H2d: Consumers with a higher score on Agreeableness are more likely to minimize their interaction with sales people during a pandemic.	Rejected
H3d: Consumers with a higher score on Conscientiousness are more likely to minimize their interaction with sales people during a pandemic	Accepted
H4d: Consumers with a higher score on Neuroticism are more likely to minimize their interaction with sales people during a pandemic.	Accepted
H5d: Consumers with a higher score on Openness are more likely to minimize their interaction with sales people during a pandemic.	Accepted
H6d: The higher the level of Narcissism of an individual, the less likely he/she is to minimize interaction with salespeople during a pandemic.	Accepted
H7d: The higher the level of Machiavellianism of an individual, the less likely he/she is to minimize interaction with sales people during a pandemic.	Accepted
H8d: The higher the level of Psychopathy of an individual, the less likely he/she is to minimize interaction with sales people during a pandemic.	Rejected

Table 13:Results of testing Hypotheses H1d-H8d

5.1.5.5 *Switching to value-priced products/services/ brands*

The relationship between personality traits and consumer switching to value-priced products/services/brands during a pandemic has also been examined. The analysis indicated that Neuroticism, Openness to Experience, Machiavellianism and Psychopathy predict consumer's

switching to value-priced products/services/brands, while Extraversion, Agreeableness, Conscientiousness and Narcissism have no association with it (see Table 13).

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.453	.820		-.553	.581
	EXTRAVERSION	.080	.075	.088	1.057	.292
	AGREABLENESS	.096	.099	.084	.971	.333
	CONCIENTIOUSNESS	-.076	.078	-.083	-.974	.331
	NEUROTICISM	.377	.068	.418	5.541	.000
	OPENNESS TO EXPERIENCE	.324	.100	.228	3.244	.001
	MACHAVELLIANISM	-.182	.070	-.229	-2.586	.010
	PSYCHOPATHY	.413	.069	.484	5.972	.000
	NARCISSISM	.063	.055	.087	1.135	.258
a. Dependent Variable: **SWITCHING TO VALUE-BASED PRODUCTS/SERVICE**						

Table 14:Regression Analysis: Independent Variables - EXS, AGR, CON, NEUR, OPtE, MaCH, PSY, NAR. Dependent Variable-Switching to value-based products/services/brands

In accord with H5e, the trait of Openness to Experience was found to be conducive to the formation of consumer switching to value-priced products/service/brands during a pandemic (β=.228, t =3.244, p<0.1). Our hypothesis was based on the defining characteristics of the trait, that is cognitive activity, flexibility and intellectual ability (McRae and Costa, 1992; Howard and Howard, 1995; Denissen and Penke, 2008; DeYoung, et al, 2005; Zurawicki, 2010; Nettle, 2011). Our findings are in line with the studies that found positive links between Openness to Experience and features related to the adoption of frugal values (i.e., self-discipline in spending and efficient use of existing resources, and ecological and environmental awareness), such as high levels of cognitive activity and flexibility, creativity and ability for imagination (Denissen and Penke, 2008; Nettle, 2011). When faced with economic constraints during a pandemic, due to their adaptability and flexibility in responding to changing circumstances, individuals high on Openness to Experience may demonstrate a willingness to adjust their consumption patterns and preferences to accommodate budgetary limitations. Switching to value-priced products/services/brands reflects

their pragmatic approach to managing resources and adapting to new economic realities Further, several studies have found positive links between Openness to Experience and intelligence, such as the studies of De Young et al. (2005) and Zurawicki (2010) which can also offer a potential explanation to our results. Considering the uncertain future and landscape that the pandemic has created, people with higher intellectual abilities will be more likely to understand the need to turn into more economically responsible behaviours in order to save money.

H4e was also supported. As expected, consumers with a higher score on Neuroticism are more likely to switch to valued-priced products/services/brands during a pandemic (β=418, t=5.541, p<0.1). As it has been established, highly neurotic individuals tend to overreact to external negative events, respond differently in stressful situations and perceive higher levels of risk towards ambiguous stimuli (Bolger, 1990; Suls, 2001; Mroczek and Almeida, 2004; Garcia and Zoellner, 2017). The latter may explain why consumers who score higher on the trait of Neuroticism are more likely to perform this specific behaviour. Highly neurotic individuals feel stressed and fearful of their future and thus will be more willing to resort to more economical purchasing decisions. The economic uncertainty associated with a crisis can exacerbate these feelings, making neurotic consumers more vigilant about their financial well-being. For neurotic people, switching to valued-priced products/services/brands may represent a practical strategy for coping with financial constraints and reducing economic stress.

H7e was accepted, which implied that consumer switching to value-priced products/services/brands is negatively associated with high levels of Machiavellianism (β= -.229, t=-2.586, p<0.1). Since Machiavellians are known for their tendency to focus on money, power and competition and prestige, it is logical that they would refrain from switching to more economically conscious purchases, even at the time of a world health crisis. Being frugal may be perceived by Machiavellians as a behaviour not suitable for their status and may affect negatively their prestige and image. Machiavellian individuals may resist adopting cost-effective alternatives that compromise their image or reputation, preferring to maintain a facade of affluence and exclusivity even in challenging economic circumstances.

We have further hypothesized that the trait of Psychopathy will be positively associated with consumer tendency to switch to valued-priced products/services/brands. This assumption has been

confirmed by our findings, and hence H8e is accepted. It should be noted that the effect of Psychopathy on switching to valued-priced products/services/brands has been the strongest in the model (β=.484). Although psychopaths tend to have higher levels of egoism as well as higher levels of grandiosity and would not want to hinder any of these in the eyes of their peers, at the same time, psychopathic individuals are often adaptable and flexible in their behaviour, willing to change their strategies or tactics to achieve their goals. During a pandemic, when economic conditions are volatile and consumer preferences may shift, psychopathic individuals may be quick to adapt to changing market dynamics by switching to value-priced alternatives. They may prioritize cost-effectiveness and pragmatism over brand loyalty or prestige, adjusting their purchasing behaviour to align with dramatic circumstances.

However, our H1e, H2e, H3e and H6e have been rejected. In regards to H1e, we posited that the higher the level of Extraversion in an individual, the less likely that he/she will switch to value-price products/services/brands during a pandemic. Our assumption was based on Extraverts' tendency to resort to impulsive and hedonic purchases (Guido, Capestro and Peluso, 2007). Indeed, Extravert individuals are more likely to engage in activities like shopping as a social excursion and should purchase products on a whim rather than engaging in frugal spending habits. In fact, our result is in contrast with the findings of Puente-Diaz and Arroyo (2015) who reported a negative effect of Extraversion on frugality. Still, individuals high on Extraversion are often flexible and more adaptable in their behaviour, willing to try new experiences as well as adjust to changing circumstances. Therefore, the absence of the link in our study could be explained by the fact that, in the context of the pandemic, where economic uncertainty and disruptions to normal routines are prevalent, extraverted individuals may demonstrate a greater willingness to experiment with different purchasing options, including value-priced alternatives. They may view cost-saving measures as opportunities for exploration and novelty, embracing the challenge of finding creative solutions to meet their needs within budget constraints.

Further, our study did not reveal any association between Agreeableness and switching to valued-priced products/services/brands, and hence our H2e is rejected. Our hypothesis suggested that the higher the Agreeableness in consumers, the more likely that he/she will be to switch to valued-priced products/services/brands during a pandemic. The formation of this hypothesis relied on extant research that confirmed the associations between the trait of Agreeableness and frugality

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(Puente-Diaz and Arroyo, 2015). The authors suggested that this link is due to the fact that Agreeableness is characterised by two features that are consistent with key goals of frugal values; social and self-transcendent goals. Our alternative result could be explained by the context in which this research was conducted, that is COVID-19, whereby switching to value-priced products may be seen by agreeable individuals as materialism rather than frugality. People high on Agreeableness show more concern towards communal values, and if switching to value-priced products is perceived by them as a desire to have material possessions, then they are unlikely to resort to this kind of behaviour. Our H3e is rejected either, since no association was found between the trait of Conscientiousness and switching to value-priced products/services/brands. We expected that the higher the Conscientiousness of an individual, the more likely that he/she will be to switch to valued-price products/services/brands during a pandemic. This hypothesis was based on previous studies (e. g., Lastovicka et al. (1999) and Puente-Diaz and Arroyo (2015)). The absence of link could be attributed to the fact that, although Conscientious individuals might exhibit this kind of behaviour normally in their daily lives, the pandemic is not a factor stimulating frugality.

Hypotheses	Result
H1e: Consumers with a higher score on Extraversion are less likely to switch to value-priced products/services/brands during a pandemic	Rejected
H2e: Consumers with a higher score on Agreeableness are more likely to switch to value-priced products/services/brands during a pandemic.	Rejected
H3e: Consumers with a high score on Conscientiousness are more likely to switch to value-priced products/services/brands during a pandemic	Rejected
H4e: Consumers with a high score on Neuroticism are more likely to switch to value-priced products/services/brands during a pandemic.	Accepted
H5e: Consumers with a higher score on Openness are more likely to switch to valued-price products/services/brands during a pandemic.	Accepted
H6e: The higher the level of Narcissism of an individual, the less likely he/she is to switch to value-priced products during a pandemic.	Rejected

H7e: The higher the level of Machiavellianism of an individual, the less likely he/she is to switch to value-priced products during a pandemic.	Accepted
H8e: The higher the level of Psychopathy of an individual, the more likely he/she is to switch to value-priced products during a pandemic.	Accepted

Table 15:Results of testing Hypotheses H1e-H8e

5.1.5.6   Buying More Technological Gadgets

Our last model examined the relationship between personality traits and consumers' tendency to buy more technological gadgets during a pandemic. The traits of Extraversion, Conscientiousness, Neuroticism, Openness to Experience, Narcissism and Psychopathy showed a positive association with this behaviour pattern. However, the model did not reveal any effect of Agreeableness and Machiavellianism on such buying tendency (see Table 15).

Coefficients^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-2.591	1.063		-2.437	.016
EXTRAVERSION	.387	.098	.327	3.959	.000
AGREABLENESS	.108	.129	.072	.836	.404
CONCIENTIOUSNESS	.127	.088	.150	1.492	.008
NEUROTICISM	.238	.088	.201	2.693	.008
OPENNESS TO EXPERIENCE	.760	.130	.408	5.864	.000
MACHAVELLIANISM	-.086	.091	-.083	-.949	.344
PSYCHOPATHY	.372	.090	.333	4.151	.000
NARCISSISM	.130	.076	.305	3.794	.005
a. Dependent Variable: **BUYING NEW TECHNOLOGY GADGETS**					

Table 16:Regression Analysis: Independent Variables - EXS, AGR, CON, NEUR, OPtE, MaCH, PSY, NAR. Dependent Variable-Buying new technological gadgets

Hypotheses H1f is accepted, since buying new technological gadgets was positively associated with higher levels of Extraversion (β= .327, t=3.959, p<0.1). Our hypothesis was based on numerous studies which emphasized that Extroverts need to be connected with other people. As

such, extaverts should be more likely to turn towards technology and digital platforms to maintain the interaction they seek with their peers. Our results are in line with the findings of Lee, Malcein and Kim (2020) who investigated the roles of information and communications technology (ICT) during the COVID-19 pandemic (in terms of daily use of receiving news and staying in contact with social networks) and social connection. They found that those individuals who rated higher on importance of social connectedness (i.e., Extraversion) had higher ICT use, both in terms of types of ICT and time spent on ICT. This finding is also consistent with the concept of using technology as a coping tool (Pantell and Shields-Zeeman, 2020).

In accord with H3f, the trait of Conscientiousness appeared to be a predictor of consumers' tendencies to buy more technological gadgets during a pandemic (β=.150, t=1.492, p<0.1). Our hypothesis was based on the fact that Conscientious individuals are guided by the need to always be prepared, as well as on the results of the studies that related the trait of Conscientiousness to health behaviour concerns (Hampson and Friedman, 2008; Gotz et al, 2020). Hence, Conscientious individuals are more likely to buy different technological equipment to facilitate remote working if the need arises, either for maintaining their health or for adhering to regulations imposed by the government (e.g., lockdown and social distancing measures).

Further, the trait of Neuroticism was found to be positevely associated with buying more technological gadgets (β=.201, t=2.693, p<0.1), and thus H4f is also accepted. This is consistent with the studies that found a positive corellation between Neuroticism and impulse buying behaviour such as those of Silvera et al (2008) and Shahjehan et al (2012). These studies suggest that anxiety of neurotic individuals turn into impulse purchases as a means to gain some form of relief from the distress that neurotic individual may experience. Considering the anxiety and stress caused by the pandemic, it is logical that individuals high on Neuroticism will turn into buying more technological gadgets (e.g., printers, laptops etc) in order to gain control and reduce anxiety in the event that they migh need to work from home.

We have further hypothesized that the higher the level of Openness to Experience, the more likely that an individual will buy more technological gadgets during a health crisis. This hypothesis (H4f) has also been accepted (β=.408, t=5.864, p<0.1). This association was the strongest in this model

(β= .408). Ludeke et al. (2021) found positive relationships between Openness to Experience and social distancing/working from home, while Gavoille and Hazans (2022) concluded that people high on Openness hold the characteristics of flexibility, adaptability and innovation, which makes them more open to new challenges and experiences. Therefore, individuals high on Openness may be more likely to resort into buying more technological items during the pandemic in order to facilitate social distancing and working from home (e.g., printers, fax machines etc).

Besides, Narcissism and Psychopathy have also been found to be predictors of consumers' tendencies to buy new technology gadgets during a pandemic (β=.305, t=3.794, p<0.1) and (β=.333, t=4.151, p<0.1) respectively. This indicates that H6f and H8f are accepted. We expected that the higher the levels of Narcissism and Psychopathy, the more likely it is that consumers will buy new technology during a pandemic as a way to differentiate themselves from others, exhibit their grandiosity and receive attention for the possessions they have. In other words, buying new and expensive equipment will be their way of showcasing their uniqueness. These findings are in line with the study of Lee et al. (2013) who demonstrated that narcissists' consumer decisions are guided by their need to distinguish themselves positively from others by purchasing goods that are scarce, unique, exclusive, and customizable. Psychopaths, similar to Narcissists, are also guided by grandiosity, impulsivity and self-entitlement (Jones and Paulhus, 2011) and thus are also more likely to resort to this kind of behaviour.

Nonetheless, we should note that two of our hypotheses (H2f and H7f) have been rejected. The traits of Agreeableness and Machiavellianism had no associations with consumers' tendency to buy new technological equipment during a pandemic. H2f was based on the fact that agreeable individuals tend to be more compliant with the regulations, and therefore they will be more likely to buy technological gadgets to facilitate social distancing. One possible explanation of the absence of the expected link is that individuals high on Agreeableness have a preference for more traditional solutions. They may value face-to-face interactions and traditional forms of communication over reliance on technology. During a pandemic, when social distancing measures limit in-person interactions, agreeable individuals may seek alternative ways to maintain social connections, such as through phone calls, handwritten letters, or outdoor activities that allow for safe distancing. As a result, they may be less inclined to invest in new technological gadgets which

are perceived as substitutes for human interaction. As for H7f, we expected that Machiavellians would be more likely to buy new and expensive technological equipment to facilitate their need for attention. A possible explanation for the absence of this link may be the fact that, while Machiavellians may prioritize personal gain and advantage-seeking in various contexts, including consumer behaviour, during a pandemic their focus could be more instrumental and pragmatic. During a health crisis, when resources are scarce and economic uncertainty prevails, Machiavellian individuals may prioritize purchases that offer tangible benefits, such as essential goods, financial investments, or strategic acquisitions, rather than discretionary spending on new technological gadgets.

Hypotheses	Result
H1f: Consumers with a higher score on Extraversion are more likely to buy new technology gadgets during a pandemic.	Accepted
H2f: Consumers with a higher score on Agreeableness are more likely to buy new technology gadgets during a pandemic.	Rejected
H3f: Consumers with a higher score on Conscientiousness are more likely to buy new technology gadgets during a pandemic.	Accepted
H4f: Consumers with a high score on Neuroticism are more likely to buy new technology gadgets during a pandemic.	Accepted
H5f: Consumers with a higher score on Openness are more likely to buy new technology gadgets during a pandemic.	Accepted
H6f: The higher the level of Narcissism of an individual, the more likely he/she is to buy new technology gadgets during a pandemic.	Accepted
H7f: The higher the level of Machiavellianism of an individual, the more likely he/she is to buy new technology gadgets during a pandemic.	Rejected
H8f: The higher the level of Psychopathy of an individual, the more likely he/she is to buy new technology gadgets during a pandemic.	Accepted

Table 17:Results of testing Hypotheses H1f-H8f

5.1.6 Independent Sample t-tests

Further, independent-samples t-tests were conducted to identify demographic differences in relation to personality traits and buying tendencies during a pandemic. In doing this, a split group approach was used. Specifically, the initial sample of consumers was divided into gender (men vs. women), age (younger [<35 years] vs. older [>35years]), family status (with children vs. without children) and educational (with a university degree vs. without a university degree) demographic groups.

According to independent-samples t-tests, females, (M=3.75 SD= .66) appeared to have significantly higher levels of extraversion than males (M=3.06, SD= .61), t= -.762, p <0.1), as well as higher levels of Conscientiousness (M=3.90, SD=.59 vs. M=3.37, SD= .78, t=-5.531, p< 0.1), higher levels of Neuroticism (M=3.43, SD= .78 vs. M=3.07, SD= .59, t=-3.59, p<0.1) and Openness to Experience (M=3.65, SD=.46 vs. M=3.43, SD= .43, t= -3.41, p<0.1) (see Table 17). Females scored higher on Extraversion, Conscientiousness, Neuroticism and Openness to Experience probably because women tend to have greater interconnection and are more affiliated to social groups, are more organized in their life, exhibit higher levels of anxiety and are more creative in nature than men. Further, females (M=3.33, SD=1.34) were found to exhibit higher levels of stockpiling behaviour than their male counterparts (M=2.33, SD=.78), t=-6.195, p<0.1, higher levels of reactive (M=3.93, SD =1.10 vs. M=3.30, SD=1.02, t=-4.191, p<0.1) and proactive health-minded buying behaviour (M=3.34, SD=.89 vs. M=2.68, SD=.72, t=-5.615, p<0.1). Females also exhibited significantly higher levels of minimizing their interaction with sales people during the pandemic (M=3.46, SD=.89 vs. M=2.84, SD=.75, t=-4.877, p<0.1) (see Table 19). Hassen et. al (2022) examined gendered impacts of COVID-19 and found that women tend to stockpile more out of fear and anxiety caused by the pandemic. They also found that women tend to minimize visits to supermarkets in fear of contamination. As for higher levels of reactive and proactive health-minded behaviour in women, this could be explained by the fact that women are more caring in nature and hence are more likely to take measures necessary to protect their own health as well as well-being of others.

Independent-samples t-tests also indicated that males (M=2.25, SD=.80) appear to have higher levels of Machiavellianism than females (M=1.94, SD=.82) t=2.279, p<0.1, as well as higher levels of Psychopathy (M=2.47, SD=.84 vs. M=1.79, SD=.56, t=9.907, p<0.1) (see Table 18). This is not

surprising, since women are normally guided by more nurturing characteristics, prosocial behaviours and are more emotional than men. On the contrary, men are often governed by pride, egoism and lack of empathy, which are the main characteristics of Machiavellianism and Psychopathy. Despite the aforementioned differences, it should be noted that the independent-samples t-tests did not reveal any differences between genders in terms of Agreeableness and Narcissism. Similarly, no differences were observed between genders in terms of switching to value-priced products/services/brands and buying more technological products during a pandemic.

Age also proved to be a moderator of certain traits and behaviours. Older consumers appeared to have significantly higher levels of Conscientiousness in comparison to younger consumers (M=3.82, SD=.70 vs. M=3.49, SD=.71, t=-3.23, p<0.), Openness to Experience (M=3.62, SD=.78 vs. M=3.46, SD=.4, t=-2.6, p<0.1 and Psychopathy (M=2.20, SD=.79, vs. M=1.89, SD=.69, t=-2.853, p<0.1) and lower levels of Neuroticism (M=3.20, SD=.73 vs. M=3.40 SD=.70, t=1.96, p<0.1) (see Table 17), Machiavellianism (M=1.95, SD=.70 vs. M=2.25, SD=.95, t=2.587, p<0.1) and Narcissism (M=2.35, SD=.89 vs. M=2.66, SD=.92,t=2.419, p<0.1 (see Table 18). Besides, in comparison to older consumers, younger consumers (M=3.27, SD=1.34) exhibited higher levels of stockpiling behaviour (M=2.67, SD=1.10, t=3.510, p<0.1), as well as higher levels of a tendency to have minimum interaction with sales people during the pandemic (M=3.42, SD=.83 vs. M=3.05, SD=1.00, t=2.752, p<0.1) (see Table 19). Older consumers scored higher on Conscientiousness and Openness to Experience possibly because these individuals are more mature and experienced in life which makes them more dependable, competent and responsible, as well as more open to new ideas. Further, younger consumers' tendency to stockpile more could be explained by the fact that they lack the maturity to comprehend the damaging effects of stockpiling on other individuals. Another possible explanation could be the fact that younger individuals tend to experience more stress during a health crisis, and hence stockpiling could be used as a way to minimize visits to stores to safeguard their own health. This could also explain the finding that younger consumers exhibit higher levels of minimum interaction with salespeople during the pandemic. Nonetheless, the independent-samples t-tests did not show any significant differences between the levels of Extraversion and Agreeableness in different age groups. In a similar vein, no age differences were found in terms of reactive and proactive health-minded behaviour, switching to value-priced products/services/brands and buying more technological gadgets during a pandemic.

The personality features of respondents with a different family status were also compared. The results indicated that people with children (M=3.93, SD=.57) are more agreeable than people without children (M=3.76, SD=.56) t=2.121, p<0.1, as well as more conscientious (M=3.84, SD=.68 vs. M3.46, SD=.72, t=3.836, p<0.1) and open to experiences (M=3.60, SD=.48 vs. M=3.49, SD=.42, t=1.678, p<0.1) (see Table 17). People with children (M=2.24, SD=.76) exhibited higher levels of Psychopathy in comparison to people without children (M=1.83, SD=.772, t=-2.853, p<0.1) (see Table 18) and a higher propensity for switching to value-priced products/brands/services during a pandemic (M=3.01, SD=.73 vs. M=2.85, SD=.51, t=1.723, p<0.1) (see Table 19). An explanation as to why people with children exhibit higher levels of Agreeableness could be the fact that these individuals are more compassionate, have learnt to put their self-interest aside for the sake of their children, and are more considerate of others' emotions and needs. In essence, their prosocial behaviours such as helping others, comforting and sharing are much more evident because they feel personal responsibility for their children. Besides, people with children tend to be more conscientious than people without children due to the fact that they need to be dutiful, orderly, responsible and prepared for all situations as they have others that depend upon them.

We have further found that people without children (M=3.52, SD=.62) exhibited significantly higher levels of Neuroticism than people with children (M=3.12, SDS=.75), t=-4.071, p<0.1 (see Table 17), as well as higher levels of Machiavellianism (M=2.19, SD=.99 vs. M=1.99, SD==.68, t=-1.792, p<01), Narcissism (M=2.64, SD=.98 vs. M=2.37, SD=.85, t=-2.099, p<0.1) (see Table 18) and stockpiling behaviour (M=3.10, SD=1.35 vs. M=2.79, SD=1.15, t=-1.794, p<0.1), while people with children (M=3.01, SD=.73) appeared to be more prone to switching to value-priced products/services/brand during a pandemic compared to their counterparts (M=2.85, SD=.51), t=1.723, p<0.1 (see Table 19). However, family status did not influence the levels of a consumer's Extraversion, reactive and proactive health-minded behaviour, minimizing interaction with sales people and buying more technological gadgets during a pandemic.

Besides, the respondents with a different educational level were compared. The analysis showed that consumers without a university degree, compared to consumers with a university degree,

posess higher levels of Extraversion (M=3.53, SD=.71 vs. M=3.16, SD=.71, t=-2.793, p<0.1), Neuroticism (M=3.34, SD=.75 vs. M=3.00, SD=.26, t=-2.595, p<0.1), Openness to Experience (M=3.62, SD=.46 vs. M=3.29, SD=.33,t=-4.058, p<0.1) (see Table 17), Machiavellianism (M= 2.14, SD=.84 vs. M=1.75, SD=.66, t=-2.615, p<0.1) and Narcissism (M=2.57, SD=.96 vs. M=2.07, SD=.44, t=-3.070, p<0.1) (see Table 18). Further, the analysis indicated that people without a university degree are more prone to stockpiling (M=3.05, SD=1.25,vs. M=2.39, SD=1.05, t=-2.879, p<0.1), reactive health-minded behaviour (M=3.76, SD1.01, vs. M=3.25, SD=1.41, t=-2.564, p<0.1), minimum interaction with sales people (M=3.27, SD=.93 vs. M=2.90, SD=.79, t=-2.154, p<0.1), as well as buying more technological gadgets (M=3.24, SD=.83 vs. M=2.54, SD=.73, t=-4.747, p<0.1) (see Table 19). The fact that people without a university degree have a greater tendency to stockpile and show reactive rather than proactive health-minded behaviour can be attributed to their lack of knowledge and understanding about the concept of a responsible consumer. They may be less aware of possible negative effects of stockpiling on other individuals and the need to take on more proactive measures during this health crisis. It should be pointed out that education did not affect the levels of Agreeableness, Conscientiousness and Psychopathy, as well as proactive health-minded buying behaviour and buying more technological gadgets during a pandemic.

	Personality Traits- Big Five														
	EXS			AGR			CON			NEUR			OPtE		
	Mean (SD)*	t- value	p- value	Mean (SD)*	t- value	p- value	Mean (SD)*	t- value	p- value	Mean (SD)*	t- value	p- value	Mean (SD)*	t- value	p- value
Male	3.06 (.61)			3.80 (.56)			3.37 (.78)			3.07 (.59)			3.43 (.43)		
Female	3.75 (.66)	-.7629	.000	3.91 (.58)	-1.338	.182	3.90 (.59)	-5.531	.000	3.43 (.78)	-3.590	.000	3.65 (.46)	-3.413	.001
<35	3.50 (.82)			3.84 (.59)			3.49 (.71)			3.40 (.70)			3.46 (.41)		
>35	3.44 (.65)	.567	.571	3.87 (.56)	-.340	.734	3.82 (.70)	-3.23	.001	3.20 (.73)	1.96	.051	3.62 (.78)	-2.46	.015
With Children	3.53 (.66)			3.93 (.57)			3.84 (.68)			3.12 (.75)			3.60 (.48)		
Without Children	3.37 (.81)	1.542	.125	3.76 (.56)	2.121	.035	3.46 (.72)	3.836	.000	3.52 (.62)	-4.071	.000	3.49 (.42)	1.678	.095
With Degree	3.16 (.71)			3.86 (.54)			3.64 (.50)			3.00 (.26)			3.29 (.33)		
Without Degree	3.53 (.71)	-2.793	.006	3.86 (.58)	-.062	.951	3.69 (.76)	-.368	.713	3.34 (.78)	-2.595	.010	3.62 (.46)	-4.058	.000

Table 18:Sex, Age, Family Status and Educational differences among consumers in terms of their personality

Personality Traits-Dark Triad								
	MAC			NAR			PSY		
	Mean (SD)*	t- value	p- value	Mean (SD)*	t- value	p- value	Mean (SD)*	t- value	p- value
Male	2.25 (.80)			2.48 (.89)			2.47 (.84)		
Female	1.94 (.82)	2.729	.007	2.48 (.93)	.000	1.00	1.79 (.56)	6.907	.000
<35	2.25 (.95)			2.66 (.92)			1.89 (.69)		
>35	1.95 (.70)	2.587	.010	2.35 (.89)	2.419	.016	2.20 (.79)	-2.853	.005
With Children	1.99 (.68)			2.37 (.85)			2.24 (.76)		
Without Children	2.19 (.99)	-1.792	.075	2.64 (.98)	-2.099	.037	1.83 (.72)	3.947	.000
With Degree	1.75 (.66)			2.07 (.44)			2.19 (.40)		
Without Degree	2.14 (.84)	-2.615	.010	2.57 (.96)	-3.070	.002	2.05 (.83)	1.029	.305

Table 19:Sex, Age, Family Status and Educational differences among consumers in terms of their personality

	STOCK			REAC			PROA			IWS			FRUG			IWT		
Consumer Buying Behaviours																		
	Mean (SD)*	t-value	p-value	Mean (SD)*	t-value	p-value	Mean (SD)*	t-value	p-value	Mean (SD)*	t-value	p-value	Mean (SD)*	t-value	p-value	Mean (SD)*	t-value	p-value
Male	2.33 (.78)			3.30 (1.02)			2.68 (.72)			2.84 (.75)			2.98 (.54)			3.11 (.54)		
Female	3.33 (1.34)	-6.195	.000	3.93 (1.10)	-4.191	.000	3.34 (.89)	-5.615	.000	3.46 (.99)	-4.877	.000	2.92 (.73)	.671	.503	3.12 (1.03)	-.071	.943
<35	3.27 (1.34)			3.69 (1.16)			3.15 (.88)			3.42 (.83)			2.86 (.49)			3.14 (.73)		
>35	2.67 (1.10)	3.510	.001	3.65 (1.07)	.287	.774	3.01 (.89)	1.046	.297	3.05 (1.00)	2.752	.006	3.01 (.74)	-1.614	.108	3.10 (.94)	.378	.706
With Children	2.79 (1.15)			3.73 (1.00)			3.07 (.99)			3.14 (.95)			3.01 (.73)			3.14 (.91)		
Without Children	3.10 (1.35)	-1.794	.074	3.57 (1.25)	1.029	.305	3.07 (.85)	.019	.985	3.28 (.94)	-1.073	.285	2.85 (.51)	1.723	.086	3.08 (.79)	.441	.659
With Degree	2.39 (1.05)			3.25 (1.41)			3.01 (1.03)			2.90 (.79)			2.79 (.47)			2.54 (.73)		
Without Degree	3.05 (1.25)	-2.879	.004	3.76 (1.01)	-2.564	.011	3.08 (.85)	-.414	.680	3.27 (.93)	-2.154	.032	2.98 (.68)	-1.552	.122	3.24 (.83)	-4.747	.000

Table 20:Sex, Age, Family Status and Educational differences among consumers in terms of their buying behaviours

5.2 Results and Discussion of Study 2

The section that follows presents the results of data analysis for Study 2. Study 2 aims at examining the relationships between individual cultural characteristics (Hofstede's Dimensions) and the same six consumer behaviours as in Study 1; that is stockpiling, reactive and pro-active health-minded behaviour, minimum interaction with sales people, switching to value-priced products/brands/services and buying technology gadgets. The data for Study 2 were collected during the months of March –May 2022.

5.2.1 Correlations

The table that follows displays the Pearson's correlation coefficients among our variables for our Study 2. The analysis indicated that Power Distance is significantly positively correlated with all consumer behaviours examined (stockpiling, reactive and proactive health-minded behaviour, minimizing interaction with sales people, switching to value-priced products/services/brands and buying more technological gadgets), while Uncertainty Avoidance was found to be positively associated with stockpiling, propensity to minimize interaction with sales people as well as switching to value-priced products/services/brand and negatively associated with proactive health-minded buying behaviour (see Table 20. The analysis further showed a positive correlation between Collectivism and the consumer behaviours of proactive health-minded buying, switching to value-priced products/services/brands and buying more technological gadgets. Long-Term Orientation was further found to be positively correlated with stockpiling, reactive health-minded buying, minimizing interaction with sales people and switching to value-priced products/services/brands, while no correlations were found with the remaining consumer behaviours. A positive correlation was also exhibited among Masculinity and all consumer behaviours with the exception of stockpiling and reactive health-minded buying where no associations were shown (see Table 20).

Correlations		PD	UAv	COI	LTO	MA	STOCK	REAC	PROA	IWS	FRUG	IWT
PD	Pearson Correlation	1	.257**	.257**	.337**	.741**	.429**	.361**	.466**	.427**	.643**	.474**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	220	220	220	220	220	220	220	220	220	220	220
UAv	Pearson Correlation	.257**	1	.091	.435**	.057	.194**	.063	-.249**	.242**	.373**	.018
	Sig. (2-tailed)	.000		.179	.000	.404	.004	.355	.000	.000	.000	.787
	N	220	220	220	220	220	220	220	220	220	220	220
COI	Pearson Correlation	.257**	.091	1	.398**	.345**	.103	-.117	.209**	.054	.176**	.255**
	Sig. (2-tailed)	.000	.179		.000	.000	.128	.084	.002	.429	.009	.000
	N	220	220	220	220	220	220	220	220	220	220	220
LTO	Pearson Correlation	.337**	.435**	.398**	1	.219**	.428**	.284**	.125	.189**	.261**	.001
	Sig. (2-tailed)	.000	.000	.000		.001	.000	.000	.065	.005	.000	.986
	N	220	220	220	220	220	220	220	220	220	220	220
MA	Pearson Correlation	.741**	.057	.345**	.219**	1	.067	-.038	.358**	.215**	.421**	.368**
	Sig. (2-tailed)	.000	.404	.000	.001		.321	.573	.000	.001	.000	.000
	N	220	220	220	220	220	220	220	220	220	220	220
STOCK	Pearson Correlation	.429**	.194**	.103	.428**	.067	1	.699**	.426**	.477**	.427**	.457**
	Sig. (2-tailed)	.000	.004	.128	.000	.321		.000	.000	.000	.000	.000
	N	220	220	220	220	220	220	220	220	220	220	220

REAC	Pearson Correlation	.361**	.063	-.117	.284**	-.038	.699**	1	.556**	.281**	.425**	.257**
	Sig. (2-tailed)	.000	.355	.084	.000	.573	.000		.000	.000	.000	.000
	N	220	220	220	220	220	220	220	220	220	220	220
PROA	Pearson Correlation	.466**	-.249**	.209**	.125	.358**	.426**	.556**	1	.358**	.537**	.429**
	Sig. (2-tailed)	.000	.000	.002	.065	.000	.000	.000		.000	.000	.000
	N	220	220	220	220	220	220	220	220	220	220	220
IWS	Pearson Correlation	.427**	.242**	.054	.189**	.215**	.477**	.281**	.358**	1	.523**	.577**
	Sig. (2-tailed)	.000	.000	.429	.005	.001	.000	.000	.000		.000	.000
	N	220	220	220	220	220	220	220	220	220	220	220
FRUG	Pearson Correlation	.643**	.373**	.176**	.261**	.421**	.427**	.425**	.537**	.523**	1	.484**
	Sig. (2-tailed)	.000	.000	.009	.000	.000	.000	.000	.000	.000		.000
	N	220	220	220	220	220	220	220	220	220	220	220
IWT	Pearson Correlation	.474**	.018	.255**	.001	.368**	.457**	.257**	.429**	.577**	.484**	1
	Sig. (2-tailed)	.000	.787	.000	.986	.000	.000	.000	.000	.000	.000	
	N	220	220	220	220	220	220	220	220	220	220	220

**. Correlation is significant at the 0.01 level (2-tailed).

Table 21:Correlations

5.2.2   Reliability Analysis

In parallel to our methodology in Study 1, we conducted a reliability analysis employing Cronbach's alpha coefficient to evaluate the internal consistency of the constructs in Study 2. The results detailed in Table 21, demonstrate a range of internal consistency levels, pertinent to the robustness of the scales. The constructs Power Distance (α = .89), Uncertainty Avoidance (α = .82), Collectivism (α = .84), Masculinity (α = .90), Stockpiling (α = .84), Reactive Health-Minded Buying Behaviour (α = .95), Proactive Health-Minded Buying Behaviour (α = .77), Minimum Interaction with Sales People (α = .84), and Switching to Value-Based Products/Services/Brands (α = .84) exhibited high to excellent reliability, signifying strong internal consistency. Conversely, Long Term Orientation (α = .57) and Buying More Technological Gadgets (α = .67) displayed lower alpha values, indicating moderate to low reliability. The lower reliability observed in these constructs could potentially stem from several factors. For Long Term Orientation, it is plausible that the construct's operationalization lacked sufficient breadth or depth, thus failing to capture the full spectrum of individuals' orientation towards future-oriented behaviours. Similarly, the lower alpha coefficient for Buying More Technological Gadgets may reflect limitations in the construct's measurement, such as the absence of comprehensive item coverage pertaining to various aspects of technological adoption and usage behaviours.

5.2.3   Descriptive analysis

We also performed descriptive analysis for our Study 2 sample which indicated that Uncertainty Avoidance (UA), Long-term Orientation (LTO) and Collectivism (CO) are on the higher end of the scale with UA (M=4.25, SD=.59), LTO (M=3.89, SD=.49) and CO (M=3.52, SD=.75), while Power Distance (PD) (M=1.83, SD=.99) and Masculinity (MAS) (M=2.07, SD=1.02) are on the lower end of the scale (see Table 22).

Uncertainty Avoidance (UA) reported the highest construct mean score (M=4.25), with the highest item mean score being that of UA3 *"Rules and regulations are important because they inform me of what is expected of me"*(M=4.44, SD=.64), followed by UA5 *"Instructions for operations are important"* (M=4.33,SD=.58) and UA2 *"It is important to closely follow instructions and procedures"* (M=4.30, SD=.76) (see Table 22).

The constructs that reported the second higher mean scores were Long-term Orientation (LTO) (M=3.86) and Collectivism (CO) (M=3.52) (see Table 22).. LTO1 *"It is important to manage money carefully"* (M=4.48, SD=.65) reported the highest mean score of all other items of Long-term Orientation, followed by LTO3 *"Personal steadiness and stability are important"* (M=4.31, SD=.86) and LTO4 *"Long-term planning is important"* (M=4.15, SD=.78), while for Collectivism the items reporting the higher mean score were CO2 *"Individuals should stick with the group even through difficulties"* (M=4.05,SD=.82), CO3 *"Group welfare is more important than individual rewards"* (M=3.65, SD=.94), CO5 *"Indvc viduals should only pursue their goals after considering the welfare of the group"* (M=3.52, SD=.99) and CO4 *"Group success is more important than individual success"* (M=3.40,SD=.99) (see Table 22).

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The lowest scores were reported by Masculinity (MAS) (M=2.07) and Power Distance (PD) (M=1.83) (see Table 22). The items with the highest mean scores for the dimension of Masculinity (MAS) were MAS4 *"There are some jobs that a man can always do better than a woman"* (M=2.41, SD=1.28), MAS2 *"Men usually solve problems with logical analysis; women usually solve problems with intuition"* (M=2.30, SD=1.17), while for the dimension of Power Distance (PD), the items with the higher means scores were PD2 *"People in higher positions should not ask the opinions of people in lower positions too frequently"* (M=2.02, SD=1.30) and PD4 *"People in lower positions should not disagree with decisions by people in higher positions"* (M=1.88,SD=1.14) (see Table 22).

When it comes to the six consumer behaviours the descriptive statistics indicated that the higher construct mean was reported by the Reactive Health-Minded Buying Behaviour (REACT) (M=3.72, SD=1.16), followed by the construct of Minimum Interaction with Sales People (MISP) (M=3.40, SD=1.05). These two constructs also reported the higher mean scores in our Study 1. Proactive Health-Minded Buying Behaviour (PROA) (M=3.35, SD=1.02), Stockpiling (STOCK) (M=3.19, SD=1.07) and Switching to Value-Priced Products/Services/Brands (SWITCH) (M=3.02, SD=.82) were on the average end of the scale, while Buying more Technological Gadgets (TECHNO) (M=2.95, SD=1.03) reported the lowest construct mean (M=2.92, SD=1.24) (see Table 22).

Reactive Health-Minded Buying Behaviour (REACT) as already mentioned was the construct with the highest mean score, with REACT2 *"During the outbreak of the pandemic, I have bought a lot of different sanitizers"* (M=3.75, SD=1.19) being the item reporting the highest mean score, while for the second highest mean construct Minimum Interaction with Sales People, the item that score the highest mean was MISP3 *"During the outbreak of the current pandemic, I preferred cashless transactions while shopping"* (M=3.55,SD=1.23) (see Table 22). These results have also been observed in our Study 1.

PROACT2 *"During the outbreak of the pandemic, I bought more vitamins and supplements to boost my immune system"* (M=3.35, SD=1.30), was the item with the highest mean score in the construct of Proactive Health-Minded Buying Behaviour, while for the constructs of Stockpiling and Switching to Value-Priced Products/Services/Brands (SWITCH) the items with the highest mean scores were STOCK3 *"At the beginning of the pandemic (or currently), I stockpiled more protective goods than usual (e.g. gloves, masks",* (M=3.65, SD=1.15) and SWITCH3 *"During the outbreak of the current pandemic, I have bought products essential for my health and nutrition"* (M=3.34, SD=.98) (see Table 22).

The lowest construct mean was reported by Buying more Technological Gadgets (TECHNO), with TECHNO2 *"During the outbreak of the current pandemic, I have switched to digital platforms for day-to-day needs"* (M=3.05, SD=1.17) being the highest item mean score (see Table 22).

Constructs	Scale items	Item Mean*(standard deviation)	Construct Mean* (standard deviation)	Cronbach's a
Power Distance (PDI)			1.83 (.99)	.89
	1. People in higher positions should make most decisions without consulting people in lower positions	1.71 (1.01)		
	2. People in higher positions should not ask the opinions of people in lower positions too frequently	2.02 (1.30)		
	3. People in higher positions should avoid social interaction with people in lower positions	1.73 (1.32)		
	4. People in lower positions should not disagree with decisions by people in higher positions	1.88 (1.14)		
	5. People in higher positions should not delegate important tasks to people in lower positions	1.79 (1.07)		
Uncertainty Avoidance (UAI)			4.25 (.59)	.82
	1. It is important to have instructions spelled out in detail so that I always know what I'm expected to do	3.99 (1.09)		

	2. It is important to closely follow instructions and procedures	4.30 (.76)	
	3. Rules and regulations are important because they inform me of what is expected of me	4.44 (.64)	
	4. Standardized work procedures are helpful	4.20 (.70)	
	5. Instructions for operations are important	4.33 (.58)	
Collectivism (COI)		3.52 (.75)	.84
	1. Individuals should sacrifice self-interest for the group	3.15 (1.10)	
	2. Individuals should stick with the group even through difficulties	4.05 (.82)	
	3. Group welfare is more important than individuals rewards	3.65 (.94)	
	4. Group success is more important than individual success	3.40 (.99)	
	5. Individuals should only pursue their goals after considering the welfare of the group	3.52 (.99)	
	6. Group loyalty should be encouraged even if individual goals suffer	3.33 (1.15)	
Long Term Orientation (LTO)		3.89 (.49)	.57
	1. It is important to manage money carefully	4.48(.65)	
	2. It is important to go on resolutely in spite of opposition	3.45 (1.02)	

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	3. Personal steadiness and stability are important	4.31 (.86)		
	4. Long-term planning is important	4.15 (.78)		
	5. People should give up today's fun for success in the future	2.95 (109)		
	6. People should work hard for success in the future	4.02 (.74)		
Masculinity (MAS)			2.07 (1.02)	.90
	1. It is more important for men to have a professional career than it is for women	1.61 (1.19)		
	2. Men usualy solve problems with logical analysis; women usually solve problems with intuition	2.30 (1.17)		
	3. Solving difficult problems usually requires an active, forcible approach, which is typical of men	1.97 (.99)		
	4. There are some jobs that a man can always do better than a woman	2.41 (1.28)		
Stockpiling (STOCK)	At the beginning of the pandemic (or currently)…		3.19 (1.07)	.84
	1. I stockpiled larger amount of food products than usual (e.g., flour, milk, canned goods)	2.80 (1.27)		
	2. I stockpiled more cleaning products than	3.14 (1.25)		

	usual (e.g., wipes, toilet paper, washing powder).		
	3. I stockpiled more protective goods than usual (e.g., gloves, masks)	3.65 (1.17)	
Reactive Health-Minded Buying Behaviour (REACT)	During the outbreak of the pandemic ..	3.72 (1.16)	.95
	1. I have bought a lot of protective masks	3.71 (1.23)	
	2. I have bought a lot of different sanitizers	3.75 (1.19)	
	3. I have prioritized masks and sanitizers over other products during shopping	3.70 (1.20)	
Proactive Health-Minded Buying Behaviour (PROACT)	During the outbreak of the pandemic ..	3.35 (1.02)	.77
	1. I have bought more food that strengthens my immune system (e.g., vegetables and fruits).	3.38 (1.29)	
	2. I have bought more vitamins and supplements to boost my immune system.	3.35 (1.30)	
	3. I have added sports to my routine to strengthen my immune system	3.31 (1.08)	
Minimum Interaction with Sales People (MISP)	During the outbreak of the current pandemic	3.40 (1.05)	.84
	1. I have found myself to avoid contact with sales people	3.35 (1.01)	
	2. I preferred shopping from shops with contactless checkout	3.32 (1.33)	

	3. I preferred cashless transactions while shopping.	3.55 (1.23)	
Switching to Value-Based Products/Services/Brands (SWITCH)	During the outbreak of the current pandemic	3.02 (.82)	.84
	1. I have cut back on buying non-essential items	2.95 (1.01)	
	2. I have found myself checking the prices even for small items	2.96 (1.04)	
	3. I have bought products essential for my health and nutrition	3.34 (.98)	
	4. I have bought more private-label or store-branded goods to save money	2.84 (.96)	
Buying more Technological Gadgets (TECHNO)	During the outbreak of the current pandemic	2.95 (1.03)	.67
	3. I have bought new equipment to facilitate remote working (e.g., laptop, printer, scanner, etc)	2.85 (1.17)	
	4. I have switched to digital platforms for day-to-day needs	3.05 (1.19)	

Table 22:Constructs and Scale Items Mean Scores

5.2.4 Confirmatory Factor Analysis

In Study 2, Confirmatory Factor Analysis (CFA) was conducted similarly to Study 1. The dataset includes five independent variables, namely five cultural dimensions (Power Distance, Uncertainty Avoidance, Individualism, Long Term Orientation, and Masculinity) and six dependent variables, namely Y1: Stockpiling behaviour, Y2: Reactive health-minded behaviour, Y3: Proactive health-minded behaviour, Y4: Minimum interaction with salespeople, Y5: Switching to value-based

products/services/brands, and Y6: Buying more technological gadgets. The sample size was 220 observations and the degrees of freedom (df) were 859. The model fit is acceptable: chi-square=4352.1, RMR=.189, and GFI=.374. The standardized regression loadings for this model are as follows:

			Estimate
PDI5	<---	F1	.767
PDI4	<---	F1	.944
PDI3	<---	F1	.924
PDI2	<---	F1	.896
PDI1	<---	F1	.567
UAI5	<---	F2	.815
UAI4	<---	F2	.784
UAI3	<---	F2	.772
UAI2	<---	F2	.791
UAI1	<---	F2	.502
IDV6	<---	F3	.643
IDV5	<---	F3	.740
IDV4	<---	F3	.814
IDV3	<---	F3	.566
IDV2	<---	F3	.611
IDV1	<---	F3	.766
LTO6	<---	F4	1.325
LTO5	<---	F4	.567
LTO4	<---	F4	.512
LTO3	<---	F4	.502
LTO2	<---	F4	-.553
LTO1	<---	F4	.094
MAS4	<---	F5	.882
MAS3	<---	F5	.947
MAS2	<---	F5	.811
MAS1	<---	F5	.720
STOCK3	<---	F6	.882
STOCK2	<---	F6	.664
STOCK1	<---	F6	.722
REAC3	<---	F7	.922
REAC2	<---	F7	.976
REAC1	<---	F7	.941
PROA3	<---	F8	.707
PROA2	<---	F8	.917

			Estimate
PROA1	<---	F8	.841
IWS3	<---	F9	.844
IWS2	<---	F9	.876
IWS1	<---	F9	.735
FRUG4	<---	F10	.849
FRUG3	<---	F10	.621
FRUG2	<---	F10	.848
FRUG1	<---	F10	.757
IWT2	<---	F11	1.291
IWT1	<---	F11	.503

Table 23:Standardized Regression Weights: (Group number 1 - Default model)

All the standardized regression loadings had values above 0.5, indicating adequate validity of the scales.

5.2.5 Hypothesis Testing

As in the case in Study 1, we have employed multiple regression analysis for our Study 2 to examine the associations between individual cultural characteristics (Hofstede's Dimensions) and all six consumer behaviours (i.e., stockpiling, reactive health-minded and proactive health-minded buying, minimum interaction with sales people while shopping, switching to valued-price products/services/brands and buying more technology gadgets). In the linear regression analysis, the models were significant and explained:

i. 40% of the variance of stockpiling behaviour (R^2 =.402),

ii. 42% of the variance of reactive health-minded buying (R^2 =.425),

iii. 37% of the variance of proactive health-minded buying (R^2 =.375),

iv. 20% of the variance of minimum interaction with sales people while shopping (R^2 =.200),

v. 45% of the variance of switching to valued-price products/services/brands (R^2 =.451),

vi. 28% of the variance of buying more technology gadgets (R^2 =.283) (see Table 24).

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Stockpiling Behaviours	.645a	.416	.402	.83307
Reactive-Health Minded Buying	.662a	.438	.425	.88118
Proactive Health Minded Buying	.624a	.389	.375	.80976
Minimum Interaction with Sales people	.467a	.218	.200	.93969
Switching to value-priced products	.681a	.464	.451	.61449
Buying more technology Gadgets	.547a	.299	.283	.87371
a. Predictors: (Constant), MA, UAv, CO, LTO, PD				

Table 24:Model Summary

5.2.5.1 Stockpiling Behaviour

With regard to stockpiling behaviour, our analysis indicated that this behaviour was predicted by Power Distance, Uncertainty Avoidance, Long-Term Orientation while no association between were found between Collectivism (Table 25).

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t-value	p-value*
		B	Std. Error	Beta		
1	(Constant)	.981	.534		1.835	.068
	Power Distance	.822	.090	.759	9.109	.000
	Uncertainty Avoidance	.224	.108	.124	2.067	.040
	Collectivism	-.047	.086	-.033	-.549	.583
	Long-Term Orientation	.782	.140	.361	5.600	.000
	Masculinity	-.585	.087	-.556	-6.759	.000
a. Dependent Variable: *STOCKPILLING BEHAVIOUR*						

Table 25:Regression Analysis: Independent Variables – PD,UA,ID,LTO,MA. Dependent Variable- Stockpiling Behaviour

*****Significant p-value at p≤0.1**

Regarding Hypothesis H10a, Uncertainty Avoidance was identified as a significant predictor of stockpiling behaviour among consumers (β= .124, t= 2.067, p<0.1). As anticipated, consumers

with high levels of Uncertainty Avoidance were more inclined to engage in stockpiling behaviour. This tendency is explained by their perception of the unknown as a threat, prompting them to take actions to gain control over unforeseen situations. The COVID-19 pandemic has exacerbated individuals' concerns about their personal circumstances. According to Freeston et al. (1994), worry arises from a diminished capacity to tolerate uncertainty. Specifically, in the context of worry, Freeston et al. (1994) introduced the concept of intolerance of uncertainty, positing that individuals worry to exert control over life situations in an attempt to prevent or mitigate potential negative outcomes. Further research has demonstrated a positive relationship between worry and intolerance of uncertainty (Ladouceur et al., 2000).

In accord with H12a, Masculinity negatively affected the formation of stockpiling behaviour by consumers (β= -.556, t=-6.759, p<0.1). As expected, consumers high on Masculinity will be less likely to exhibit stockpiling behaviour during a pandemic. The underlying assumption for this hypothesis was drawn from previous research that suggests individuals high in Masculinity are inclined to purchase items that are either luxurious or symbols of status rather than out of necessity (De Mooij, 2001). Masculinity often correlates with values such as competitiveness, achievement, and material success. Therefore, individuals who score high on this dimension might prioritize the acquisition of status-symbol goods over utilitarian or survivalist purchases like stockpiling everyday necessities. Besides, individuals with high Masculinity might perceive stockpiling as a behaviour that does not align with their value system of displaying success and strength.

Our study has further validated Hypothesis H13a, which posited that Long-Term Orientation would predict consumer stockpiling behaviour (β = 0.361, t = 5.600, p < 0.1). This finding is consistent with the research by Joshanloo and Park (2021), who examined the distinctions between hedonic and eudaimonic well-being and their associations with variables such as self-control, long-term orientation, and intellectualism. They found that individuals with high Long-Term Orientation are more likely to purchase items that are actual or utilitarian needs, indicating that such consumers engage in stockpiling to secure essential goods during a crisis. This correlation aligns with our results, suggesting that individuals with a strong Long-Term Orientation prioritize preparedness and long-term security. However, it is important to note that our findings contrast with the study by Ahmadi et al. (2022), which reported a negative association between Long-Term

Orientation and stockpiling tendencies. This discrepancy underscores the complexity of cultural influences on consumer behaviour and suggests that other contextual factors may moderate this relationship.

Nonetheless, two of our hypothesis (H9a and H11a) have been rejected. The rejection of H9a and H11a is particularly noteworthy because, despite observing significant associations, the direction of these associations was contrary to our initial hypotheses. As for H9a we expected that consumers high on Power Distance would be less likely to exhibit stockpiling behaviour during a pandemic since these individuals are more likely to follow rules and norms dictated by authorities, which would presumably include adhering to anti-hoarding directives. Contrary to our expectations, the analysis revealed a positive association. The positive association observed might suggest that consumers high on Power Distance would stockpile more to comply with governmental regulations and restrictions, such as lockdowns, movement limitations, and social distancing measures. Essentially, to adhere to these measures effectively, individuals may have felt the need to stockpile essential goods to reduce the frequency of shopping trips and ensure they had adequate supplies at home.

Furthermore, our hypothesis H11a was rejected as no association was observed between Collectivism and stockpiling behaviour. We hypothesized that individuals with higher levels of Collectivism would be less likely to engage in stockpiling during a pandemic. This assumption was based on the understanding that collectivist individuals prioritize group goals, consider the well-being of their social group, and avoid actions that could harm others or violate social norms (Schwartz & Bilsky, 1987; Triandis, 2001; Hofstede, 2011; Krause, 2015). Therefore, we expected that collectivists would refrain from stockpiling to avoid depriving others of necessary resources. Contrary to our expectations, our findings did not show a significant association between Collectivism and stockpiling behaviour. This contrasts with other studies, such as Alhamadi et al. (2022), which found that consumers in highly collectivist cultures are less likely to engage in stockpiling due to their consideration of the negative impact on their community members.

Hypotheses	Result
H9a: The higher the level of Power Distance of an individual, the lower his/her level of stockpiling behaviour during a pandemic	Rejected
H10a: The higher the level of Uncertainty Avoidance of an individual, the higher his/her level of stockpiling behaviour during a pandemic	Accepted
H11a: The higher the level of Collectivism of an individual, the lower his/her level of stockpiling behaviour during a pandemic.	Rejected
H12a: The higher the level of Masculinity of an individual, the lower his/her level of stockpiling behaviour during a pandemic.	Accepted
H13a: The higher the level of Long-Term Orientation of an individual, the higher his/her level of stockpiling behaviour during a pandemic.	Accepted

Table 26:Results of testing Hypotheses H9a-H13a

5.2.5.2 *Reactive Health-Minded Behaviour*

When it comes to the relationship between individual cultural characteristics and consumer's reactive health-minded behaviour, the analysis indicated that all cultural characteristics (Power Distance, Uncertainty Avoidance, Collectivism, Long-Term Orientation and Masculinity) predict consumers' reactive health-minded behaviour during a pandemic (see Table 27).

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		.B	Std. Error	Beta		
1	(Constant)	3.633	.565		6.428	.000
	Power Distance	.994	.095	.851	10.415	.000
	Uncertainty Avoidance	.475	.114	.244	4.153	.000
	Collectivism	-.341	.091	-.221	-3.768	.000
	Long-Term Orientation	.780	.148	.334	5.280	.000
	Masculinity	-.740	.092	-.652	-8.081	.000
a. Dependent Variable: *REACTIVE HEALTH-MINDED BUYING BEHAVIOUR*						

Table 27:Regression Analysis: Independent Variables – PD, UA, ID, LTO, MA. Dependent Variable- Reactive health-minded behaviour

Significant p-values at p ≤0.1

With regards to H9b, Power Distance was found to be conducive to the formation of reactive health-minded behaviour by consumers (β= .851, t= 10.141, p<0.1). In fact, this effect was the strongest in the model. Consistent with studies, such as those of Yoo and Donthu (2005) and Kim and Zhang (2014), which indicated that individuals high in Power Distance exhibit greater loyalty to their nation and a lower tendency to question authority, our findings support this by suggesting that such individuals will conform to national regulations and health-enhancement rules. Consequently, they exhibit higher levels of reactive health-minded behaviour, such as increased purchasing of masks and sanitizers. Furthermore, our findings align with Van Bavel et al. (2020), who proposed that during a pandemic, individuals in high power-distance cultures are expected to display orderly and norm-governed behaviour.

Our study also confirmed Hypothesis H10b, which hypothesized that higher levels of Uncertainty Avoidance would lead to higher reactive health-minded behaviour among consumers (β = 0.244, t = 4.153, p < 0.1). Individuals with higher levels of Uncertainty Avoidance feel more uncomfortable in unstructured situations that are surprising and different from the usual. COVID-19, being an extraordinarily unusual event, increases feelings of anxiety and worry, making individuals feel threatened and vulnerable. Thus, the inclination of individuals with high Uncertainty Avoidance to engage in reactive health-minded behaviours, such as purchasing masks and sanitizers, reflects their need to mitigate uncertainty and restore a sense of security in response to the heightened anxiety caused by the pandemic.

In line with Hypothesis H11b, Collectivism was found to be a significant predictor of a consumer's reactive health-minded buying behaviour (β = -0.221, t = -3.768, p < 0.1), thereby confirming our hypothesis. As expected the higher the Collectivism of a consumer the lower his/her levels of reactive health-minded buying behaviour during a pandemic. Our hypothesis was based on the premise that collectivists are more likely to sacrifice personal interests for the welfare of others and suppress impulses that may harm society (Mooij & Hofstede, 2011; Schwartz & Bilsky, 1990). Therefore, these individuals are less likely to prioritize face masks or sanitizers in their shopping lists, perceiving such actions as potentially harmful to the collective good by affecting the availability of these items for those who truly need them

Further, our H12b was also supported. As hypothesized, higher the levels of Masculinity corresponded with lower levels of reactive-health minded behaviour (β= -.652, t= -8.081, p<0.1). Our findings are consistent with previous studies, showing that masculinist perspectives have encouraged dismissiveness of pro-health behaviours during the pandemic, based on notions of being "too tough" to worry about health (Ruxton and Burrell, 2020; Barker, Burrell and Ruxton, 2021). Thus, individuals high in Masculinity are less likely to prioritize health-seeking behaviours or engage in preventative measures, such as seeking medical advice, adopting healthy habits, or adhering to public health guidelines during a pandemic. They may perceive such behaviours as signs of weakness or vulnerability, preferring to downplay or ignore health-related concerns in order to maintain a sense of self-sufficiency and autonomy.

Besides, Long-Term Orientation has also been found to be a significant predictor of consumers reactive health-minded buying behaviour (β= .334, t= 5.280, p<0.1), thus confirming H13b . Individuals who score high on Long-Term Orientation emphasize health as a means to extend their life expectancy (Mahlich et al., 2018). These individuals tend to prioritize long-term planning, future-oriented thinking, and the preservation of health and well-being over time. During a pandemic, when the risk of illness and infection is heightened, individuals with a high Long-Term Orientation may be more inclined to take necessary steps necessary to protect themselves and their loved ones from potential health threats, including buying more face masks and sanitizers.

Hypotheses	Result
H9b: The higher the level of Power Distance of an individual, the higher his/her level of reactive health-minded buying behaviour during a pandemic	Accepted
H10b: The higher the level of Uncertainty Avoidance of an individual, the higher his/her level of reactive health-minded buying behaviour during a pandemic	Accepted
H11b: The higher the level of Collectivism of an individual, the lower his/her level of reactive health-minded buying behaviour during a pandemic.	Accepted
H12b: The higher the level of Masculinity of an individual, the lower his/her level of reactive health-minded buying behaviour during a pandemic.	Accepted
H13b: The higher the level of Long-term Orientation of an individual, the higher his/her level of reactive health-minded buying behaviour during a pandemic.	Accepted

Table 28:Results of testing Hypotheses H9b-H13b

5.2.5.3   *Proactive Health-Minded Buying Behaviour*

When examining the effect of individual cultural characteristics on consumer's proactive health-minded buying behaviour, we found that Power Distance and Uncertainty Avoidance are significantly associated with consumers' intention to engage in such behaviour. The dimensions of Collectivism, Long-Term Orientation and Masculinity did not show any relationship with the behaviour (see Table 29).

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.495	.519		8.654	.000
	Power Distance	.782	.105	.455	7.429	.000
	Uncertainty Avoidance	.640	.088	.622	7.303	.000
	Collectivism	.129	.083	.095	1.553	.122
	Long-Term Orientation	.214	.136	.104	1.578	.116
	Masculinity	-.133	.084	-.133	-1.587	.114
a. Dependent Variable: **PROACTIVE HEALTH-MINDED BUYING BEHAVIOUR**						

Table 29:Regression Analysis: Independent Variables – PD,UA, ID,LTO,MA. Dependent Variable- Proactive health-minded behaviour

Significant p-values at p ≤0.1

In regards to H9c, Power Distance has been found to be conducive to the formation of proactive health-minded buying behaviour during a pandemic (i.e., buying food, vitamins and supplements that strengthens one's immune system) (β= .455, t= 7.429, p<0.1). Similar to reactive health-minded buying behaviour, our expectation was that individuals scoring high on the Power Distance dimension would demonstrate greater tendencies toward proactive health-minded buying behaviour. This anticipation stems from their inclination to respect authority and adhere to rules and regulations, thereby making them more likely to follow health-enhancement recommendations provided by public authorities. Our findings align with previous research by Van Bavel et al. (2020), who also observed that cultures characterized by high levels of Power Distance tend to exhibit orderly and norm-governed behaviour during challenging circumstances, such as disasters.

Besides, our hypothesis H10c has also been approved. The dimension of Uncertainty Avoidance has a positive influence on consumers' engagement in proactive health-minded buying behaviour (β= .622, t= 7.303, p<0.1). Individuals who score high on the Uncertainty Avoidance dimension tend to experience greater discomfort in unfamiliar situations, perceive the unknown as threatening, and are generally less inclined to take risks. Consequently, amid the backdrop of a

pandemic health crisis, these individuals are more likely to demonstrate proactive health-minded buying behaviour. The heightened aversion to uncertainty prompts individuals to take precautionary measures, such as stocking up on health-related products (i.e. vitamins and supplements), as a means of alleviating feelings of unease and maintaining a sense of control in an uncertain environment.

Nevertheless, three of our hypothesis (H11c, H12c and H13c) have been rejected. The dimensions of Collectivism (H11c), Masculinity (H12c) and Long-Term Orientation (H13c) were not found to be of significance when predicting consumer proactive health-minded behaviour. As for H11c, we have expected that consumers high on Collectivism would be less likely to engage in proactive health-minded buying behaviour during a pandemic, since these individuals tend to exhibit prosocial behaviour and restrictive conformity. Collectivistic consumers tend to sacrifice their personal interests for the well-being and welfare of the general public, and hence they would not be willing to prioritize products that may be needed by other more vulnerable group of people, even if that meant to sacrifice their own health. One possible explanation of such a finding may be the context of the pandemic. The context of the pandemic can be considered unique and may override typical behavioural patterns. In times of crisis, individuals may prioritize their health and safety regardless of their cultural orientation. Therefore, the impact of collectivism on proactive health-minded buying behaviour may be overshadowed by the urgency of the situation.

Our H12c is also rejected, since no association was observed between Masculinity and consumers' proactive health-minded buying behaviour. We anticipated that high levels of Masculinity would lead to lower levels of proactive health-minded behaviour, similar to the pattern observed with reactive health-minded behaviour. Our hypothesis was grounded in previous studies, such as those of Ruxton and Burrell (2020) and Barker, Burrell and Ruxton (2021) which examined how masculinities influence COVID-19 responses. These studies found that masculine norms tend to encourage stoicism, toughness, and self-reliance, leading men to be less likely to adhere to health safety protocols and to exhibit greater risk-taking behaviour during the COVID-19 pandemic. Specifically, Ruxton and Burrell (2020) concluded that these socially driven norms of manhood during the COVID-19, have proved to be detrimental to health.

Finally, hypothesis H13c was rejected. We had anticipated that consumers with high levels of Long-Term Orientation would be more likely to exhibit proactive health-minded behaviour. However, no such link was established in our study. This assumption was based on findings from previous research, such as Mahlich et al. (2018), which indicated that individuals high in Long-Term Orientation are inclined to sacrifice the present for future rewards. The same study also found that these individuals strive to extend their life expectancy by emphasizing health, suggesting that they would prioritize products that enhance their immune system and overall health in the long run. Despite this, our study did not confirm the hypothesis. A possible explanation for this lack of association may be that individuals with high Long-Term Orientation naturally engage in such behaviours as part of their norm, rather than exclusively during a pandemic.

Hypotheses	Result
H9c: The higher the level of Power Distance of an individual, the higher his/her level of proactive health-minded buying behaviour during a pandemic.	Accepted
H10c: The higher the level of Uncertainty Avoidance of an individual, the higher his/her level of proactive health-minded buying behaviour during a pandemic.	Accepted
H11c: The higher the level of Collectivism of an individual, the higher his/her level of proactive health-minded buying behaviour during a pandemic	Rejected
H12c: The higher the level of Masculinity of an individual, the lower his/her level of proactive health-minded buying behaviour during a pandemic.	Rejected
H13c: The higher the level of Long-term Orientation of an individual, the higher his/her level of reactive health-minded buying behaviour during a pandemic.	Rejected

Table 30:Results of testing Hypotheses H9c-H13c

5.2.5.4 Minimum Interaction with Sales People

The effect of individual cultural characteristics on the willingness of consumers to have Minimum Interaction with Sales people has also been examined in Study 2. The analysis indicated that Power Distance, Uncertainty Avoidance and Masculinity are significantly associated with consumers' intention to have minimum interaction with sales people during a pandemic (see Table 31). The dimensions of Collectivism and Long-Term Orientation did not show any relationship with the behaviour.

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.983	.603		3.289	.001
	Power Distance	.565	.102	.535	5.553	.000
	Uncertainty Avoidance	.239	.122	.283	4.627	.043
	Collectivism	-.054	.097	-.038	-.555	.580
	Long-Term Orientation	.029	.158	.014	.183	.855
	Masculinity	-.182	.098	-.177	-1.864	.064
a. Dependent Variable: ***MINIMUM INTERACTION WITH SALES PEOPLE***						

Table 31:Regression Analysis: Independent Variables – PD, UA, ID,LTO,PD. Dependent Variable- Minimum Interaction with sales people

In regards to H9d, Power Distance was found to be a significant predictor of consumers' intention to have minimum interaction with sales people (β=.535, t=5.553, p<0.1). In fact the effect of Power Distance was the strongest one (β=.535). Our expectation was rooted in the fundamental characteristic of Power Distance, which emphasizes reliance on centralized authority and adherence to norm-governed behaviour. This aligns with findings from the study by Van Bavel et al. (2020), which observed that cultures high in Power Distance tend to exhibit orderly behaviour and comply with regulations and protocols imposed by authorities, particularly during times of crisis such as disasters.

Our study has further confirmed H10d, which implied that Uncertainty Avoidance would predictconsumr behaviour in trms of minimizing their interaction with sales people (β=.283, t=4.627, p<0.1). Our finding is in line with previous studies that showed that individuals who are

intolerant towards uncertainty are governed by higher levels of stress and worry (Freeston et al, 1994; Ladouceur et al., 2000; Mendez, 2021) which may explain their tendency to minimize their interactions with sales people in their attempt to reduce the possibilities of contamination and at the same time to gain some form of control over these unexpected situations.

Besides, our analysis showed that Masculinity negatively predict consumer behaviour in terms of interactions with sales people while shopping during a pandemic (β=-.177, t=-1.864, p<0.1) . Therefore our H12d is also accepted. Specifically, the analysis confirmed that the higher the levels of Masculinity are associated with a lower likelihood of engaging in such behaviour. This is primarily due to the tendency of individuals high in Masculinity to exhibit a "manly" demeanor, leading them to disregard social distancing regulations as they aim to appear "tough" and unafraid of the virus.

Nonetheless, two of our hypotheses (H11d and H13d) have been rejected. The dimensions of Collectivism (H11d) and Long-Term Orientation (H13d) were not found to be of significance when predicting consumer interaction with sales people during a pandemic. As for H11d, we expected that consumers high on Collectivism would be more likely to minimize their interactions with sales people primarily due to their prosocial behaviour. One possible interpretation of this finding is that collectivistic individuals may interact with others only after taking all necessary precautionary measures, ensuring that their interactions are cautious and deliberate. Their prosocial behaviour and concern for the well-being of their group members likely lead them to focus on other measures to safeguard their health and the health of others, engaging with people only when necessary and with appropriate caution.

Our H13d is also rejected, since no association was observed between Long-Term Orientation and minimum interaction with sales people. We hypothesized that consumers with higher Long-Term Orientation would be more likely to minimize their interaction with sales people while shopping during a pandemic, as they tend to sacrifice present convenience for future rewards, and thus would be more likely to comply with social distancing measures. Additionally, research has shown that individuals with Long-Term Orientation are more health-conscious (Mahlich, et al., 2018) and would take measures to safeguard their health, including minimizing interaction with sales people.

However, a possible explanation for the lack of association, similar to the case of proactive health-minded buying behaviour, could be attributed that these individuals may resort to other measures to protect their health, such as getting vaccinated, rather than minimizing their interaction with others.

Hypothesis	Result
H9d: The higher the level of Power Distance of an individual, the more likely he/she is to minimize interactions with sales people during a pandemic.	**Accepted**
H10d: The higher the level of Uncertainty Avoidance of an individual, the more likely he/she is to minimize interaction with sales people during a pandemic	**Accepted**
H11d: The higher the level of Collectivism of an individual, the more likely he/she is to minimize their interaction with sales people during a pandemic.	**Rejected**
H12d: The higher the level of Masculinity of an individual, the less likely he/she is to minimize their interaction with sales people during a pandemic	**Accepted**
H13d: The higher the level of Long-term Orientation of an individual, the more likely he/she is to minimize interactions with sales people during a pandemic.	**Rejected**

Table 32:Results of testing Hypotheses H9d-H13d

5.2.5.5   Switching to value-priced products/services/ brands

The relationship between individual cultural characteristics and consumer switching to value-priced products/services/brands during a pandemic has also been examined in Study 2. The analysis indicated that Power Distance and Uncertainty Avoidance predict consumer's switching to value-priced products/services/brands, while Collectivism, Long-Term Orientation and Masculinity have no association with it (Table 33).

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.009	.394		2.560	.011
	Power Distance	.537	.067	.644	8.073	.000
	Uncertainty Avoidance	.325	.080	.234	4.071	.000
	Collectivism	.040	.063	.036	.625	.532
	Long-Term Orientation	-.095	.103	-.057	-.923	.357
	Masculinity	-.056	.064	-.069	-.880	.380
a. Dependent Variable: *SWITCHING TO VALUE-BASED PRODUCTS/SERVICE*						

Table 33:Regression Analysis: Independent Variables – PD.UA,ID.LTO.MA. Dependent Variable- Switching to value-based products/services/brands

In accord with H10e, Uncertainty Avoidance was found to be conducive to the formation of consumer switching to value-priced products/services/brands during a pandemic (β=.234, t=4.071, p<0.1). Individuals with high levels of Uncertainty Avoidance tend to feel uncomfortable in unfamiliar and ambiguous situations. Consequently, during a period of significant uncertainty such as a pandemic, these individuals are more likely to switch to value-priced products, including private-label and store-branded items. This behaviour serves a dual purpose: ensuring the availability of essential goods and saving money amid financial uncertainty. This inclination to switch to value-priced products can also be seen as a coping mechanism providing consumers with a sense of control and security in an unpredictable environment.

H9e, H11e, H12e and H13e have been rejected. In accord with H9e, the link appeared to be significant but in the opposite direction. We initially hypothesized that consumers with high Power Distance would be more likely to switch to value-priced products/services/brands during a pandemic. This hypothesis was grounded in previous research which found that status consumption is strongly associated with Power Distance; individuals scoring high on this dimension believe that status consumption is an effective means for social signaling (Gao et al.,

2016, Souiden, M'Saad and Pons, 2011). This suggests that those high on Power Distance would be less likely to switch to value-priced products in fear of sending out the wrong social signals. However, the context of a global health crisis, such as a pandemic, provides a plausible explanation for this unexpected finding. Switching to valued-priced products during a pandemic may not be perceived as diminishing one's status but rather as a necessary adaptation. Supply changes and trade restrictions may compel even those high in Power Distance to opt for private-label or store-branded goods to ensure they can consistently find essential items. Additionally, being economically cautious can be seen as a pragmatic way to maintain their status amid such unprecedented circumstances. Therefore, during a pandemic, the usual association between high Power Distance and reluctance to switch to value-priced products may be overridden by the practical need to secure essential goods and demonstrate economic prudence. This behaviour reflects an adjustment to the extraordinary context, where maintaining access to necessities becomes a higher priority than traditional status signaling.

H11e is also been rejected, since no association was observed between Collectivism and consumer switching to valued-priced products/services/brands during a pandemic. We hypothesized that consumers with higher levels of Collectivism would be more inclined to switch to value-priced products/services/brands, such as store-branded goods, to ensure the continuous availability of essential items in stores. One possible explanation for the absence of a significant link is that collectivist consumers may consistently exhibit this behaviour, irrespective of the pandemic context. Collectivism, characterized by a focus on group goals, social harmony, and community welfare (Hofstede, 2011), might naturally lead individuals to prioritize economic prudence and resource availability as part of their regular consumption habits. Consequently, these consumers might already prefer value-priced products to support communal resource sharing and prevent shortages, making the pandemic's impact on this behaviour less pronounced. Supporting this view, Schwartz and Bilsky (1990) suggest that collectivist individuals are more likely to consider the well-being of their social groups in their decision-making processes.

Masculinity also did not predict consumers' switching to value-priced products and therefore our H12e is also rejected. We initially expected that individuals with high Masculinity scores would be less inclined to switch to value-priced products/services/brands due to their desire to

differentiate themselves from others, thereby avoiding more economical purchases. However, our analysis did not support this hypothesis. One possible explanation for this lack of association could be that the decision to switch to value-priced products during a pandemic may be driven by practical economic factors than by the need for social distinction. Economic downturns and disruptions to supply chains can significantly impact individuals' financial stability and purchasing power. As a result, consumers may prioritize affordability and value for money over maintaining status through more expensive purchases.

Finally, H13e is rejected. Specifically, we expected that consumers with higher levels of Long-Term Orientation would be more likely to switch to value-priced products, given their emphasis on future rewards by saving for long-term growth. One possible explanation for this finding could be attributed to the very premise of our hypothesis. Individuals high in Long-Term Orientation are inherently focused on future goals and growth. As such, they may exhibit economic caution regardless of the situational context. This behaviour suggests that their propensity to prioritize long-term savings and investments is a consistent trait, not necessarily heightened during a pandemic. Moreover, research on Long-Term Orientation indicates that these individuals are strategic planners who seek to ensure future stability and success (Hofstede, 2001). This long-term perspective may mean that their purchasing decisions are guided by a steady, overarching financial strategy rather than short-term reactive measures prompted by the pandemic. Therefore, their general economic prudence might not translate into a noticeable increase in switching to value-priced products specifically during a crisis.

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Hypotheses	Result
H9e: The higher the level of Power Distance of an individual, the less likely he/she is to switch to value-priced products during a pandemic	Rejected
H10e: The higher the level of Uncertainty Avoidance of an individual, the more likely he/she is to switch to value-priced products during a pandemic.	Accepted
H11e: The higher the level of Collectivism of an individual, the more likely he/she is to switch to value-priced products during a pandemic.	Rejected
H12e: The higher the level of Masculinity of an individual, the less likely he/she is to switch to value-priced products/brands/services during a pandemic.	Rejected
H13e: The higher the level of Long-term Orientation of an individual, the more likely he/she is to switch to value-priced products during a pandemic.	Rejected

Table 34:Results of testing Hypotheses H9e-H13e

5.2.5.6 *Buying more technological gadgets*

The last model of our study 2 examined the relationship between Hofstede's dimensions and consumers' tendency to buy more technological gadgets during a pandemic. Power Distance, Uncertainty Avoidance, Collectivism and Long-Term Orientation predict consumers' tendency to buy more technological gadgets, while Masculinity showed no effect on such buying tendency (see Table 35).

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.171	.560		5.657	.000
	Power Distance	.579	.095	.559	6.124	.000
	Uncertainty Avoidance	.542	.114	.235	3.501	.000
	Collectivism	.328	.090	.240	3.655	.000
	Long-Term Orientation	-.524	.146	-.253	-3.576	.000
	Masculinity	-.072	.091	-.071	-.793	.428
a. Dependent Variable: **BUYING NEW TECHNOLOGY GADGETS**						

Table 35:Regression Analysis: Independent Variables – PD,UA,ID,LTO,MA. Dependent Variable- Buying new technological gadgets

In accord with H9f, Power Distance was found to be conducive of consumers' tendency to buy more technological gadgets during a pandemic (β=.559, t=6.124, p<0.1). This effect is the strongest in the model (β=.559). This finding aligns with the study by Gao et al. (2016), which established that consumers high in Power Distance regard status consumption as an effective means for social signaling. Consequently, these individuals, driven by the fear of losing their status among peers, are more likely to purchase new and expensive technological gadgets to maintain their social standing. During a pandemic, the desire to uphold one's status can become even more pronounced. The disruption of normal social interactions and the shift to virtual communication platforms can lead individuals to seek new ways to signal their status. High-end technological gadgets, such as the latest smartphones, tablets, or smart home devices, become symbols of resilience and adaptability in a crisis. These gadgets not only serve practical purposes but also convey a message of affluence and modernity.

H10e is also been accepted, with Uncertainty Avoidance emerging as a significant predictor for consumer's tendency to buy more technological gadgets (β=.235, t=3.501, p<0.1). As anticipated, the dimension of Uncertainty Avoidance positively predicts this specific consumer behaviour. As anticipated, the dimension of Uncertainty Avoidance positively correlates with this specific consumer behaviour. Individuals high in Uncertainty Avoidance exhibit a strong intolerance

toward the unknown and unexpected situations, leading them to adopt behaviours, such as buying more technological gadgets, as a means to gain some form of control during highly stressful periods. Our finding is consistent with previous studies (Freeston et al., 1994; Ladouceur et al., 2000), which indicate that people experiencing higher levels of worry due to their inability to tolerate uncertainty are prone to engage in actions that might help alleviate some of their anxieties. The pandemic has worsened uncertainties across various domains, including finances, employment, and relationships, as highlighted by Mendez (2021). This heightened state of uncertainty likely drives individuals with high Uncertainty Avoidance to seek ways to restore a sense of stability and preparedness. Purchasing technological gadgets becomes a coping mechanism to manage their increased levels of worry and to ensure they are equipped to handle any unforeseen disruptions in their daily lives.

Collectivism also proved to be a predictor (p<0.1), however H11e is rejected, as the relationship observed was of the opposite direction of what we have initially expected. We hypothesized a negative influence: that consumers with higher levels of Collectivism would be less likely to purchase more technological gadgets. Instead, our model indicated a positive relationship. We anticipated a negative link based on the assumption that consumers with higher levels of Collectivism make purchasing decisions with less impulse, therefore avoiding behaviours that could be perceived as harmful or norm-violating during the pandemic. However, our findings suggest the opposite, indicating that individuals high in Collectivism may indeed be more inclined to purchase technological gadgets (e.g., printers, fax machines) to comply with governmental regulations like social distancing and lockdown measures.

Similarly, Long-Term Orientation also found to be a predictor (p<0.1), but the relationship found was contrary to our expectation, leading to the rejection of H13e. . Specifically, we hypothesized that the higher the level of Long-Term Orientation of an individual, the more likely he/she would be to buy new technology gadgets during the pandemic. This hypothesis was basedon the study by Joshanloo and Park (2021), which suggests that individuals high in Long-Term Orientation tend to buy products they genuinely need, making technological equipment essential during the pandemic. Nevertheless, our analysis indicated a negative relationship. This unexpected finding could be explained by the fact that individuals who focus on the future and are long term planners may not exhibit this behaviour because they might already planned head such needs, regardless of

the COVID-19 situations. Thus, their foresight and preparedness likely negate the necessity for additional purchases prompted by the pandemic.

Finally, H12e is also been rejected as our study found no association between Masculinity and consumers' tendency to buy more technological gadgets. This finding contracts with previous studies such as those of Singh (2005) and De Mooij (2011) which suggest that individuals with high levels of Masculinity tend to consume products to display their material possessions. We expected that buying expensive technological equipment during the pandemic might be perceived by these individuals as a way to showcase their possessions to their peers, particularly in a context where many people are trying to save money due to the financial uncertainties brought on by the pandemic. However, our analysis did not support this expectation, indicating that the relationship between Masculinity and the purchase of technological gadgets is not significant in the context of the pandemic.

Hypothesis	Result
H9f: The higher the level of Power Distance of an individual, the more likely he/she is to buy new technology gadgets during a pandemic.	Accepted
H10f: The higher the level of Uncertainty Avoidance of an individual, the more likely he/she is to buy new technology gadgets during a pandemic.	Accepted
H11f: The higher the level of Collectivism of an individual, the less likely he/she is to buy new technology gadgets during the pandemic.	Rejected
H123f: The higher the level of Masculinity of an individual, the more likely he/she is to buy new technology gadgets during a pandemic	Rejected
H13f: The higher the level of Long-term Orientation of an individual, the more likely he/she is to buy new technology gadgets during a pandemic.	Rejected

Table 36:Results of testing Hypotheses H9f-H13f

5.2.6   Independent Sample t-tests

We have also conducted independent-samples t-tests in our Study 2 similarly to Study 1, following the same split group approach; gender (men vs. women), age (younger[<35 years] vs. older [>35years]), family status (with children vs. without children) and educational level (with university degree vs. without university degree).

According to independent-samples t-tests, females, (M=1.89, SD= .1.09) appeared to have higher levels of Power Distance than males (M=1.60, SD= .43), t= -1.778, p <0.1, as well as higher levels of Uncertainty Avoidance (M=4.30, SD=.56 vs. M=4.10, SD= .67, t=--2.027, p< 0.1) (see Table 37). On the other hand males appeared to have higher levels of Collectivism (M=4.07, SD=.98) than females (M=3.36, SD=.58), t=-6.265, p<0.1, and higher levels of Masculinity (M=2.29, SD=.69 vs. M=2.01, SD=1.09, t=1.654, p<0.1). Further, females, in comparison to their male counterparts, have been found to exhibit higher levels of all the examined consumer behaviours; that is women exhibited higher levels of stockpiling behaviour (M=3.42, SD= 1.08 vs. M=2.40, SD= .69, t=--6.387, p<0.1), higher levels of reactive (M=3.89, SD =1.10 vs. M=3.12, SD=1.16, t=-4.242, p<0.1) and proactive health-minded buying behaviour (M=3.47, SD=.97 vs. M=2.91, SD=1.08, t=-3.454, p<0.1), higher levels of a tendency to have minimum interaction with sales people during the pandemic (M=3.57, SD=1.10 vs. M=2.80, SD=.83, t=-4.735, p<0.1), higher levels of switching to value-priced products/services/brands (M=3.08, SD=.82 vs. M=2.81, SD=.80, t=-2.084, p<0.1) and higher levels of buying more technological gadgets during the pandemic (M=3.06, SD=1.08 vs. M=2.56, SD=.71, t=-3.086, p<0.1) (see Table 38).The independent-sample t-tests did not reveal any differences between genders in terms of Long-Term Orientation.

Similarly to our Study 1, women were found to exhibit higher levels of stockpiling behaviour (M=3.42, SD=1.08 vs. M=2.40, SD=.56, t=-6.387, p<0.1), reactive (M=3.42, SD=1.08 vs. M=3.12, SD= 1.16, t=-4.242, p<0.1) and proactive health-minded buying behaviour (M=3.47, SD=.097 vs. M=2.91, SD= 1.08, t=-3.454, p<0.1) as well as higher levels of a tendency to have minimum interaction with sales people during the pandemic (M=3.57, SD=1.04 vs. M=2.80, SD=.83, t=4.735, p<0.1). However, Study 2 indicated that women appear to have higher levels of

switching to value-priced products (M=3.08, SD=.82 vs. M=2.81, SD=.80, t=-2.084, p<0.1) and buying more technological gadgets (M=3.06, SD=1.08 vs. M=2.56, SD=.71, t=-3.086, p<0.1). (see Table 38). Possible explanation for these behaviours could be that women tend to experience situations more emotionally than men and exhibit higher stress during periods of crisis. This emotional response might lead them to switch to value-priced products. Simultaneously, they may be more likely to buy new technological gadgets to facilitate remote working or stay in touch with loved ones in the event of another lockdown.

Again, age was also found to be a moderator. Younger consumers, in comparison to older consumers appeared to have significantly higher levels of Power Distance (M=2.33, SD=.1.23 vs. M=1.55, SD=.70, t=5.975, p<0.1), Uncertainty Avoidance (M=4.42, SD=.56 vs. M=4.16, SD=.59, t=3.141, p<0.1), Collectivism (M=3.67, SD=.82, vs. M=3.43, SD=.70, t=-2.256, p<0.1), Long – Term Orientation (M=4.00, SD=.67 vs. M=3.83 SD=.36, t=2.422, p<0.1), Masculinity (M=2.69, SD=1.25 vs. M=1.74, SD=.67, t=7.243, p<0.1) (see Table 37). Younger consumers also had higher levels of switching to value-priced products/services/brands during a pandemic (M=3.25, SD= 1.05 vs. M=2.90, SD= .65, t=2.974, p<0.1) (see Table 38). These findings suggest that younger individuals exhibit higher levels of Power Distance likely due to their young age and lack of experience. They also show higher levels of Uncertainty Avoidance, again attributed to their age and their inability to assess situations objectively. Younger individuals are more likely to feel uncomfortable in unfamiliar environments compared to older individuals. In response to the stress and unfamiliarity of the pandemic, younger consumers tend to switch to value-priced products in an attempt to save money. Independent-samples t-tests also indicated that older consumers (M=3.85, SD=1.07) exhibited higher levels of reactive health-minded buying behaviour than younger consumers (M=3.49, SD=1.27), t=-2.167, p<0.1, as well as higher tendency to minimize interaction with sales people during the pandemic (M=3.61, SD=.91 vs. M=3.01, SD=1.17, t=-4.193, p<0.1) (see Table 38). These behaviours can be attributed to older consumers' better understanding of the pandemic's consequences and their efforts to safeguard their health and that of others However, no significant differences were found between different age groups concerning stockpiling, proactive health-minded buying and propensity to buy more technological gadgets during a pandemic (see Table 38).

The individual cultural characteristic features of respondents with a different family status were also compared. The results indicated that people without children (M=2.17, SD=1.16) exhibit higher levels of Power Distance than people with children (M=1.42, SD=.50) t=-6.042, p<0.1, as well as higher levels of Uncertainty Avoidance (M=4.40, SD=.50 vs. M=4.08, SD=.65, t=-4.044, p<0.1) Collectivism (M=3.81, SD=.77 vs. M=3.18, SD=.56, t=-6.874, p<0.1), Long-Term Orientation (M=4.00, SD=.54 vs. M=3.77, SD=.39, t=-3.577, p<0.1) and Masculinity (M=2.42, SD=.1.12 vs. M=1.67, SD=.71, t=-5.763, p<0.1) (see Table 37). It has also been found that people without children (M=2.24, SD=.76) exhibited higher levels of proactive health-minded behaviour in comparison to people with children (M=3.50, SD=.95, t=-2.358, p<0.1), as well as higher levels of switching to value-priced products/services/brands during a pandemic (M=3.15, SD=.85 vs. M=2.88, SD=.77, t=-2.394, p<0.1). The analysis also indicated that individuals with children (M=3.68, SD=.84) indicated higher tendency to minimize their interaction with sales people than individuals with no children (M=3.16, SD=1.14, t=3.766, p<0.1). However, family status did not influence the levels of other consumer behaviours, such as stockpiling, and reactive health-minded buying (see Table 38).

An explanation for why people without children exhibit higher levels of proactive health-minded behaviour during the pandemic, in comparison to people with children, could be attributed to the different priorities and time constraints faced by these groups. Individuals without children may prioritize their own health and well-being differently than, focusing on self-care, preventive healthcare, and healthy lifestyle choices as a means of safeguarding their long-term health and resilience. Without the competing demands of childcare responsibilities, individuals without children may have more freedom to prioritize their health goals and pursue proactive health-minded behaviours. In contrast, parents often juggle various responsibilities, such as caring for their children, managing household tasks, and balancing work commitments, which can limit their ability to focus on their own health to the same extent. As a result, parents may find it more challenging to engage in proactive health behaviours amidst the additional stresses and time constraints of the pandemic

We have also compared consumers' different educational level and we found that consumers with university degree compared to consumers without a university degree experience higher levels of

Collectivism (M=3.58, SD=.76 vs. M=3.14, SD=.53, t=-3.012, p<0.1) and Long-Term Orientation (M=3.95, SD=.46 vs. M=3.52, SD=.51, t=-4.567, p<0.1) (see Table 37). Additionally, consumers with a university degree appeared to have higher levels of stockpiling behaviour (M=3.30, SD=1.07 vs. M=2.50, SD=.77, t=-3.947, p<0.1) (see Table 38). In trying to explain the above, one can suggest that people with a university degree are generally more educated and likely to understand the value of being a member of a group, which may lead them to exhibit higher levels of Collectivism. Education often emphasizes collaboration, team work and the benefits of collective action, fostering a stronger sense of community and social responsibility. Similarly, people with a university degree tend to be more long-term planners, focusing on sustainable growth and future goals. Besides, these individuals would be more likely to understand the risks associated with virus contamination and the importance of minimizing unnecessary exposure. As a result, they may engage in higher levels of stockpiling to reduce the frequency of supermarket visits and limit exposure to the virus.

Finally, the analysis indicated that people without a university degree appeared to be more prone to switching to value-priced products/services/brands during a pandemic (M=3.71, SD=.68,vs. M=2.91, SD=.79, t=-5.179, p<0.1) (see Table 38). This finding can be explained by two main points. Firstly, individuals without a university degree may have lower incomes, making them more likely to adopt economically conscious purchasing decisions. Financial constraints can drive these consumers to seek out value-priced options to stretch their budgets during uncertain times. Secondly, without the educational background that might provide greater understanding and coping mechanisms, these individuals might experience the pandemic more intensely. This heightened sense of uncertainty and stress could lead them to prioritize saving money by switching to more economical purchases, preparing for the possibility that the pandemic's effects may persist longer than expected.

Nonetheless, the independent-samples t-tests did not reveal any significant differences between educational level and the cultural characteristics of Power Distance, Uncertainty Avoidance and Masculinity, nor between educational level and reactive and proactive health-minded buying, minimum interaction with sales people and buying more technological gadgets during a pandemic.

Cultural Characteristics-Hofstede's Dimensions														
	PD			**UAv**			**ID**			**LTO**			**MA**		
	Mean (SD)*	t- value	p-value	Mean (SD)*	t- value	p- value	Mean (SD)*	t- value	p- value	Mean (SD)*	t- value	p- value	Mean (SD)*	t- value	p- value
Male	1.60 (.43)			4.10 (.62)			4.07 (.98)			3.92 (.46)			2.29 (.69)		
Female	1.89 (1.09)	-1.778	.077	4.30 (.56)	-2.027	.044	3.36 (.58)	6.265	.000	3.88 (.50)	.503	.615	2.01 (1.09	1.654	.100
<35	2.33 (1.23)			4.42 (.56)			3.67 (.82)			4.00 (.67)			2.69 (1.25)		
>35	1.55 (.70)	5.975	.000	4.16 (.59)	3.141	.002	3.43 (.70)	2.256	.025	3.83 (.36)	2.422	.016	1.74 (.67)	7.243	.000
With Children	1.42 (.50)			4.08 (.65)			3.18 (.56)			3.77 (.39)			1.67 (.71)		
Without Children	2.17 (1.16)	-6.042	.000	4.40 (.50)	-4.044	.000	3.81 (.77)	-6.874	.000	4.00 (.54)	-3.577	.000	2.42 (1.12)	-5.763	.000
With Degree	1.85 (1.05)			4.24 (.61)			3.58 (.76)			3.95 (.46)			2.10 (1.05)		
Without Degree	1.66 (.44)	-1.007	.315	4.36 (.44)	1.015	.311	3.14 (.53)	-3.012	.003	3.52 (.51)	-4.567	.000	1.89 (.82)	-1.075	.283

Table 37:Sex, Age, Family Status and Educational differences among consumers in terms of their cultural orientations

	Consumer Buying Behaviours																	
	STOCK			REAC			PROA			IWS			FRUG			IWT		
	Mean (SD)*	t- value	p-value	Mean (SD)*	t- value	p-value	Mean (SD)*	t- value	p-value	Mean (SD)*	t-value	p-value	Mean (SD)*	t- value	p-value	Mean (SD)*	t- value	p-value
Male	2.40 (.56)	-6.387	.000	3.12 (1.16)	-4.242	.000	2.91 (1.08)	-3.454	.001	2.80 (.83)	-4.735	.000	2.81 (.80)	-2.084	.038	2.56 (.71)	-3.086	.002
Female	3.42 (1.08)			3.42 (1.08)			3.47 (.97)			3.57 (1.04)			3.08 (.82)			3.06 (1.08)		
<35	3.06 (1.27)	-1.396	.164	3.49 (1.27)	-2.167	.031	3.25 (1.22)	-1.084	279	3.01 (1.17)	-4.193	.000	3.25 (1.05)	2.974	.003	2.87 (1.32)	-.822	.412
>35	3.27 (.94)			3.85 (1.07)			3.40 (.89)			3.61 (.91)			2.90 (.65)			2.99 (.83)		
With Children	3.24 (1.14)	.596	.552	3.61 (1.24)	-1.303	.194	3.17 (1.08)	-2.358	.019	3.68 (.84)	3.766	.000	2.88 (.77)	-2.394	.018	2.84 (.98)	-1.427	.155
Without Children	3.15 (1.01)			3.82 (1.07)			3.50 (.95)			3.16 (1.14)			3.15 (.85)			3.04 (1.066)		
With Degree	3.30 (1.07)	-3.947	.000	3.70 (1.22)	.876	.382	3.31 (1.07)	1.296	.196	3.37 (1.10)	1.017	.310	2.91 (.79)	5.179	.000	2.93 (1.03)	-.311	.756
Without Degree	2.50 (.77)			3.90 (.62)			3.57 (.57)			3.58 (.57)			3.71 (.68)			2.90 (.99)		

Table 38: Sex, Age, Family Status and Educational differences among consumers in terms of their consumer buying behaviours

5.3 Summary of Hypotheses Testing

This section provides a consolidated summary of the hypothesis testing results from the two studies conducted in this research. To ensure clarity and focus, the findings are presented in two separate tables: one for Study 1, which examines the influence of personality traits on consumer behaviours during the pandemic, and another for Study 2, which explores the impact of cultural dimensions on the same consumer behaviours. These tables summarize the outcomes of hypothesis testing, including statistical significance and key insights, offering a concise overview of the results from both studies.

Dependent Variable	Hypothesis	Result	Insights
Stockpiling Behaviour	H1a: **Extraversion** negatively affects stockpiling.	Rejected	*Extraversion **was positively associated with stockpiling**, possibly due to social conformity or activity-seeking during crises.*
	H2a: **Agreeableness** negatively affects stockpiling.	**Accepted**	*Agreeable individuals refrain from stockpiling due to altruistic and prosocial tendencies.*
	H3a: **Conscientiousness** positively affects stockpiling.	Rejected	***No association found.** Conscientious individuals may prioritize discipline over hoarding behaviours.*
	H4a: **Neuroticism** positively affects stockpiling.	**Accepted**	***Strongest predictor**. Neurotic individuals hoard as a coping mechanism for anxiety and emotional instability.*
	H5a: **Openness** negatively affects stockpiling.	**Accepted**	*Open individuals adapt flexibly to changes, showing less panic-driven stockpiling.*
	H6a: **Narcissism** positively affects stockpiling.	**Accepted**	*Narcissists stockpile to maintain a sense of entitlement and superiority.*
	H7a: **Machiavellianism** positively affects stockpiling.	Rejected	***No association;** Machiavellians may avoid stockpiling due to negative social perceptions.*
	H8a: **Psychopathy** positively affects stockpiling.	**Accepted**	*Psychopaths hoard due to lack of empathy and high level of egoism.*
Reactive Health-Minded Behaviour (use of masks/sanitizers)	H1b: **Extraversion** positively affects reactive buying.	**Accepted**	*Extraverts prioritize social safety (e.g., masks) to continue interactions.*
	H2b: **Agreeableness** positively affects reactive buying.	**Accepted**	*Altruistic agreeableness leads to health-focused purchasing for personal and societal safety.*
	H3b: **Conscientiousness** positively affects reactive buying.	**Accepted**	*Conscientious individuals follow rules (e.g., mask mandates) for health protection.*
	H4b: **Neuroticism** positively affects reactive buying.	**Accepted**	*Neurotic individuals respond anxiously, purchasing essentials reactively.*

	H5b: **Openness** positively affects reactive buying.	Rejected	***No cause-effect relation***: *Open individuals may prefer proactive measures or alternatives, deeming reactive buying less critical.*
	H6b**: Narcissism** positively affects reactive buying.	**Accepted**	*Narcissists focus on self-preservation, driving health-conscious purchases.*
	H7b**: Machiavellianism** positively affects reactive buying.	Rejected	*Machiavellians may view reactive purchasing as unnecessary, prioritizing other actions that serve their self-interest, such as getting vaccinated.*
	H8b: **Psychopathy** negatively affects reactive buying.	Rejected	*Psychopathy **surprisingly showed a positive association with reactive buying**, likely as a self-protective behaviour.*
Proactive Health-Minded Behaviour	H1c: **Extraversion** positively affects proactive buying.	**Accepted**	*Extraverts engage in proactive health measures (e.g., vitamins) for wellness and longevity.*
	H2c: **Agreeableness** positively affects proactive buying.	**Accepted**	*Agreeable individuals adopt health-conscious habits to protect themselves and others.*
	H3c: **Conscientiousness** positively affects proactive buying.	**Accepted**	*Conscientious individuals exhibit planning-oriented proactive behaviours.*
	H4c: **Neuroticism** positively affects proactive buying.	**Accepted**	*Neuroticism predicts heightened attention to health preservation.*
	H5c: **Openness** positively affects proactive buying.	Rejected	***No significant link***; *open individuals may consider alternative ways to enhance health without overbuying.*
	H6c: **Narcissism** positively affects proactive buying.	**Accepted**	*Narcissists focus on immune-boosting purchases to prioritize self-care.*
	H7c: **Machiavellianism** positively affects proactive buying.	Rejected	***No significant link;** Machiavellians may not view proactive buying as an effective strategy for self-interest.*
	H8c: **Psychopathy** positively affects proactive buying.	**Accepted**	*Psychopaths prioritize health to maintain their self-sufficiency and grandiosity.*
Minimum Interaction with Salespeople	H1d: **Extraversion** negatively affects interaction.	Rejected	***Opposite Link:** Extraverts **showed unexpected willingness to minimize interactions**, possibly due to exhibiting higher levels of self-control*
	H2d**: Agreeableness** positively affects interaction.	Rejected	*Agreeableness showed **no significant link;** context-specific nuances may apply (e.g., they would only come in contact if they are certain they will not cause harm).*
	H3d: **Conscientiousness** positively affects interaction.	**Accepted**	*Conscientious individuals minimize sales interactions for health reasons (more willing to adhere to such guidelines for the sake of others).*
	H4d: **Neuroticism** positively affects interaction.	**Accepted**	***Strongest predictor**: Neurotic individuals avoid interactions to reduce anxiety and stress.*
	H5d: **Openness** positively affects interaction.	**Accepted**	*Open individuals embrace innovative, contactless solutions during crises.*

	H6d: **Narcissism** negatively affects interaction.	**Accepted**	*Narcissists avoid minimizing interaction, likely due to their need for dominance or control.*
	H7d: **Machiavellianism** negatively affects interaction.	**Accepted**	*Machiavellians resist compliance with social distancing measures.*
	H8d: **Psychopathy** negatively affects interaction.	Rejected	*Psychopathy **showed no significant** link to interaction levels.*
Switching to Value-Based Products	H1e: **Extraversion** negatively affects value-switching.	Rejected	*Extraversion showed flexibility, not frugality, in purchasing habits.*
	H2e: **Agreeableness** positively affects value-switching.	Rejected	***No significant link**; agreeable individuals may perceive value-switching differently.*
	H3e: **Conscientiousness** positively affects value-switching.	Rejected	***No significant link** observed; frugality may not align with conscientious traits during crises.*
	H4e: **Neuroticism** positively affects value-switching.	**Accepted**	*Neurotic individuals engage in cost-saving behaviours due to heightened economic stress.*
	H5e: **Openness** positively affects value-switching.	**Accepted**	*Openness predicts adaptability and frugality under economic constraints.*
	H6e**: Narcissism** negatively affects value-switching.	Rejected	*Narcissists **showed no significant** link, as they may prioritize premium products to maintain status.*
	H7e: **Machiavellianism** negatively affects value-switching.	**Accepted**	*Machiavellians avoid frugal behaviours to preserve status and exclusivity.*
	H8e: **Psychopathy** positively affects value-switching.	**Accepted**	*Psychopaths pragmatically switch to value-based options during crises (psychopathic individuals are often adaptable and flexible in their behaviour, willing to change their strategies or tactics to achieve their goals.*
Buying More Technological Gadgets	H1f: **Extraversion** positively affects tech purchases.	**Accepted**	*Extraverts use technology to maintain social connectivity during isolation.*
	H2f: **Agreeableness** positively affects tech purchases.	Rejected	***No significant link** observed, possibly due to preferences for traditional interaction methods (e.g. prefer face-to-face).*
	H3f: **Conscientiousness** positively affects tech purchases.	**Accepted**	*Conscientious individuals prepare for remote working and safety by acquiring necessary tools.*
	H4f: **Neuroticism** positively affects tech purchases.	**Accepted**	*Neurotic individuals turn to tech purchases to manage anxiety and enhance control during crises.*
	H5f: **Openness** positively affects tech purchases.	**Accepted**	*Open individuals embrace new technologies for flexibility and adaptation.*
	H6f: **Narcissism** positively affects tech purchases.	**Accepted**	*Narcissists use tech gadgets to display status and uniqueness.*
	H7f: **Machiavellianism** positively affects tech purchases.	Rejected	***No significant link;** Machiavellians may prioritize other self-serving strategies during crises.*

	H8f: **Psychopathy** positively affects tech purchases.	**Accepted**	*Psychopaths acquire tech gadgets pragmatically, valuing adaptability and control.*

Table 39: Summary of Findings Study 1

Dependent Variable	Hypothesis	Result	Insights
Stockpiling Behaviour	H9a: Power Distance negatively impacts stockpiling.	Rejected	***Power Distance positively influenced stockpiling,*** *as individuals may stockpile to comply with restrictions and minimize trips.*
	H10a: Uncertainty Avoidance positively impacts stockpiling.	**Accepted**	*High Uncertainty Avoidance leads to stockpiling as a way to manage fear and anxiety during uncertain times.*
	H11a: Collectivism negatively impacts stockpiling.	Rejected	***No significant relationship*** *observed, suggesting other contextual factors may influence collectivist behaviour during a pandemic.*
	H12a: Masculinity negatively impacts stockpiling.	**Accepted**	*High Masculinity reduces stockpiling due to emphasis on status and luxury goods over necessities.*
	H13a: Long-Term Orientation positively impacts stockpiling.	**Accepted**	*Long-Term Oriented individuals prioritize preparedness and secure essential goods during crises.*
Reactive Health-Minded Buying	H9b: Power Distance positively impacts reactive buying.	**Accepted**	*High Power Distance promotes adherence to authority-driven health mandates (e.g., masks, sanitizers).*
	H10b: Uncertainty Avoidance positively impacts reactive buying.	**Accepted**	*Individuals with high Uncertainty Avoidance purchase protective items to mitigate perceived risks.*
	H11b: Collectivism negatively impacts reactive buying.	**Accepted**	*Collectivists prioritize collective welfare and avoid hoarding personal protective items.*
	H12b: Masculinity negatively impacts reactive buying.	**Accepted**	*High Masculinity discourages health-conscious behaviour due to perceptions of strength and toughness.*
	H13b: Long-Term Orientation positively impacts reactive buying.	**Accepted**	*Long-Term Oriented individuals focus on maintaining health for long-term benefits.*

Proactive Health-Minded Buying	H9c: Power Distance positively impacts proactive buying.	**Accepted**	*High Power Distance fosters proactive adherence to health-enhancing recommendations.*
	H10c: Uncertainty Avoidance positively impacts proactive buying.	**Accepted**	*High Uncertainty Avoidance drives proactive health measures like buying vitamins to mitigate uncertainty.*
	H11c: Collectivism negatively impacts proactive buying.	Rejected	*Collectivist behaviour during the pandemic might override typical patterns, leading to health prioritization.*
	H12c: Masculinity negatively impacts proactive buying.	Rejected	*Masculinity norms did not significantly influence proactive health-focused behaviours.*
	H13c: Long-Term Orientation positively impacts proactive buying.	Rejected	*Long-Term Oriented individuals may already engage in such behaviours as part of their routine, regardless of the pandemic.*
Minimum Interaction with Salespeople	H9d: Power Distance positively impacts minimal interaction.	**Accepted**	*High Power Distance promotes norm adherence, reducing in-person interactions to follow health regulations.*
	H10d: Uncertainty Avoidance positively impacts minimal interaction.	**Accepted**	*High Uncertainty Avoidance encourages reduced interaction due to fear of contamination.*
	H11d: Collectivism positively impacts minimal interaction.	Rejected	*Collectivists may prioritize cautious engagement rather than reducing interactions outright.*
	H12d: Masculinity negatively impacts minimal interaction.	**Accepted**	*Masculinity discourages reduced interaction due to the perception of being "tough" against the virus.*
	H13d: Long-Term Orientation positively impacts minimal interaction.	Rejected	*Long-Term Oriented individuals might focus on other health measures like vaccination rather than reducing sales interactions.*
Switching to Value-Based Products	H9e: Power Distance negatively impacts value-switching.	Rejected	*High Power Distance **positively influences** value-switching due to economic pragmatism during crises (Switching to valued-priced products during a pandemic may not be perceived as diminishing one's status but rather as a necessary adaptation.)*
	H10e: Uncertainty Avoidance positively impacts value-switching.	**Accepted**	*High Uncertainty Avoidance leads to cost-saving behaviours amid financial uncertainty.*

	H11e: Collectivism positively impacts value-switching.	Rejected	*No significant link,* possibly because collectivists already exhibit value-oriented purchasing behaviours irrespective of the crisis.
	H12e: Masculinity negatively impacts value-switching.	Rejected	*Masculinity norms may not play a significant role when practical economic considerations dominate purchasing decisions.*
	H13e: Long-Term Orientation positively impacts value-switching.	Rejected	*Long-Term Oriented individuals already exhibit cautious spending habits independent of situational triggers like pandemics.*
Buying Technological Gadgets	H9f: Power Distance positively impacts tech purchases.	**Accepted**	*High Power Distance encourages buying high-end gadgets as status symbols in a virtual communication-driven environment.*
	H10f: Uncertainty Avoidance positively impacts tech purchases.	**Accepted**	*High Uncertainty Avoidance drives technology purchases to mitigate uncertainties and improve preparedness.*
	H11f: Collectivism negatively impacts tech purchases.	Rejected	***Opposite Link***: Collectivists buy gadgets to comply with regulations like remote working, contrary to the hypothesis.
	H12f: Masculinity positively impacts tech purchases.	Rejected	***No significant link observed***, as practical economic concerns overshadowed status-driven purchases.
	H13f: Long-Term Orientation positively impacts tech purchases.	Rejected	***Opposite Link.*** Long-Term Oriented individuals may have pre-emptively acquired necessary gadgets, negating additional pandemic-related purchases.

Table 40: Summary of Findings Study 2

5.4 Analysis of Changes in Consumer Behaviour During the Pandemic

Further to analysing data from both Study 1 and Study 2 independently, our study aimed to discern significant changes in consumer behaviours between these phases of the pandemic. The findings from this comparative analysis reveal nuanced shifts in consumer behaviour influenced by evolving pandemic conditions, reflecting both immediate reactions and longer-term adaptations to the crisis (see Table 39).

Our analysis highlights, surprisingly, a statistically significant increase in stockpiling from the early to later phases of the pandemic (M=2.92, SD=1.24, vs M= 3.20, SD=1.07, t=-2.468, p <

0.05). This observed increase in stockpiling behaviour can be attributed to several interrelated factors that influenced consumer perceptions and actions throughout the crisis. Initially, consumers exhibited heightened levels of anxiety and uncertainty, leading to a rush for essential items to mitigate perceived shortages and ensure personal preparedness. As the pandemic progressed into later phases, the persistence of stockpiling behaviours can be attributed to evolving threat perceptions. Continuous media coverage, updates on infection rates, and occasional resurgence of COVID-19 cases reinforced the perception of ongoing risks and uncertainties. Consumers, having experienced initial disruptions and shortages, remained vigilant about potential future disruptions in supply chains or local availability of essential goods. The memory of past shortages and the desire to avoid being caught unprepared further motivated continued stockpiling habits.

The independent t-tests also revealed that both reactive and proactive health-minded buying behaviours remained prevalent across the studied phases. Reactive health-minded buying, characterized by the purchase of immediate protective items such as masks and sanitizers, showed consistent levels across phases indicative of sustained public health concerns and adherence to safety protocols (M=3.67, SD=1.11 vs M=3.72, SD=3.72). In contrast, proactive health-minded buying, which includes investments in long-term health maintenance (i.e., purchasing healthy foods, vitamins and supplements) exhibited a statistically significant increase (M=3.07, SD=.88, vs M= 3.20, SD=3.35, t=-3.009, $p < 0.05$). This shift suggests a growing consumer emphasis on bolstering immunity and overall health resilience over time, reflecting heightened health consciousness during prolonged pandemic conditions.

Our analysis further revealed a notable increase in consumers' efforts to minimize interaction with salespeople as the pandemic progressed (M=3.20, SD= .95, vs M= 3.40, SD=1.05, t=-2.091, $p < 0.05$). This behaviour, driven by concerns over virus transmission through direct contact, underscores a significant shift towards contactless and cashless shopping experiences. The adoption of online shopping platforms and self-checkout services surged, influenced by adherence to social distancing guidelines and the broader availability of digital alternatives.

While consumers showed a slight increase in switching to value-priced products across the studies (M=2.94, SD= .65, vs M= 3.02, SD=0.82), the change was not statistically significant. This finding suggests a cautious approach to spending amidst economic uncertainties induced by the pandemic.

Consumers sought cost-effective alternatives, likely prompted by financial constraints and a desire for economic prudence, yet the overall shift remained subtle and reflective of careful consumer decision-making.

Initial enthusiasm for purchasing technological gadgets, driven by the sudden shift to remote work and virtual connectivity needs, showed a marginal decline over time (M=3.12, SD= .86, vs M= 2.95, SD=1.03). The early phase witnessed a surge in technology-related purchases, which gradually stabilized as consumer needs for remote access and social interaction solutions were met. This trend highlights a saturation effect in consumer demand for gadgets as pandemic-related lifestyles normalized.

This analysis provides critical insights into the evolving nature of consumer behaviour during the COVID-19 pandemic. The findings underscore a progression from immediate crisis response towards longer-term adaptations, marked by sustained concerns for health and safety, economic prudence, and digital engagement preferences. Policymakers and businesses can leverage these insights to anticipate and address future consumer needs amidst evolving crisis scenarios, emphasizing the importance of adaptive strategies in navigating dynamic consumer landscapes. The identified shifts in behaviours, particularly in stockpiling, health-minded purchasing, and interaction preferences, underscore pivotal areas where consumer responses were most influenced by the on-going pandemic's trajectory.

	Consumer Buying Behaviours																
	STOCK			REAC			PROA			IWS			FRUG			IWT	
	Mean (SD)*	t-value	p-value	Mean (SD)*	t-value	p-value	Mean (SD)*	t-value	p-value	Mean (SD)*	t-value	p-value	Mean (SD)*	t-value	p-value	Mean (SD)*	t-value	p-value
Study 1	2.92 (1.24)			3.67 (1.11)			3.07 (.88)			3.20 (.95)			2.94 (.65)			3.12 (.86)		
		-2.468	.014		-.505	.613		-3.009	.003		-2.091	.037		-1.703	.284		1.803	.072
Study 2	3.19 (1.07)			3.72 (1.16)			3.35 (1.02)			3.40 (1.05)			3.02 (.82)			2.95 (1.03)		

Table 41:Changes in Consumer Behaviour

Significant p-value at p≤0.05

CHAPTER 6: CONCLUSION AND CONTRIBUTIONS

This research delved into the intricate relationships among personality traits, individual cultural characteristics and consumer buying behaviour during a pandemic. We conducted two studies at different phases of the pandemic to explore these dynamics comprehensively. The first study focused on the effect of personality traits, including the Big Five and the Dark Triad, on six primary behavioural patterns observed during the health crisis. The second study investigated the impact of individual cultural characteristics using Hofstede's Dimensions on the same consumer behaviours. Below, the key findings of our research are summarised.

We have distinguished the consumer behaviours being examined into primary and secondary behaviours. The three primary consumer behaviours chosen for our research were stockpiling, reactive health-minded buying and proactive health-minded buying behaviours, as these behaviours were the ones most frequently observed when the pandemic first occurred. The other three consumer behaviours, classified as secondary behaviours, were minimum interaction with sales people while shopping, switching to valued-price products/services/brands and buying more technology gadgets. These buying patterns were classified as secondary as these were becoming more evident as the pandemic was evolving.

We have first examined the relationship between personality traits and individual cultural characteristics and consumers' stockpiling behaviour. It was evident that at the beginning of the pandemic people rushed to the supermarkets and stores to obtain the products which they thought were of importance to them in order to "survive" this pandemic. Based on the findings of our study, it has been revealed that consumers' stockpiling behaviour during a pandemic is positively predicted by the traits of Extraversion, Neuroticism, and Narcissism, as well as by the dimensions of Power Distance, Uncertainty Avoidance, Long-Term Orientation and Masculinity. Consumers who scored higher on the aforementioned personality traits and individual cultural characteristics were those individuals who resorted to stockpiling during the outbreak of the pandemic to a great degree.

Furthermore, our findings revealed that consumers with elevated levels of Extraversion, Agreeableness, Conscientiousness, Neuroticism, Psychopathy, and Narcissism, along with higher levels of Power Distance, Uncertainty Avoidance, and Long-Term Orientation, were more likely to prioritize protective masks and sanitizers in their purchases. Interestingly, our research indicates that buyers with certain traits and cultural characteristics tend to be more proactive. These buyers are more likely to make purchases that are beneficial in the long run, rather than focusing on short-term gains. Specifically, our findings indicated that consumers who score high on the traits of Extraversion, Agreeableness, Conscientiousness, Neuroticism, Psychopathy and Narcissism, as well as those high on Power Distance and Uncertainty Avoidance, tended to invest more in immune-boosting products like vitamins, supplements, and nutritious foods during an unexpected health crisis.

Moreover, we examined other pertinent consumer behaviours that emerged during the pandemic, including minimizing interaction with salespeople, switching to value-priced products, and buying more technology gadgets. These behaviours were increasingly observed as the pandemic progressed, serving as strategies to prepare for potential scenarios and safeguard against virus exposure. Our study found that consumers' inclination to minimize interaction with salespeople while shopping was positively predicted by most of the Big Five traits except Agreeableness, while Machiavellianism and Narcissism from the Dark Triad negatively influenced this behaviour. Additionally, individuals high on Power Distance and Uncertainty Avoidance were more likely to exhibit this behaviour.

Our study also investigated consumers' tendency to switch to value-priced products/services/brands. It was observed that during this unexpected crisis people were more economical in their spending as a way to save money and be prepared for the worst. It was also observed that consumers tended to turn towards buying more store-branded goods, not only as a means to save money, but also to secure the scenario that these items will always be in stock. Our findings have revealed that this behaviour was positively predicted by the personality traits of Neuroticism, Openness to Experience and Psychopathy, as well as by the cultural characteristics of Power Distance and Uncertainty Avoidance.

Lastly, our study also investigated the relationship between personality traits and individual cultural characteristics and consumers' behaviour towards buying new technology gadgets during the pandemic, a behaviour spurred by people's need to be prepared to either work from home, or maintain their interaction with their loved ones during a lockdown. Hence, we thought it would be interesting to see the profile of consumers who would exhibit this kind of behaviour. Our findings showed that this behaviour was exhibited by consumers who scored high on all the traits with the exception of Agreeableness and Machiavellianism, and the dimensions of Power Distance, Uncertainty Avoidance and Collectivism.

Overall, COVID-19 has proven to be a great opportunity for researchers to investigate the behavioural patterns of consumers during a health crisis. This research and its findings will contribute to an understanding of the effect that personality and individual cultural characteristics have on consumer behaviour during the pandemic, an area that has been largely overlooked in previous studies.

Our study contributes to the literature in several ways. Firstly, this study is one of the few studies that examines the relations between personality traits/cultural individual characteristics and consumers' behaviours during the pandemic and uncovers some interesting differences in these associations. As the findings of our study suggest, both personality and cultural characteristics play a vital role in shaping consumers' buying behaviour during a pandemic. Understanding consumer purchasing patterns is critical for policymakers and companies, since this knowledge will allow them to better deal with similar crises in the future.

CHAPTER 7: THEORETICAL AND MANAGERIAL IMPLICATIONS

7.1 Theoretical Implications:

This research addresses a significant gap in the literature by investigating the impact of personality traits and individual cultural characteristics on consumer behaviour during the COVID-19 pandemic. While numerous studies have documented how the pandemic has altered consumer behaviour, there is a paucity of research examining the role of personality and culture in shaping these behaviours. This study seeks to fill in this gap by providing a comprehensive analysis of how these factors influence consumer decision-making during crises.

By integrating psychological and sociocultural perspectives, this research offers a more holistic understanding of consumer behaviour. Specifically, it examines how the Big Five personality traits, the Dark Triad and Hofstede's cultural dimensions shape consumer responses to a pandemic. This integration enriches existing theoretical frameworks in consumer behaviour research and extends theories of crisis management by incorporating psychological factors at the individual level.

Our findings reveal that individuals with different personality traits exhibit distinct purchasing behaviours in response to pandemic-related challenges and uncertainties. The study highlights the importance of individual cultural variations in these responses, showing how personality traits and cultural values influence consumer behaviour. This nuanced understanding contributes to the development of more sophisticated models that account for the heterogeneity of consumer behaviour in crisis situations. Furthermore, this research sheds light on the psychological mechanisms through which personality traits and cultural characteristics influence consumer behaviour.

Furthermore, this research sheds light on the psychological mechanisms through which personality traits and cultural characteristics influence consumer behaviour. These mechanisms include risk perception, coping strategies, and social influence dynamics within specific cultural contexts. By elucidating these processes, the study provides valuable insights into behavioural economics and informs crisis management practices.

The COVID-19 pandemic has profoundly impacted consumer behaviour, yet the influence of psychological traits on these changes has been underexplored. Traditional consumer behaviour models have often focused on demographic and situational factors, overlooking the nuanced ways in which personality traits can drive consumer decisions, particularly in a health crisis. By examining the Big Five personality traits and the Dark Triad traits, this study provides a deeper understanding of how intrinsic psychological factors affect purchasing behaviours during a pandemic. The importance of integrating psychological insights into marketing strategies becomes evident in the context of a health crisis. Marketing, traditionally driven by demographic and behavioural data, can benefit significantly from understanding the psychological profiles of consumers. Marketers can leverage this information to tailor their strategies more effectively. By aligning marketing messages with the psychological traits of their target audiences, companies can create more resonant and persuasive campaigns.

From a social psychology perspective, the study emphasizes the role of social norms and status signaling in shaping consumer behaviour. It explores how individuals adapt their purchasing decisions to societal expectations and cultural norms, offering a deeper understanding of consumer motivations, perceptions, and attitudes during crises. Although the survey was conducted in Cyprus, the findings have broader implications. Cyprus, despite its small size, has been significantly affected by the COVID-19 pandemic, and its consumers have experienced numerous pandemic-related challenges. Therefore, the insights gained from this study can be generalized to other countries and populations facing similar circumstances.

From a theoretical standpoint, the integration of psychological traits and cultural dimensions into crisis management models offers a more comprehensive framework for understanding consumer behaviour. Traditional crisis management strategies often focus on external factors such as economic impact and supply chain disruptions. However, this study underscores the importance of internal psychological factors and cultural values in shaping consumer responses. By incorporating these elements into crisis management theories, more nuanced models can be developed that account for individual differences in risk perception, coping strategies, and decision-making processes.

In summary, this research makes a substantial contribution to the literature on consumer behaviour during pandemics. By examining the interplay between personality traits, cultural characteristics, and behaviours during a pandemic, it provides a more integrated understanding of individual differences in consumer decision-making. The study extends existing theories of crisis management, offers practical insights for behavioural economics, and highlights the importance of social norms and cultural values in shaping consumer behaviour.

7.1.1 Generalizability of Findings to Non-Crisis Environments

Although this research focuses on consumer behaviour during the COVID-19 pandemic, the findings have significant implications for non-crisis environments as well. Crises (irrespective of their nature) often amplify similar underlying consumer tendencies and bring the same behaviours to the forefront, so the psychological and cultural dynamics identified in this study might not be exclusive to crisis contexts (Loxton, et al., 2020; Mensah, Madichie and Mensah, 2023). For instance, personality traits such as Neuroticism, Extraversion, and Conscientiousness influence risk perception, coping strategies, and decision-making in both crisis and stable conditions (Di Crosta, et al., 2021;Liang, Liao and Cai, 2022; Chacon, Mas, Chacon and Avargues-Navarro, 2023). Similarly, cultural dimensions such as Power Distance and Uncertainty Avoidance shape consumer trust, compliance, and preferences across different settings (Pratesi, et al., 2021; Travaglino and Moon, 2021; Nair, Selvaraj and Nambudiri, 2022).

In non-crisis environments, however, the effects of personality and culture could be less evident, while the heightened need for security, social responsibility, and emotional connection observed during a pandemic can result into stronger consumer reactions. Governments can leverage these insights to maintain trust and engagement by implementing transparent communication strategies and promoting community-oriented initiatives. Marketers, on the other hand, can use these findings to develop campaigns that resonate with consumers' intrinsic values, emphasizing authenticity, emotional engagement, and sustainable practices. For example, while the urgency to reassure consumers about product availability might decrease in non-crisis times, the expectation for brands to maintain consistent communication and ethical business practices remains. Similarly, the importance of tailored marketing strategies based on personality traits and cultural orientations is just as critical in non-crisis contexts to enhance consumer loyalty and satisfaction. It is worth

noting that further studies are needed to confirm applicability of our findings in non-crisis contexts."

7.2 Practical Implications:

As already discussed, our study focuses on examining the link between personality traits, individual cultural characteristics and consumers' behaviour during a pandemic. Understanding the implications of the connection between personality traits and consumer behaviour, as well as the connection between individual cultural characteristic and consumer behaviour, will allow marketers to create more effective strategies for product development, advertising, and market segmentation. By tailoring their approaches to the psychological and cultural characteristics of their target audience, marketers can enhance the success of their campaigns and better meet the needs and desires of their consumers. The insights gained from this research provide a valuable understanding of consumer behaviour patterns during pandemics, which is essential for companies and policymakers. This knowledge will enable both companies and policymakers to respond more effectively to similar crises in the future, ensuring that they can meet consumer needs and manage market demands during such challenging times.

One of the major consumer behaviours observed during the pandemic was the stockpiling behaviour. The fact that people were caught off by the news of the pandemic and the possibility of lockdowns triggered panic buying behaviours leading to stockpiling of items such as toilet paper, canned foods, cleaning products, and protective goods. The personality traits which were most likely to lead to stockpiling behaviours were Extraversion, Neuroticism and Narcissism. In understanding the motivations of these individuals showing the stockpiling behaviour, companies, the government and policymakers can develop strategies that balance the needs of customers with the goal of maintaining fair and responsible consumption during a pandemic.

For instance, Extraverts may engage in stockpiling due to a desire for control and preparedness. Thus, one possible strategy to target Extraverts is for companies to closely monitor their inventory levels closely and implement clear communications to manage and prevent stock shortages. Further, Extraverts might stockpile in response to the fear of missing out and urgency and/or as a response to perceived supply chain disruptions. In order to address these issues, organizations can,

for instance, implement limited-time offers, promotions and exclusive deals to encourage purchases without the need for excessive stockpiling as well as efficiently communicating the stability of the supply chain. Further, some stockpiling behaviour may be driven by misinformation or fear of the unknown as well as by a sense of responsibility for oneself and others. In this case, government and policymakers can launch educational campaigns that provide accurate information, dispel myths and guide consumers on responsible purchasing behaviours during times of crisis and at the same time promote community responsibility by emphasizing the importance of considering the needs of others. Campaigns should focus on encouraging customers to buy only what they need, share resources, and contribute to community support initiatives.

Our research has also indicated that consumers high on Neuroticism exhibit specific behavioural characteristics. These individuals tend to experience higher levels of emotional instability, anxiety and stress and, as such, can engage in stockpiling behaviour. As a result, managers should consider the implications associated with this trait to address neuroticism-related stockpiling. Provided that Neurotic individuals are more susceptible to anxiety and stress, organizations may need to implement clear and empathetic communication strategies, such as providing regular updates on the dangers of the pandemic and the importance of safety measures (buying masks, sanitizers, immune system-boosting products). Marketers should use messages that reassure neurotic consumers about a product's role in mitigating uncertainty and providing peace of mind. Further, Neurotic individuals may engage in excess buying due to fear of shortages. Thus, organizations should clearly communicate that products are well-stocked and available for the long term, emphasizing that there is no need to worry about shortage. Messages such as "Stock up without fear-we have a steady supply" may provide extra reassurance to these consumers. Another strategy may be to promote products and services that reduce stress and add convenience to the life of the consumer, such a delivery services, subscription models or easy-to-use products.

Understanding the stockpiling behaviour of Neurotic individuals during a pandemic also holds some important implications for governments and policymakers. By considering the emotional and psychological aspects associated with Neuroticism, policymakers can develop strategies and policies that promote informed decision-making, mitigate panic-driven behaviours, and provide support for those who may be more susceptible to anxiety during a pandemic. Neurotic individual's

panic buying may be influenced by misinformation. Thus, government and policymakers can implement public information campaigns to counteract misinformation. With the use of various channels, policymakers can provide accurate and timely information on the pandemic, including the availability of essential goods and the effectiveness of safety measures. Neurotic individuals may also engage in panic-driven buying. Thus, by developing educational programmes to inform the public about the psychology behind panic buying, its consequences, and alternative coping strategies, policymakers could slightly improve the situation with product shortages. In this way neurotic individuals will be equipped with the tools to manage anxiety and make informed, rational decisions during a crisis.

Our research also indicated that consumers high on Narcissism exhibited higher levels of stockpiling behaviour. Therefore, understanding stockpiling behaviour associated with Narcissism during a pandemic is essential for organizations to develop strategies that resonate with the self-centered tendencies of individuals with high narcissistic traits. Narcissists often value status and perceive themselves as superior to others. Companies can leverage this by positioning their pandemic-related products as exclusive or premium, appealing in this way to their longing for uniqueness and prestige. For instance, marketers could introduce limited edition or luxury versions of products (for instance, sanitizers, high-end face masks and designer gloves) to attract narcissistic consumers who seek to demonstrate their elevated status through conspicuous consumption. Further, Narcissistic individuals may respond positively to marketing tactics that create a sense of urgency or scarcity. Limited-time offers, exclusive deals for "elite" customers, or products marketed as "must-have" can appeal to their desire for immediate gratification and the feeling of being special or privileged.

Similarly, policymakers can address consumers' narcissistic traits by implementing and enforcing policies that prevent stockpiling and ensure fair distribution of essential items. can develop such strategies to address consumers' Narcissistic traits. Considering that Narcissistic individuals are more inclined to hoard items for personal gain, policymakers may consider penalties for individuals or businesses that engage in unfair practices that contribute to shortages. Additionally, investing in educational programs into schools and public campaigns, policymakers can emphasize

the importance of collective responsibility during periods of crises, fostering an understanding that individual actions, such as stockpiling, impact the well-being of the entire community.

When it comes to stockpiling behaviour, we have also examined the relationship between individual cultural orientations and the aforementioned buying behaviour. Our research found that consumers high on Power Distance, Uncertainty Avoidance and Long-Term Orientation exhibited higher levels of stockpiling during the pandemic. These findings also hold several managerial as well as policy-making implications. Individuals high on Power Distance tend to accept hierarchical structures and defer to authority figures. Therefore, one strategy that could minimise the stockpiling tendency of consumers high on Power Distance, might be to incorporate endorsements or testimonials from authoritative figures, such as government officials or health care professionals, who will highlight the need for responsible purchasing behaviour during a pandemic, including the importance of avoiding excessive stockpiling. In a similar vein, due to the fact that consumers high on Power Distance are more inclined to follow guidelines and norms as set by authority figures, another company marketing strategy could be to promote responsible consumption. This can be done by developing marketing campaigns that will encourage consumers to consider the needs of others and avoid hoarding essential items by placing extra emphasis on the importance of collective well-being and solidarity within the society. Further, consumers high on Power Distance value reliability and trust. Thus, organizations should develop trustworthy brand messaging by emphasizing transparency, quality and ethical business practices. Companies should communicate in a clear and consistent way their product availability, supply chain issues and commitment to meeting consumer needs in a responsible manner. Besides, policy makers have an important role to play in the effort of minimizing the stockpiling behaviour of consumers high on Power Distance. Due to their nature, these consumers may be more receptive to instructions from authoritative sources. Thus, policymakers can create educational campaigns that will educate consumers about emergency preparedness and the importance of having a well-stocked household without resorting to panic buying. This campaign should provide practical tips and guidelines endorsed by trusted authorities to assist consumers in making informed decisions about stocking up of essential items.

Uncertainty Avoidance also proved to be a positive predictor of consumers stockpiling behaviour. Consumers who score high on Uncertainty Avoidance tend to have a strong desire to minimize uncertainty and hence resort to behaviours such as stockpiling during the times of crisis. As a result of this anxiety, consumers high on Uncertainty Avoidance seek clarity and information in an attempt to reduce this uncertainty. Based on this, marketers can offer transparent and up-to-date information about their product availability, supply chain stability, as well as their safety measures. Companies should be able to communicate in a clear manner any changes in their stock levels, delivery times or purchasing limits to reassure consumers and alleviate their concerns about uncertainty. Similarly, companies should ensure product availability and consistency due to the fact that consumers high on Uncertainty Avoidance prefer stable and predictable outcomes. This can be done by maintaining consistent availability of essential products and prioritizing restocking efforts to implement demand through an inventory management system that monitors stock levels and replenishes supplies proactively. This strategy will reduce the likelihood of shortages, and it will further reinforce consumer confidence in product availability. Similarly, the government could provide guidance on managing uncertainty. This can be done through educational content that encourages responsible buying practices, offering practical advice on budgeting, meal planning, and prioritizing essential purchases to help consumers make informed decisions and avoid excessive stockpiling.

There are different strategies that could be implemented in order to effectively address the tendency of consumers high on Long-Term Orientation to stockpile during a pandemic. For instance, companies should promote their product longevity and durability, since consumers who score high on Long-Term Orientation value products that last and provide long-term value. This could be done by highlighting the durability, reliability, and shelf-stability of products to appeal to consumer's long-term planning mindset. Marketers should emphasize features, such as extended expiration dates, high-quality materials and sustainable packaging to assure consumers that stockpiled items will remain usable for an extended period. A further strategy might be to offer long-term supply solutions such as discounts or incentives for signing up for recurring deliveries, providing reassurance that supplies will consistently be available over time and thus there is no need to stockpile on products.

Our second important finding relates to consumers' reactive and proactive health minded buying behaviour and its relationship with personality traits and individual cultural characteristics. Our study found that the traits of Extraversion, Agreeableness, Conscientiousness, Neuroticism, Psychopathy and Narcissism are predictors of both reactive-health minded buying behaviour (e.g., the aforementioned traits positively affect buying a lot of protective masks and sanitizers, prioritizing masks and sanitizers over other products during shopping) and proactive health-minded buying behaviour (e.g., positive association between these traits and buying products that strengthen one's immune system such as vegetables, fruits and vitamins) during the pandemic. Besides, our research has indicated that all individual cultural characteristics, that is Power Distance, Uncertainty Avoidance, Collectivism, Long-Term Orientation and Masculinity are predictors of a consumer's reactive health-minded buying behaviour, while only Power Distance and Uncertainty Avoidance influence consumer's proactive health-minded buying behaviour. These findings may hold implications for both organizations and policymakers.

When it comes to Extraverts, marketers should appeal to their tendency to socialise a lot and encourage them to adopt masks and sanitizers not just as protective measures, but rather as a tool to continue their numerous social interactions in an usual way. Marketing campaigns should emphasize how these products facilitate and enable Extraverts to maintain their vibrant social lifestyle during the pandemic. By positioning masks and sanitizers as essential tools that allow individuals to safely engage in social interactions, companies can underscore their role in preserving and nurturing relationships with friends, family, and communities. Highlighting the social benefits of mask-wearing can be central to these campaigns. For instance, advertisements could illustrate scenarios where individuals comfortably gather with loved ones while responsibly wearing masks, reinforcing the message that protective measures do not hinder social engagement but rather enhance it. Messaging could emphasize that by wearing masks and using sanitizers, Extraverts can continue to participate in social activities, attend gatherings, and enjoy shared experiences while prioritizing safety and health. Moreover, emphasizing the convenience and comfort of using masks and sanitizers in social settings can further resonate with Extraverts. Marketing efforts could showcase stylish or personalized mask designs that allow individuals to express their personality and fashion sense, thus integrating these health essentials seamlessly into

their social attire. Additionally, campaigns could highlight the ease of carrying and using sanitizers, promoting them as essential companions for social outings and interactions.

Agreeable individuals tend to value cooperation, are compassionate and considerate in their interactions with others and, as our study showed, more prone to purchase masks and sanitizers, as well as buy healthier food to boost their immune system to protect not only their health and the health of others. Therefore, several strategies could be potentially developed by companies to cater to individuals high on Agreeableness. One such strategy could be to develop marketing messages that emphasize the importance of wearing masks and using sanitizers as well as consuming immune-boosting foods to protect others in the community. Highlighting the role of these behaviours (i.e., wearing masks and healthy eating) in fostering a safer, more considerate and resilient society should appeal to Agreeable consumers. The second strategy could be launching CSR campaigns that demonstrate the brand's commitment to public health, safety and well-being during the pandemic. Due to the fact that Agreeable individuals respond positively to socially responsible brands, making them aware of how purchasing masks, sanitizers and immune-boosting foods by a certain brand contributes to charitable initiatives or community support programs is likely to appeal to their sense of altruism. On a similar note, policymakers might develop and disseminate educational campaigns that highlight the role of masks and sanitizers in reducing the transmission of infectious diseases, such as COVID-19. The campaigns that emphasize the collective responsibility to protect vulnerable members of the community should be influential for individuals high on Agreeableness.

Conscientious individuals are known as the ones who are responsible, dutiful, concerned about health and safety. Thus, marketers might develop campaigns that emphasize the health benefits of masks, sanitizers and immune-strengthening foods. Highlighting their role in protecting against the illness and promoting overall well-being resonates well with the characteristics of Conscientious consumers and their longing for preventive health measures during a pandemic. Furthermore, marketers can target Conscientious consumers through subscription and auto-replenishment programs. Conscientious individuals are known for being organized and good planners and, therefore, offering them subscription or auto-replenishment programs for masks, sanitizers and immune-boosting foods may fulfil their desire for consistency and preparedness. In

line with this, marketers can further provide Conscientious consumers with convenient options for regular deliveries which should be seen by them as a way to maintain their health routines with ease. Also, Conscientious individuals are known for their elevated levels of social responsibility. Since consumers high on this trait respond to social responsibility positively, organizations may need to communicate to them the importance of wearing masks and using sanitizers as responsible and socially conscious actions, which aligns with their values. As such, companies could develop advertising campaigns that emphasize the importance of wearing masks and using sanitizers, as well as highlight how these products contribute to the safety and well-being of the community. Similarly, taking into consideration the tendency of Conscientious individuals to buy more healthy food as a means to strengthen their immune system during a pandemic, allows marketers to tailor their marketing strategies to resonate with this specific behaviour. As already mentioned, these consumers are socially responsible, and companies can therefore communicate social and personal benefits of consuming immune-boosting foods by highlighting to these consumers that their healthy choices strongly contribute to the collective well-being of communities. Policymakers can also create an enabling environment that supports conscientious individuals in their efforts to prioritize health-promoting behaviours, including the purchase and use of masks, sanitizers, and immune-boosting foods. For instance, they might allocate resources for public health campaigns and educational initiatives that will provide evidence-based information about the importance and benefits of wearing masks, practicing hand hygiene and consuming nutritious diet to support one's immune system. Conscientious individuals are likely to respond more positively towards such public health campaigns, because it coincides with their longing for social responsibility, preparedness and community well-being.

Addressing the tendency of consumers high on Neuroticism to buy more masks, sanitizers and immune-boosting foods during a pandemic requires sensitive and thoughtful marketing and policy-making approaches. Neurotic individuals often experience heightened fear and anxiety, particularly regarding health risks and contamination. For instance, marketers could develop marketing campaigns that will address the concerns and anxieties of individuals high on Neuroticism. Their messages should be empathetic and reassuring, emphasizing the role and importance of masks, sanitizers and immune-strengthening foods and supplements in reducing the risk of illness and promoting overall well-being. Messages should convey a sense of security and

empowerment, highlighting how these preventive measures can alleviate anxieties and support health resilience. They could further make these products readily available and affordable by offering promotions, discounts and value packs to make these essential health products more accessible to individuals high on Neuroticism. By tailoring marketing strategies to acknowledge and address the specific concerns of neurotic consumers, businesses can play a crucial role in providing reassurance and promoting public health. Simultaneously, policymakers can support these efforts by implementing regulations that ensure the availability and affordability of essential health products, thereby fostering a supportive environment that addresses the unique needs of neurotic individuals during health crises.

Our research has also indicated that individuals who score high on Psychopathy and Narcissism are more likely to resort to reactive and pro-active health minded buying behaviours. This requires careful consideration of their motivations. Most probably, consumers with these traits prioritize their own well-being and self-interest as well as their social status and image. Thus, marketers should appeal to their elevated ego by framing the purchase of masks, sanitizers and immune-boosting foods as a means of maintaining personal health and vitality. Importantly, marketers should position the use of these products as symbols of status and sophistication. The message sent out should focus on the importance of self-care and personal hygiene creating an image of a healthy and successful individual. Further, marketers can target Psychopaths and Narcissists by creating a sense of urgency and scarcity, since these individuals may be guided by impulsivity and a need for immediate action. Highlighting limited availability or time-sensitive offers for the relevant products (i.e., masks and sanitizers), companies might capitalize on the impulsive tendencies of consumers high on Narcissism and Psychopathy and encourage their prompt purchasing decisions. Another possible strategy may be to offer luxury and premium products that enhance self-image of these individuals, such as launching luxury and premium options for masks and sanitizers.

As mentioned above, all cultural dimensions predicted consumers' reactive health-minded buying, while only Power Distance and Uncertainty Avoidance were found to affect a consumer's proactive health-minded behaviour. Consumers high on Power Distance tend to value authority and expertise in their decision-making process. In order to target these consumers, marketers should position masks, sanitizers and immune-boosting foods as endorsed or recommended by

trusted authorities, such as healthcare professionals, government agencies, or industry experts. Further, marketers could frame the purchase of masks and sanitizers as a civic duty or responsibility of every citizen to protect not only one's self but also others from the illness. Messages that emphasize the importance of collective action and community well-being appeal to the values of individuals high on Power Distance such as obligation and social responsibility. When it comes to consumers high on Power Distance, policy makers could develop clear and consistent public health guidelines and recommendations in regards to the use of masks and sanitizers, as well as the importance of buying healthy food. These guidelines should be communicated effectively through official channels and endorsed by trusted authorities to facilitate compliance and adherence among consumers high on the dimension of Power Distance.

People high on Uncertainty Avoidance tend to seek stability, safety and reassurance and, as such, consumers high on this dimension seek products that may provide a sense of safety and protection. Taking this into account, marketers can target consumers high on Uncertainty Avoidance by positioning masks, sanitizers and immune-boosting foods and supplements as essential tools for protecting these individuals against uncertainty and providing health-related safety. In other words, marketers should tailor their messages to emphasize the role of these products in reducing the risk of infection and providing a sense of safety during uncertain times. Similarly, consumers high on Uncertainty Avoidance may be more inclined to be prepared for emergencies, and positioning the purchase of masks, sanitizers and healthy foods as proactive measures for planning and preparedness will resonate with these individuals. These consumers should be encouraged to stock up on essential health products to ensure that they are adequately prepared to face uncertainties and challenges related to the pandemic. From the perspective of policy makers, policies should be created and implemented in such a way so that they could provide an equitable access to the aforementioned products for all individuals. Consumers high on Uncertainty Avoidance may face barriers in accessing essential health products due to supply shortages or distribution challenges, thus, well-though measures to regulate pricing, prevent stockpiling and prioritize distribution to vulnerable populations will reduce their anxiety.

There are several implications associated with Collectivism and reactive health-minded buying behaviour. Surprisingly, our research found that consumers who score high on Collectivism are

less likely to purchase masks and sanitizers and prioritise these products in their shopping list during a pandemic. In order to convince consumers high on Collectivism to purchase and use these products, marketers and policymakers should focus their messages on community well-being, social responsibility and accessibility. For instance, consumers high on Collectivism put the well-being of their community as a priority and may be motivated by a sense of social responsibility to use masks and sanitisers. Marketers should then position the use of these products as essential tools for protecting the health of their community. Messages should revolve around the role of these products in preventing the spread of the illness and promoting collective health and safety.

Further, our research revealed the tendency of consumers high on Long-Term Orientation to purchase more masks and different sanitizers as well as prioritize these products in their shopping lists during the pandemic. This finding carries significant practical implications for both businesses and policymakers. For businesses, this insight suggests and opportunity to refine marketing strategies that resonate with these consumers' values of preparedness and longevity. Emphasizing the durability, effectiveness over time, and sustainability aspects of masks and sanitizers can appeal directly to this segment. Companies can innovate by developing products with extended shelf life, eco-friendly materials, and enhanced protective features, aligning with the preferences of consumers who prioritize future-oriented health solutions. Moreover, robust supply chain management becomes pivotal in meeting the demands of Long-Term Oriented consumers. Ensuring consistent availability and quality control of masks and sanitizers is essential. Businesses should collaborate closely with suppliers to maintain reliable inventory levels and mitigate supply chain disruptions. Policymakers can complement these efforts by fostering an environment conducive to sustainable consumption practices. This can include supporting eco-friendly product initiatives through incentives, promoting consumer education on long-term health benefits, and implementing regulatory frameworks that uphold safety standards and transparency.

Our research has further indicated that the higher the level of Masculinity in a consumer, the less likely he/she will be to exhibit reactive health-minded buying behaviour; that is the less likely they will be to buy masks and sanitizers and prioritizing these products in their shopping lists. Therefore, any strategies to target these consumers should align with traditional masculine values. Consumers high on Masculinity may respond more positively to any marketing messages that

portray mask-wearing and use of sanitizers as protective measures that indicate strength, resilience and concern for weaker ones. Campaigns should highlight such features as durability and effectiveness to appeal to the practicality and toughness of Masculine individuals. Besides, marketers could frame mask-wearing and use of sanitisers as proactive actions that demonstrate responsibility and leadership in protecting others that will resonate with the ego and self-image of Masculine consumers. Similarly, policy makers can promote health literacy and education by developing messages tailored to masculine audiences that emphasize strength, resilience and responsibility as integral components of health and well-being.

Our study also investigated the relationship between personality traits and individual cultural characteristics and consumers' minimized interaction with sales people, switching to value-priced products and buying technological gadgets. The personality traits that were found to be predictors of consumers' tendency for contactless shopping during the pandemic were Extraversion, Conscientiousness, Neuroticism, Openness to Experience, Machiavellianism and Narcissism. Two of these findings require special attention of marketers and policymakers. First, as expected, we found that the higher the levels of Machiavellianism and Narcissism in a consumer, the less likely they will minimize their interactions with sales people during a pandemic (i.e, cashless transactions and contactless checkout options). Thus, any strategies addressing this behaviour requires a nuanced approach that utilises convenience, efficiency and self-interest. Individuals high on both Machiavellianism and Narcissism tend to prioritise their own interests and convenience when it comes to purchasing decisions. They are also more concerned about their own safety and hygiene. Marketers should, therefore, position cashless transaction and contactless checkout options as convenient, time-saving alternatives that align with the desire of Machiavellians and Narcissists for efficiency, self-interest and even egoism. Another possible strategy might be to highlight the safety benefits of these options, emphasizing their role in minimizing physical contact and reducing the risk of viruses.

We also examined the relationship between individual cultural characteristics and consumers' tendency to minimize their interaction with sales people, and found that the dimensions that predicted this behaviour were Power Distance, Uncertainty Avoidance and Masculinity. These findings require the attention of both marketers and policy makers. Power Distance, reflects the

extent to which hierarchical structures are accepted and respected, which suggests that consumers high on Power Distance are likely to value adherence to governmental recommendations and authoritative guidance. Therefore, marketers should craft marketing messages that emphasize how contactless and cashless transactions align with government-endorsed health and safety protocols. By highlighting the alignment with regulatory standards, businesses can appeal to consumers who value compliance with societal norms and authoritative directives. On the other hand, consumers high on Uncertainty Avoidance prioritize safety, predictability, and risk reduction. Consequently, businesses should focus on communicating the hygiene benefits and reduced health risks associated with contactless payment methods. Marketing strategies should emphasize the reliability, security, and cleanliness advantages of contactless transactions to reassure consumers who are concerned about disease transmission during face-to-face interactions. Addressing the refusal of consumers high on Masculinity to minimize their interactions with sales people during a pandemic requires an approach that acknowledges and respects their values such as self-reliance and independence, as well as focus on safety and protection. For instance, marketers should frame cashless transactions and contactless checkout options as empowering alternatives that enable Masculine individuals to take control of their transactions and minimize their reliance on others. Further, marketers should highlight the speed and ease of completing transactions without the need for prolonged interactions with salespeople, appealing in this way to their desire for efficiency and productivity. Policymakers could launch public education campaigns to raise awareness about the benefits of cashless and contactless payment options. They should provide adequate resources and information to assist consumers high on Power Distance, Uncertainty Avoidance and Masculinity in understanding how these alternative methods will contribute to their safety and well-being.

The research has also addressed the link between consumers' characteristics and their tendency for switching to value-priced products/services/brands during the pandemic. We found that the traits of Neuroticism, Openness to Experience, Machiavellianism, Psychopathy and the dimensions of Power Distance and Uncertainty Avoidance influence this behavioural pattern. The overall implications for marketers suggest that many individuals do switch to value-priced products during the times of a health crisis and might constitute an essential market segment, and hence the companies should pay particular attention to the production and marketing of such products.

One interesting finding that may hold serious implications is Machiavellians' reluctancy to switch to value-priced products during a pandemic. Both marketers and policymakers should acknowledge strategic and egoistic tendencies of these individuals and provide incentives and opportunities for the change in their behaviours. For instance, marketers could frame value-priced products as correct strategic choices for the individuals with the elevated ego which aligns with the self-interest of Machiavellian consumers. Any messages should revolve around emphasizing the long-term benefits of saving money and maximizing value, appealing to the longing of Machiavellians for personal gain and advantage. Another strategy might be the usage of social proof and peer opinions (e. g., testimonials and reviews from satisfied customers) to demonstrate the credibility and popularity of these products, appealing to the importance of social status and acceptance for Machiavellians. On the other hand, policymakers could invest in consumer education and awareness campaigns to influence the purchasing decisions of individuals high on Machiavellianism.

Lastly, our research also examined the relationship between personality traits and consumers' tendency to buy more technological gadgets during a pandemic. We found that the traits of Extraversion, Conscientiousness, Neuroticism, Openness to Experience, Narcissism and Psychopathy and the dimensions of Power Distance, Uncertainty Avoidance, Collectivism and Long-Term Orientation influence this behavioural pattern. Understanding this relationship will allow managers and policymakers to develop more effective, ethical and inclusive strategies.

The finding that individuals with higher levels of extraversion are more likely to purchase technological gadgets during the COVID-19 pandemic has significant managerial and policymaking implications. For managers, this insight necessitates the development of targeted marketing strategies that leverage the platforms frequented by extraverted consumers, such as social media and online communities. Marketing campaigns should emphasize the social and interactive features of technological gadgets, highlighting how these products facilitate communication and connectivity. Partnering with influencers who resonate with extraverted audiences can further amplify the reach and impact of marketing messages. Additionally, product development should focus on enhancing social interaction, incorporating advanced

communication tools, social gaming, and entertainment options, and ensuring user-friendly, aesthetically appealing designs that encourage social sharing.

From a policymaking perspective, enhancing consumer education and ensuring robust regulatory frameworks are critical. Digital literacy campaigns should be promoted to ensure that consumers understand the benefits and risks of technological gadgets, helping extraverts make informed decisions. Privacy and security awareness must be emphasized, with strict data protection laws enforced to safeguard personal information. Policymakers should also support innovation by providing financial incentives for companies developing products that enhance social connectivity and promoting ethical marketing practices. Public health guidelines should be developed for the safe use of technological gadgets, balancing social connections with adherence to health measures, and integrating mental health resources within technological products to help extraverted individuals cope with social isolation during a pandemic.

For Conscientious consumers, marketing efforts should focus on the reliability, efficiency, and productivity-enhancing aspects of technological gadgets. Companies should emphasize long-term value, durability, and the practical benefits of their products to appeal to conscientious individuals. Highlighting features that enhance organization, planning, and task management can resonate well with this target audience, as they value structured and purposeful use of technology. Policymakers could promote standards and certifications for technological products that ensure quality and reliability. Educational initiatives that teach effective use of technology for productivity and organization can help conscientious consumers maximize the benefits of their purchases. Moreover, encouraging the development of durable and sustainable technologies can align with the values of conscientious consumers, promoting long-term use and reduction of environmental impact.

Addressing the needs of Neurotic consumers requires highlighting stress-relief features, security aspects, and robust customer support services of technological gadgets. These consumers are more sensitive to risk and anxiety, thus marketing messages should revolve around reassuring Neurotic individuals about the safety and reliability that these products provide. Emphasizing strong data protection measures, easy access to technical support, and features that promote mental well-being

can appeal to their heightened need for security and emotional stability. Similarly, policymakers could focus on enhancing data protection regulations to ensure consumer privacy and security. Initiatives that promote mental health and well-being through technology should be supported, including the development of digital tools designed to reduce stress and anxiety. Establishing consumer rights and protection laws that ensure reliable customer support and transparent communication can further alleviate the concerns of Neurotic consumers.

Our research also indicated that individuals high on Openness to Experience tend to purchase more technological gadgets during the COVID-19 pandemic. Therefore, marketing strategies should emphasize the innovative, creative, and experiential aspects of technological gadgets. Highlighting cutting-edge technology, unique features, and customization options can attract these consumers, who are drawn to novelty and new experiences. Demonstrations of how the gadgets can be used in creative ways, such as for artistic projects or immersive experiences, can further engage this audience and stimulate their interest in the latest technological advancements. Policymakers should support the development and funding of innovation hubs and technology incubators that foster creativity and experimentation. Educational programs that encourage the exploration and use of new technologies in creative ways can stimulate interest and engagement among individuals high in Openness to Experience.

When targeting consumers with high levels of Narcissism and Psychopathy, marketing should focus on exclusivity, status, and recognition. Exclusive offers, limited-edition products, and features that allow for self-expression and social validation can appeal to Narcissistic individuals. For consumers high on Psychopathy, emphasizing the competitive edge and power-enhancing capabilities of gadgets may be effective. However, ethical considerations must guide these strategies to ensure responsible marketing practices that do not exploit these traits negatively. Policymakers should implement regulations that prevent manipulative marketing practices and ensure that promotional strategies are ethical and transparent. Educational campaigns can raise awareness about the potential pitfalls of excessive consumerism and promote responsible consumption. Ensuring that marketing practices do not exploit psychological traits in harmful ways can protect vulnerable consumers and promote fair market practices.

Our research delved into the impact of individual cultural characteristics on consumers' propensity to purchase technological gadgets during the COVID-19 pandemic, revealing significant managerial and policy making implications. Specifically, we identified that the dimensions of Power Distance, Uncertainty Avoidance, Collectivism, and Long-Term Orientation are influential factors shaping consumer behaviour in crisis contexts. For instance, when it comes to targeting consumers high on Power Distance, marketing strategies should emphasize prestige, status, and authority associated with technological gadgets. Exclusive offers and luxury branding can appeal to these consumers who value social hierarchy and authority. In contrast, when it comes to targeting consumers with high Uncertainty Avoidance, marketing messages should focus on the reliability, safety features, and clear benefits of technological gadgets, considering that these individuals are more risk-averse and seek certainty and security. Assurance of product quality and robust customer support services can alleviate consumer concerns and foster trust in uncertain times. Emphasizing the communal benefits and social aspects of technological gadgets can resonate strongly with Collectivists. Marketing campaigns could highlight how these products facilitate connectivity, collaboration, and community engagement, aligning with values of shared responsibility and cooperation. Products that promote collective well-being and contribute to community resilience during crises may find greater acceptance and adoption in such contexts. Finally, Long-term oriented consumers tend to prioritize sustainability, durability, and future-oriented benefits. Therefore, marketing strategies should underscore the long-term value, environmental sustainability, and lasting impact of technological gadgets. Promoting features such as energy efficiency, recyclability, and longevity can appeal to consumers' concerns for future generations and environmental stewardship.

Our findings on the relationship between individual cultural characteristics and consumers' propensity to purchase technological gadgets during a pandemic could offer crucial insights for formulating effective policy-making strategies to navigate these dynamics. For example, policymakers should consider strategies that promote equitable access to technological gadgets while respecting cultural values of prestige and social hierarchy prevalent in consumers high on Power Distance. Initiatives could include subsidies or tax incentives to ensure affordability for diverse socio-economic groups. Regulations should encourage fair competition and prevent monopolistic practices that could exacerbate social disparities. When it comes to Uncertainty

Avoidance, policies should prioritize consumer protection and build trust in technological gadgets. Strengthening data privacy laws and enforcing transparent communication standards can reassure consumers about product safety and reliability. Regulatory frameworks should support certification programs that verify technological standards, providing consumers with clear benchmarks for quality assurance. Further, educational campaigns about technological benefits and risks can help consumers high on Uncertainty Avoidance make informed decisions, mitigating anxieties associated with uncertainty. Further, to tailor to the values of Collectivist consumers, policies should revolve around encouraging technological innovations that prioritize communal benefits and social connectivity. This can be achieved through supporting initiatives that foster collaboration and community engagement via technology, aligning with cultural values of shared responsibility. On the other hand, for consumers high on long-term orientation, policymakers should incentivize investments in environmentally friendly and durable technological products. Tax incentives for companies prioritizing energy efficiency, recyclability, and product longevity can promote sustainable practices, while educational programs promoting environmental stewardship and the lasting benefits of sustainable technology choices can switch consumer preferences to eco-friendly products.

In order for the above strategies to be used, both marketers and policymakers need to be able to identify their target audiences' profiles. Defining consumers' personality traits and cultural orientations can be a very complex task, however, this is something that organizations need to do to be able to gain insights into buying behaviours of their consumers. One way for organizations to define their consumers' personality traits and cultural orientations can be the development and administration of surveys among their customers to assess their personality and individual cultural characteristics. Organizations can further leverage data analytics to analyse their consumers' behavioural patterns, preferences and interactions. This can be done by tracking their online behaviour, purchase history, or social media activities. Moreover, organizations may use alternative research methods, e. g., focus groups or ethnography which may provide qualitative insights into consumers' values and cultural backgrounds. As our study suggests, knowing customers' personality traits and cultural orientations can be useful for marketers in designing target marketing strategies, especially during the times of crisis such as a pandemic.

7.2.1 Practical Implications for Governments and Marketers in Non-Crisis Contexts.

The findings of this study also offer actionable strategies for governments and marketers highlighting their relevance in non-crisis contexts. These strategies can help address evolving consumer needs to expectations, building long-term trust and engagement that extents beyond emergency situations.

For governments, integrating the principles of empathetic messaging, social norm reinforcement, and authoritative communication into long-term public engagement strategies can prove invaluable. Empathetic messaging involves acknowledging citizens' concerns and addressing them with transparency and compassion. For instance, campaigns promoting public health initiatives, such as vaccination drives or healthy lifestyle programs, can emphasize the shared goal of community well-being, resonating deeply with individuals' intrinsic values. Social norm reinforcement, on the other hand, can encourage positive behaviours by highlighting widespread adherence to desirable practices, such as eco-friendly habits or compliance with public safety regulations. Governments can also maintain authoritative communication by consistently delivering clear, reliable, and evidence-based information, helping to establish credibility and prevent misinformation. Together, these approaches foster trust and collaboration with citizens, ensuring more effective responses to future challenges and enhancing public perception of governmental initiatives.

Marketers can similarly apply these insights by tailoring their strategies to align with consumers' psychological and cultural profiles of their target audiences. By understanding the specific personality traits and cultural dimensions that influence consumer behaviour, brands can craft messages that resonate more deeply with consumers. For example, campaigns targeting high-Neuroticism individuals can emphasize peace of mind and stress reduction through reliable product offerings. Products such as home security systems, financial planning services, or wellness programs can be positioned as solutions that provide a sense of stability and control. Meanwhile,, campaigns aimed at high-Uncertainty Avoidance consumers should highlight stability, predictability and long-term reliability. For example, brands could highlight consistent product quality, dependable customer service, or warranties and guarantees to build consumer trust, even in non-crisis scenarios.

Moreover, marketers can leverage cultural insights to create region-specific campaigns that align with societal values and preferences. For instance, in cultures with high Power Distance, emphasizing respect for authority and expertise may resonate, while in low Power Distance cultures, messages that promote equality and collaboration could be more effective. This approach not only enhances consumer loyalty and satisfaction but also ensures that marketing efforts remain culturally sensitive and relevant.

These insights highlight the versatility of the study's findings, showcasing their applicability beyond crisis scenarios. By understanding how psychological and cultural dynamics influence consumer behaviour, governments and marketers can build more adaptive and resilient strategies. These strategies address both immediate needs during crises and evolving expectations in stable environments ensuring a seamless transition between the two. Additionally, this foundation sets the stage for practical applications that prioritize long-term trust, engagement, and sustainability. For governments, this could mean fostering stronger relationships with citizens and achieving higher compliance rates for public initiatives. For marketers, it translates to creating campaigns that not only drive sales but also build lasting emotional connections with consumers, ensuring brand loyalty in the long term.

In conclusion, the study's findings offer a roadmap for governments and marketers to navigate non-crisis contexts effectively. By applying these insights, both sectors can cultivate trust, adapt to changing consumer dynamics, and contribute to a more stable and sustainable future."

7.3   Summary of Key Findings

The table below summarizes the key findings of this study. It provides an overview of how specific personality traits and cultural dimensions influence consumer behaviour and the actionable implications for marketers and governments. The findings demonstrate the versatility of this study, providing valuable insights into the development of adaptive strategies that address consumer needs during crises, while fostering long-term trust, engagement, and sustainability in stable environments as well. This summary serves as a reference point, bridging theoretical contributions with practical applications.

Finding	Context	Implications for Marketers	Implications for Governments
Stockpiling Behaviour	*Crisis-driven, influenced by personality traits (Extraversion, Neuroticism, Narcissism) and cultural dimensions (Power Distance, Uncertainty Avoidance, Long-Term Orientation).*	*Reassure Neurotic individuals about product availability; offer exclusive deals for Narcissists; promote collective well-being for Power Distance consumers.*	*Educate on responsible purchasing, counter misinformation, and promote equitable access through clear guidelines and authoritative endorsements.*
Health-Minded Buying Behaviour	*Reactive (e.g., masks, sanitizers) and proactive (e.g., immune-boosting foods) behaviours influenced by personality traits and cultural characteristics.*	*Highlight the personal and social benefits of health-related products; target Agreeable, Conscientious, and Extraverted consumers with tailored campaigns.*	*Promote public health campaigns emphasizing collective responsibility; subsidize essential health products and ensure access for vulnerable groups.*
Minimized Interaction with Salespeople	*Preference for contactless shopping driven by traits like Conscientiousness, Openness, and cultural traits such as Uncertainty Avoidance.*	*Emphasize safety and convenience of cashless transactions; promote technological solutions for secure shopping experiences.*	*Educate on the benefits of contactless payment; ensure equitable access to digital tools to foster inclusion and safety.*
Switching to Value-Priced Products	*Driven by economic considerations during crises, influenced by traits such as Neuroticism and*	*Promote value-priced products as strategic, long-term solutions using testimonials*	*Provide financial incentives for essential goods and educational programs*

	cultural values like Uncertainty Avoidance.	*and social proof; address anxiety with clarity in messaging.*	*on budgeting and financial planning during crises.*
Increased Technological Purchases	*Traits like Extraversion, Conscientiousness, and cultural dimensions such as Power Distance influence gadget adoption.*	*Highlight connectivity, productivity, and innovative features; target messaging for status-conscious and tech-savvy consumers.*	*Promote digital literacy, regulate privacy and data security, and incentivize sustainable technology development.*
Practical Strategies for Non-Crisis Contexts	*Applicability of findings to stable environments, focusing on long-term consumer trust and engagement.*	*Align campaigns with psychological and cultural profiles; emphasize peace of mind for Neurotic consumers and stability for Uncertainty Avoidance consumers.*	*Use empathetic messaging and reinforce social norms to foster trust and collaboration; integrate findings into long-term public engagement strategies.*

Table 42: Summary of Key Findings

CHAPTER 8: LIMITATIONS AND FUTURE RESEARCH

Consumer behaviour during pandemics has emerged as a critical area of study, influenced by a myriad of factors including personality traits, cultural dimensions, and external crisis conditions. While our study makes a significant contribution to the literature on consumer behaviour during pandemics, it is essential to acknowledge and address several limitations that offer pathways for future research.

One major limitation is the reliance on self-reported personality characteristics and behaviours, which might imply social desirability bias (Paulhus, 1984; Grimm, 2010; Latkin et al., 2017). Participants may consciously or subconsciously alter their responses to align with socially desirable norms, potentially distorting the accuracy of the data collected. This bias could lead to underreporting of socially undesirable behaviours, (e. g., panic buying) and overreporting of socially desirable traits (e.g., agreeableness, Openness) or behaviours (e.g., proactive health-minded buying). Future research could consider employing multiple data collection methods to enhance the validity and reliability of the findings and thus reducing reliance on subjective participant responses. Incorporating observational measures, where possible, could provide more objective insights into actual consumer behaviours. For instance, tracking purchasing behaviours through transaction records or video observation in retail settings could offer a more nuanced understanding of consumer responses to a pandemic.

Besides, our study faced considerable data collection challenges due to pandemic-related restrictions and safety concerns. These limitations constrained our ability to recruit diverse and representative participant samples which might have influenced robustness of our results. In this light, future research should explore alternative data collection strategies that are more suitable for crisis conditions. Leveraging digital platforms for remote data collection, virtual focus groups, and online surveys could facilitate larger samples while ensuring safety and compliance with public health guidelines.

Another limitation concerns the sample size and its representativeness in our study. Conducted under time and resource constraints, our research may not have captured the full diversity of

consumer demographics and socioeconomic backgrounds affected by the pandemic. To enhance the generalizability of our findings, future studies could attempt using larger and more diverse samples. Stratified sampling techniques across different geographic regions, socioeconomic statuses, and cultural backgrounds can provide a more comprehensive understanding of how consumer behaviours vary across populations during crises.

While our study included all personality traits from the relevant frameworks (The Big Five and the Dark Triad), cultural dimensions, such as Hofstede's cultural orientations were not fully explored, particularly, the Indulgence dimension. This omission slightly limits our understanding of how cultural factors shape consumer responses during pandemics. Future research might delve deeper into the effect of cultural dimensions on consumer behaviours in crisis situations. Examining how cultural norms, values, and practices influence consumer decision-making, including preferences for risk-taking, consumption patterns, and adherence to government guidelines, could yield valuable insights into cross-cultural variations in crisis responses.

Adopting a longitudinal approach to tracking changes in consumer behaviour and personality traits over time could enrich our understanding of dynamic responses during different phases of a pandemic. By capturing shifts in consumer sentiments and behaviours from the initial outbreak to recovery stages, longitudinal studies can elucidate the evolving nature of consumer decision-making under prolonged crisis conditions. This longitudinal perspective would contribute to a more comprehensive understanding of the interplay between personality traits, cultural influences, and consumer behaviours.

An additional critical area that warrants further examination is the effect of economic uncertainties on consumer behaviour during pandemics. Economic downturns, job losses, and fluctuations in the household disposable income profoundly influence consumer spending patterns. As such, our study may not have fully captured the nuanced effects of financial constraints on consumers purchasing decisions and consumption patterns. Future research could integrate economic indicators into analyses to better understand how economic conditions shape consumer behaviours during crisis. Exploring different impacts based on income levels, employment stability, and

access to financial resources could provide valuable insights into socio-economic disparities in consumer responses to a health crisis.

In conclusion, while our research represents a significant advancement in understanding consumer behaviour during pandemics, addressing the limitations above by future research is paramount. By mitigating social desirability bias, overcoming data collection challenges, improving sample representativeness, exploring cultural dimensions more comprehensively, and adopting longitudinal approaches, future studies can deepen insights into consumer decision-making processes in times of crisis. Addressing the latter will not only enhance the academic rigor of research in this field but will also provide actionable insights for policymakers, businesses, and stakeholders navigating consumer dynamics amidst global health emergencies.

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APPENDICES

Appendix 1

QUESTIONNAIRE ON THE EFFECTS OF PERSONALITY TRAITS ON CONSUMERS BUYING BEHAVIOUR DURING A PANDEMIC.

This questionnaire aims to identify consumers buying behaviour during a pandemic. This questionnaire is completely anonymous and will be used to compile my PhD thesis.

THANK YOU VERY MUCH FOR YOUR ASSISTANCE IN THIS SURVEY!

Question 1: Here are a number of characteristics that may or may not apply to you. Please indicate the degree of agreement or disagreement with the statements, from 1 to 5, where 1=strongly disagree (SD), 2=disagree (D), 3=Neutral (N), 4=agree (A) and 5=strongly agree (SA).

I am someone who…	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Tends to be quiet	1	2	3	4	5
Is compassionate, has a soft heart	1	2	3	4	5
Tends to be disorganized	1	2	3	4	5
Worries a lot	1	2	3	4	5
Is fascinated by art, music, or literature	1	2	3	4	5
Is dominant, acts as a leader	1	2	3	4	5
Is sometimes rude to others	1	2	3	4	5
Has difficulty getting started on tasks	1	2	3	4	5
Tends to feel depressed, blue	1	2	3	4	5
Has little interest in abstract ideas	1	2	3	4	5
Is full of energy	1	2	3	4	5
Assumes the best about people	1	2	3	4	5
Is reliable, can always be counted on	1	2	3	4	5
Is emotionally stable, not easily upset	1	2	3	4	5
Is original, comes up with new ideas	1	2	3	4	5
Is outgoing, sociable	1	2	3	4	5
Can be cold and uncaring	1	2	3	4	5
Keeps things neat and tidy	1	2	3	4	5
Is relaxed, handles stress well	1	2	3	4	5
Has few artistic interests	1	2	3	4	5
Prefers to have others take charge	1	2	3	4	5
Is respectful, treats others with respect	1	2	3	4	5
Is persistent, works until the task is finished	1	2	3	4	5
Feels secure, comfortable with self	1	2	3	4	5
Is complex, a deep thinker	1	2	3	4	5
Is less active than other people	1	2	3	4	5
Tends to find fault with others	1	2	3	4	5
Can be somewhat careless	1	2	3	4	5

Is temperamental, gets emotional easily	1	2	3	4	5
Has little creativity	1	2	3	4	5

Question 2: Please indicate the degree of agreement or disagreement with the statements, from 1 to 5, where 1=strongly disagree (SD), 2=disagree (D), 3=Neutral (N), 4=agree (A) and 5=strongly agree (SA).

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I tend to manipulate others to get my way	1	2	3	4	5
I have used deceit or lied to get my way	1	2	3	4	5
I have used flattery to get my way	1	2	3	4	5
I tend to exploit others towards my own end	1	2	3	4	5
I tend to lack remorse	1	2	3	4	5
I tend to not be unconcerned with the morality of my actions	1	2	3	4	5
I tend to be callous or insensitive	1	2	3	4	5
I tend to be cynical	1	2	3	4	5
I tend to want others to admire me	1	2	3	4	5
I tend to want others to pay attention to me	1	2	3	4	5
I tend to seek prestige or status	1	2	3	4	5
I tend to expect special favors from others	1	2	3	4	5

Question 3: Please indicate the degree of agreement or disagreement with the statements from 1 to 5, where 1=strongly disagree (SD), 2=disagree (D), 3=Neutral (N), 4=agree (A) and 5=strongly agree (SA).

At the beginning of pandemic (or currently)…	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I stockpiled larger amount of food products than usual (eg. Flour, milk, canned goods)	1	2	3	4	5
I stockpiled more cleaning products than usual (e.g. wipes, toilet paper, washing powder)	1	2	3	4	5
I stockpiled more protective goods than usual (eg. Gloves, masks)	1	2	3	4	5

Question 4: Please indicate the degree of agreement or disagreement with the statements from 1 to 5, where 1=strongly disagree (SD), 2=disagree (D), 3=Neutral (N), 4=agree (A) and 5=strongly agree (SA).

During the outbreak of the current pandemic ...	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I have bought a lot of protective masks	1	2	3	4	5
I have bought a lot of different sanitizers	1	2	3	4	5
I have prioritized masks and sanitizers over other products during shopping	1	2	3	4	5

I have bought more food that strengthens my immune system (e.g. vegetables and fruits)	1	2	3	4	5
I have bought more vitamins and supplements to boost my immune system	1	2	3	4	5
I have added sports to my routine to strengthen my immune system	1	2	3	4	5
I have found myself to avoid contact with sales people	1	2	3	4	5
I preferred shopping from shops with contactless checkout	1	2	3	4	5
I preferred cashless transactions while shopping	1	2	3	4	5
I have cut back on buying non-essential items	1	2	3	4	5
I have found myself checking the prices even for small items	1	2	3	4	5
I have bought products essential for my health and nutrition	1	2	3	4	5
I have bought more private-label or store-branded goods to save money	1	2	3	4	5
I have bought new equipment to facilitate remote working (e.g. laptop, printer, scanner etc)	1	2	3	4	5
I have switched to digital platforms for day-to-day needs	1	2	3	4	5

Demographics

Gender: Male ☐ Female ☐

Marital Status:	**Family status:**
Single☐ Married ☐ Widow☐ Divorced ☐	With children☐ No children ☐

Age Group:

18 ☐ 19-24 ☐ 25 –34 ☐ 35–44 ☐ 45–54 ☐ 55–64 ☐ 65+ ☐

Education level:

Elementary ☐ High School ☐ College ☐ Undergraduate ☐ Postgraduate ☐

Yearly Household Income:

Up to 15.000€ ☐ 15.001–30.000€ ☐ 30.001–45.000€ ☐ 45.001–60.000€ ☐ more than 60.001€ ☐

Appendix 2

QUESTIONNAIRE ON THE EFFECTS OF INDIVIDUAL CULTURAL ORIENTATIONS ON CONSUMERS BUYING BEHAVIOUR DURING A PANDEMIC.

This questionnaire aims to identify consumers buying behaviour during a pandemic. This questionnaire is completely anonymous and will be used to compile my PhD thesis.

THANK YOU VERY MUCH FOR YOUR ASSISTANCE IN THIS SURVEY!

Question 1: **Please indicate the degree of agreement or disagreement with the statements below, from 1 to 5, where 1=strongly disagree (SD), 2=disagree (D), 3=Neutral (N), 4=agree (A) and 5=strongly agree (SA).**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
People in higher positions should make most decisions without consulting people in lower positions	1	2	3	4	5
People in higher positions should not ask the opinions of people in lower positions too frequently	1	2	3	4	5
People in higher positions should avoid social interaction with people in lower positions	1	2	3	4	5
People in lower positions should not disagree with decisions by people in higher positions	1	2	3	4	5
People in higher positions should not delegate important tasks to people in lower positions	1	2	3	4	5
It is important to have instructions spelled out in detail so that I always know what I'm expected to do	1	2	3	4	5
It is important to closely follow instructions and procedures	1	2	3	4	5
Rules and regulations are important because they inform me of what is expected of me	1	2	3	4	5
Standardized work procedures are helpful.	1	2	3	4	5
Instructions for operations are important.	1	2	3	4	5
Individuals should sacrifice self-interest for the group	1	2	3	4	5
Individuals should stick with the group even through difficulties.	1	2	3	4	5
Group welfare is more important than individual rewards.	1	2	3	4	5
Group success is more important than individual success.	1	2	3	4	5
Individuals should only pursue their goals after considering the welfare of the group.	1	2	3	4	5

Group loyalty should be encouraged even if individual goals suffer.	1	2	3	4	5
It is important to manage money carefully	1	2	3	4	5
It is important to go on resolutely in spite of opposition	1	2	3	4	5
Personal steadiness and stability are important	1	2	3	4	5
Long-term planning is important	1	2	3	4	5
People should give up today's fun for success in the future	1	2	3	4	5
People should work hard for success in the future	1	2	3	4	5
It is more important for men to have a professional career than it is for women.	1	2	3	4	5
Men usually solve problems with logical analysis; women usually solve problems with intuition	1	2	3	4	5
Solving difficult problems usually requires an active, forcible approach, which is typical of men.	1	2	3	4	5
There are some jobs that a man can always do better than a woman.	1	2	3	4	5

Question 2: **Please indicate the degree of agreement or disagreement with the statements from 1 to 5, where 1=strongly disagree (SD), 2=disagree (D), 3=Neutral (N), 4=agree (A) and 5=strongly agree (SA).**

At the beginning of pandemic (or currently)…	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I stockpiled larger amount of food products than usual (eg. Flour, milk, canned goods)	1	2	3	4	5
I stockpiled more cleaning products than usual (e.g. wipes, toilet paper, washing powder)	1	2	3	4	5
I stockpiled more protective goods than usual (eg. Gloves, masks)	1	2	3	4	5

Question 3: **Please indicate the degree of agreement or disagreement with the statements from 1 to 5, where 1=strongly disagree (SD), 2=disagree (D), 3=Neutral (N), 4=agree (A) and 5=strongly agree (SA).**

During the outbreak of the current pandemic ...	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I have bought a lot of protective masks	1	2	3	4	5
I have bought a lot of different sanitizers	1	2	3	4	5

I have prioritized masks and sanitizers over other products during shopping	1	2	3	4	5
I have bought more food that strengthens my immune system (e.g. vegetables and fruits)	1	2	3	4	5
I have bought more vitamins and supplements to boost my immune system	1	2	3	4	5
I have added sports to my routine to strengthen my immune system	1	2	3	4	5
I have found myself to avoid contact with sales people	1	2	3	4	5
I preferred shopping from shops with contactless checkout	1	2	3	4	5
I preferred cashless transactions while shopping	1	2	3	4	5
I have cut back on buying non-essential items	1	2	3	4	5
I have found myself checking the prices even for small items	1	2	3	4	5
I have bought products essential for my health and nutrition	1	2	3	4	5
I have bought more private-label or store-branded goods to save money	1	2	3	4	5
I have bought new equipment to facilitate remote working (e.g. laptop, printer, scanner etc)	1	2	3	4	5
I have switched to digital platforms for day-to-day needs	1	2	3	4	5

Demographics
Gender: Male ☐ Female ☐

Marital Status: Single ☐ Married ☐ Widow ☐ Divorced ☐	**Family status:** With children ☐ No children ☐

Age Group: 18 ☐ 19-24 ☐ 25 –34 ☐ 35–44 ☐ 45–54 ☐ 55–64 ☐ 65+ ☐
Education level: Elementary ☐ High School ☐ College ☐ Undergraduate ☐ Postgraduate ☐
Yearly Household Income: Up to 15.000€ ☐ 15.001–30.000€ ☐ 30.001–45.000€ ☐ 45.001–60.000€ ☐ more than 60.001€ ☐

ΕΡΩΤΗΜΑΤΟΛΟΓΙΟ ΓΙΑ ΤΙΣ ΕΠΙΠΤΩΣΕΙΣ ΤΩΝ ΧΑΡΑΚΤΗΡΙΣΤΙΚΩΝ ΤΗΣ ΠΡΟΣΩΠΙΚΟΤΗΤΑΣ ΣΤΗ ΣΥΜΠΕΡΙΦΟΡΑ ΤΩΝ ΚΑΤΑΝΑΛΩΤΩΝ ΚΑΤΑ ΤΗ ΔΙΑΡΚΕΙΑ ΜΙΑΣ ΠΑΝΔΗΜΙΑΣ

Το παρόν ερωτηματολόγιο έχει στόχο να εντοπίσει τη συμπεριφορά των καταναλωτών κατά τη διάρκεια μιας πανδημίας. Το ερωτηματολόγιο είναι απολύτως ανώνυμο και θα χρησιμοποιηθεί για την εκπόνηση της διδακτορικής μου διατριβής.

ΣΑΣ ΕΥΧΑΡΙΣΤΩ ΠΟΛΥ ΓΙΑ ΤΗ ΒΟΗΘΕΙΑ ΣΑΣ ΣΤΗΝ ΕΡΕΥΝΑ!

Ερώτηση 1: Εδώ αναφέρονται διάφορα χαρακτηριστικά που μπορεί ή δεν μπορεί να ισχύουν για εσάς. Παρακαλώ δηλώστε τον βαθμό συμφωνίας ή διαφωνίας με τις δηλώσεις από 1 έως 5, όπου 1=διαφωνώ απόλυτα (ΔΑ), 2=διαφωνώ (Δ), 3=ουδέτερος (Ο), 4=συμφωνώ (Σ) και 5=συμφωνώ απόλυτα (ΣΑ).

Είμαι κάποιος που…

	Δηλώνω Απόλυτως Διαφωνία	**Διαφωνώ**	**Ουδέτερος**	**Συμφωνώ**	**Συμφωνώ Απόλυτα**
Τείνω να είμαι ήσυχος	1	2	3	4	5
Είμαι συμπονετικός, έχω ευαίσθητη καρδιά	1	2	3	4	5
Τείνω να είμαι ακατάστατος	1	2	3	4	5
Ανησυχώ πολύ	1	2	3	4	5
Είμαι γοητευμένος από την τέχνη, τη μουσική ή τη λογοτεχνία	1	2	3	4	5
Είμαι κυριαρχικός, ενεργώ ως ηγέτης	1	2	3	4	5
Μερικές φορές είμαι αγενής προς τους άλλους	1	2	3	4	5
Έχω δυσκολία να ξεκινήσω εργασίες	1	2	3	4	5
Τείνω να αισθάνομαι καταθλιπτικός	1	2	3	4	5
Έχω μικρό ενδιαφέρον για αφηρημένες ιδέες	1	2	3	4	5
Είμαι γεμάτος ενέργεια	1	2	3	4	5
Υποθέτω το καλύτερο για τους ανθρώπους	1	2	3	4	5

Είμαι αξιόπιστος, μπορώ πάντα να υπολογίζομαι	1	2	3	4	5
Είμαι συναισθηματικά σταθερός, δεν αναστατώνομαι εύκολα	1	2	3	4	5
Είμαι πρωτότυπος, βγάζω νέες ιδέες	1	2	3	4	5
Είμαι εξωστρεφής, κοινωνικός	1	2	3	4	5
Μπορώ να είμαι ψυχρός και άκαρδος	1	2	3	4	5
Κρατάω τα πράγματα καθαρά και τακτοποιημένα	1	2	3	4	5
Είμαι χαλαρός, διαχειρίζομαι καλά το άγχος	1	2	3	4	5
Έχω λίγα καλλιτεχνικά ενδιαφέροντα	1	2	3	4	5
Προτιμώ να αναλαμβάνουν άλλοι την ευθύνη	1	2	3	4	5
Είμαι σεβαστικός, μεταχειρίζομαι τους άλλους με σεβασμό	1	2	3	4	5
Είμαι επίμονος, δουλεύω μέχρι να ολοκληρωθεί η εργασία	1	2	3	4	5
Αισθάνομαι ασφαλής, άνετα με τον εαυτό μου	1	2	3	4	5
Είμαι πολύπλοκος, βαθύς στοχαστής	1	2	3	4	5
Είμαι λιγότερο δραστήριος από άλλους ανθρώπους	1	2	3	4	5
Τείνω να βρω λάθος στους άλλους	1	2	3	4	5
Μπορώ να είμαι κάπως απρόσεκτος	1	2	3	4	5
Είμαι ευέξαπτος, συναισθηματικά ευαίσθητος	1	2	3	4	5
Έχω λίγη δημιουργικότητα	1	2	3	4	5

Ερώτηση 2: Παρακαλώ δηλώστε τον βαθμό συμφωνίας ή διαφωνίας με τις δηλώσεις από 1 έως 5, όπου 1=διαφωνώ απόλυτα (ΔΑ), 2=διαφωνώ (Δ), 3=ουδέτερος (Ο), 4=συμφωνώ (Σ) και 5=συμφωνώ απόλυτα (ΣΑ).

	Δηλώνω Απολύτως Διαφωνία	Διαφωνώ	Ουδέτερος	Συμφωνώ	Συμφωνώ Απόλυτα
Τείνω να χειραγωγώ τους άλλους για να πετύχω τον στόχο μου	1	2	3	4	5
Έχω χρησιμοποιήσει απάτη ή ψέμα για να πετύχω τον στόχο μου	1	2	3	4	5
Έχω χρησιμοποιήσει κολακεία για να πετύχω τον στόχο μου	1	2	3	4	5
Τείνω να εκμεταλλεύομαι τους άλλους για δικό μου όφελος	1	2	3	4	5
Τείνω να μου λείπει η μεταμέλεια	1	2	3	4	5
Τείνω να μην ανησυχώ για την ηθική των πράξεών μου	1	2	3	4	5
Τείνω να είμαι ψυχρός ή αναίσθητος	1	2	3	4	5
Τείνω να είμαι κυνικός	1	2	3	4	5
Θέλω οι άλλοι να με θαυμάζουν	1	2	3	4	5
Θέλω οι άλλοι να μου δίνουν προσοχή	1	2	3	4	5
Αναζητώ κύρος ή θέση	1	2	3	4	5
Αναμένω ειδικές χάρες από τους άλλους	1	2	3	4	5

Ερώτηση 3: Παρακαλώ δηλώστε τον βαθμό συμφωνίας ή διαφωνίας με τις δηλώσεις από 1 έως 5, όπου 1=διαφωνώ απόλυτα (ΔΑ), 2=διαφωνώ (Δ), 3=ουδέτερος (Ο), 4=συμφωνώ (Σ) και 5=συμφωνώ απόλυτα (ΣΑ).

Στην αρχή της πανδημίας (ή αυτή τη στιγμή)…

	Δηλώνω Απολύτως Διαφωνία	Διαφωνώ	Ουδέτερος	Συμφωνώ	Συμφωνώ Απόλυτα
Έχω αποθηκεύσει μεγαλύτερες ποσότητες τροφίμων από το συνηθισμένο (π.χ. αλεύρι, γάλα, κονσερβοποιημένα προϊόντα)	1	2	3	4	5
Έχω αποθηκεύσει περισσότερα καθαριστικά προϊόντα από το συνηθισμένο (π.χ. μαντηλάκια, χαρτί υγείας, απορρυπαντικό)	1	2	3	4	5
Έχω αποθηκεύσει περισσότερα προστατευτικά προϊόντα από το συνηθισμένο (π.χ. γάντια, μάσκες)	1	2	3	4	5

Ερώτηση 4: Παρακαλώ δηλώστε τον βαθμό συμφωνίας ή διαφωνίας με τις δηλώσεις από 1 έως 5, όπου 1=διαφωνώ απόλυτα (ΔΑ), 2=διαφωνώ (Δ), 3=ουδέτερος (Ο), 4=συμφωνώ (Σ) και 5=συμφωνώ απόλυτα (ΣΑ).

Κατά τη διάρκεια της πανδημίας…

	Δηλώνω Απολύτως Διαφωνία	Διαφωνώ	Ουδέτερος	Συμφωνώ	Συμφωνώ Απόλυτα
Έχω αγοράσει πολλές προστατευτικές μάσκες	1	2	3	4	5
Έχω αγοράσει πολλά διαφορετικά απολυμαντικά	1	2	3	4	5
Έχω δώσει προτεραιότητα σε μάσκες και απολυμαντικά πάνω από άλλα προϊόντα κατά τη διάρκεια των αγορών	1	2	3	4	5

Έχω αγοράσει περισσότερα τρόφιμα που ενισχύουν το ανοσοποιητικό μου σύστημα (π.χ. λαχανικά και φρούτα)	1	2	3	4	5
Έχω αγοράσει περισσότερες βιταμίνες και συμπληρώματα για να ενισχύσω το ανοσοποιητικό μου σύστημα	1	2	3	4	5
Έχω προσθέσει αθλητικές δραστηριότητες στη ρουτίνα μου για να ενισχύσω το ανοσοποιητικό μου σύστημα	1	2	3	4	5
Έχω βρει τον εαυτό μου να αποφεύγει την επαφή με τους πωλητές	1	2	3	4	5
Προτιμούσα να ψωνίζω από καταστήματα με ανέπαφες πληρωμές	1	2	3	4	5
Προτιμούσα τις ανέπαφες συναλλαγές κατά τη διάρκεια των αγορών	1	2	3	4	5
Έχω μειώσει τις αγορές μη απαραίτητων ειδών	1	2	3	4	5
Έχω βρει τον εαυτό μου να ελέγχει τις τιμές ακόμη και για μικρά αντικείμενα	1	2	3	4	5
Έχω αγοράσει προϊόντα απαραίτητα για την υγεία και τη διατροφή μου	1	2	3	4	5
Έχω αγοράσει περισσότερα προϊόντα ιδιωτικής ετικέτας ή μαρκών καταστήματος για να εξοικονομήσω χρήματα	1	2	3	4	5
Έχω αγοράσει νέο εξοπλισμό για να διευκολύνω την εργασία από απόσταση (π.χ. φορητό υπολογιστή, εκτυπωτή, σαρωτή κλπ)	1	2	3	4	5

Έχω στραφεί σε ψηφιακές πλατφόρμες για καθημερινές ανάγκες	1	2	3	4	5

Δημογραφικά

Φύλο: Ανδρας ☐   Γυναίκα ☐

Οικογενειακή Κατάσταση:: Άγαμος☐ Έγγαμος ☐ Χήρος ☐ Διαζευγμένος ☐	**Οικογενειακή Κατάσταση:** Με παιδιά ☐ Χωρίς παιδιά ☐

Ηλικιακή Ομάδα:

18 ☐   19-24 ☐   25 –34 ☐   35–44 ☐   45–54 ☐   55–64 ☐   65+ ☐

Μορφωτικό Επίπεδο:

Δημοτικό ☐ Γυμνάσιο ☐Λύκειο ☐ Προπτυχιακό ☐ Μεταπτυχιακό   ☐

Ετήσιο Οικογενειακό Εισόδημα:

Μέχρι 15.000€ ☐   15.001–30.000€ ☐   30.001–45.000€ ☐

45.001–60.000€   ☐   περισσότερο από   60.001€   ☐

Appendix 4

ΕΡΩΤΗΜΑΤΟΛΟΓΙΟ ΓΙΑ ΤΙΣ ΕΠΙΠΤΩΣΕΙΣ ΤΩΝ ΑΤΟΜΙΚΩΝ ΠΟΛΙΤΙΣΤΙΚΩΝ ΠΡΟΣΑΝΑΤΟΛΙΣΜΩΝ ΣΤΗ ΣΥΜΠΕΡΙΦΟΡΑ ΤΩΝ ΚΑΤΑΝΑΛΩΤΩΝ ΚΑΤΑ ΤΗ ΔΙΑΡΚΕΙΑ ΜΙΑΣ ΠΑΝΔΗΜΙΑΣ

Το παρόν ερωτηματολόγιο έχει στόχο να εντοπίσει τη συμπεριφορά των καταναλωτών κατά τη διάρκεια μιας πανδημίας. Το ερωτηματολόγιο είναι απολύτως ανώνυμο και θα χρησιμοποιηθεί για την εκπόνηση της διδακτορικής μου διατριβής.

ΣΑΣ ΕΥΧΑΡΙΣΤΩ ΠΟΛΥ ΓΙΑ ΤΗ ΒΟΗΘΕΙΑ ΣΑΣ ΣΤΗΝ ΕΡΕΥΝΑ!

Ερώτηση 1: Παρακαλώ δηλώστε τον βαθμό συμφωνίας ή διαφωνίας με τις δηλώσεις παρακάτω, από 1 έως 5, όπου 1=διαφωνώ απόλυτα (ΔΑ), 2=διαφωνώ (Δ), 3=ουδέτερος (Ο), 4=συμφωνώ (Σ) και 5=συμφωνώ απόλυτα (ΣΑ).

	Δηλώνω Απόλυτως Διαφωνία	Διαφωνώ	Ουδέτερος	Συμφωνώ	Συμφωνώ Απόλυτα
Οι άνθρωποι σε υψηλότερες θέσεις θα πρέπει να παίρνουν τις περισσότερες αποφάσεις χωρίς να συμβουλεύονται άτομα σε χαμηλότερες θέσεις	1	2	3	4	5
Οι άνθρωποι σε υψηλότερες θέσεις δεν θα πρέπει να ζητούν τις απόψεις των ατόμων σε χαμηλότερες θέσεις πολύ συχνά	1	2	3	4	5
Οι άνθρωποι σε υψηλότερες θέσεις θα πρέπει να αποφεύγουν την κοινωνική αλληλεπίδραση με άτομα σε χαμηλότερες θέσεις	1	2	3	4	5
Οι άνθρωποι σε χαμηλότερες θέσεις δεν θα πρέπει να διαφωνούν με τις αποφάσεις των ατόμων σε υψηλότερες θέσεις	1	2	3	4	5
Οι άνθρωποι σε υψηλότερες θέσεις δεν θα πρέπει να αναθέτουν	1	2	3	4	5

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σημαντικές εργασίες σε άτομα σε χαμηλότερες θέσεις					
Είναι σημαντικό να δίνονται λεπτομερείς οδηγίες ώστε να ξέρω πάντα τι αναμένεται από εμένα	1	2	3	4	5
Είναι σημαντικό να ακολουθώ πιστά τις οδηγίες και τις διαδικασίες	1	2	3	4	5
Οι κανόνες και οι κανονισμοί είναι σημαντικοί γιατί με ενημερώνουν για το τι αναμένεται από εμένα	1	2	3	4	5
Οι τυποποιημένες διαδικασίες εργασίας είναι χρήσιμες	1	2	3	4	5
Οι οδηγίες για τις λειτουργίες είναι σημαντικές	1	2	3	4	5
Τα άτομα θα πρέπει να θυσιάζουν το προσωπικό τους συμφέρον για την ομάδα	1	2	3	4	5
Τα άτομα θα πρέπει να μένουν με την ομάδα ακόμα και κατά τις δυσκολίες	1	2	3	4	5
Η ευημερία της ομάδας είναι πιο σημαντική από τις ατομικές ανταμοιβές	1	2	3	4	5
Η επιτυχία της ομάδας είναι πιο σημαντική από την ατομική επιτυχία	1	2	3	4	5
Τα άτομα θα πρέπει να επιδιώκουν τους στόχους τους μόνο μετά την εξέταση της ευημερίας της ομάδας	1	2	3	4	5
Η αφοσίωση στην ομάδα θα πρέπει να ενθαρρύνεται ακόμα και αν οι ατομικοί στόχοι υποφέρουν	1	2	3	4	5

Είναι σημαντικό να διαχειρίζομαι τα χρήματα προσεκτικά	1	2	3	4	5
Είναι σημαντικό να προχωράω αποφασιστικά παρά την αντίσταση	1	2	3	4	5
Η προσωπική σταθερότητα και σταθερότητα είναι σημαντικές	1	2	3	4	5
Ο μακροπρόθεσμος σχεδιασμός είναι σημαντικός	1	2	3	4	5
Οι άνθρωποι θα πρέπει να εγκαταλείπουν τη διασκέδαση του σήμερα για την επιτυχία στο μέλλον	1	2	3	4	5
Οι άνθρωποι θα πρέπει να εργάζονται σκληρά για την επιτυχία στο μέλλον	1	2	3	4	5
Είναι πιο σημαντικό για τους άνδρες να έχουν επαγγελματική καριέρα από ότι για τις γυναίκες	1	2	3	4	5
Οι άνδρες συνήθως λύνουν προβλήματα με λογική ανάλυση, οι γυναίκες συνήθως λύνουν προβλήματα με διαίσθηση	1	2	3	4	5
Η επίλυση δύσκολων προβλημάτων συνήθως απαιτεί μια ενεργή, δυναμική προσέγγιση, η οποία είναι τυπική για τους άνδρες	1	2	3	4	5
Υπάρχουν κάποιες δουλειές που ένας άνδρας μπορεί πάντα να κάνει καλύτερα από μια γυναίκα	1	2	3	4	5

Ερώτηση 2: Παρακαλώ δηλώστε τον βαθμό συμφωνίας ή διαφωνίας με τις δηλώσεις από 1 έως 5, όπου 1=διαφωνώ απόλυτα (ΔΑ), 2=διαφωνώ (Δ), 3=ουδέτερος (Ο), 4=συμφωνώ (Σ) και 5=συμφωνώ απόλυτα (ΣΑ).

Στην αρχή της πανδημίας (ή αυτή τη στιγμή)…

	Δηλώνω Απολύτως Διαφωνία	Διαφωνώ	Ουδέτερος	Συμφωνώ	Συμφωνώ Απόλυτα
Έχω αποθηκεύσει μεγαλύτερες ποσότητες τροφίμων από το συνηθισμένο (π.χ. αλεύρι, γάλα, κονσερβοποιημένα προϊόντα)	1	2	3	4	5
Έχω αποθηκεύσει περισσότερα καθαριστικά προϊόντα από το συνηθισμένο (π.χ. μαντηλάκια, χαρτί υγείας, απορρυπαντικό)	1	2	3	4	5
Έχω αποθηκεύσει περισσότερα προστατευτικά προϊόντα από το συνηθισμένο (π.χ. γάντια, μάσκες)	1	2	3	4	5

Ερώτηση 3: Παρακαλώ δηλώστε τον βαθμό συμφωνίας ή διαφωνίας με τις δηλώσεις από 1 έως 5, όπου 1=διαφωνώ απόλυτα (ΔΑ), 2=διαφωνώ (Δ), 3=ουδέτερος (Ο), 4=συμφωνώ (Σ) και 5=συμφωνώ απόλυτα (ΣΑ).

Κατά τη διάρκεια της πανδημίας…

	Δηλώνω Απολύτως Διαφωνία	Διαφωνώ	Ουδέτερος	Συμφωνώ	Συμφωνώ Απόλυτα
Έχω αγοράσει πολλές προστατευτικές μάσκες	1	2	3	4	5
Έχω αγοράσει πολλά διαφορετικά απολυμαντικά	1	2	3	4	5
Έχω δώσει προτεραιότητα σε μάσκες και απολυμαντικά πάνω από άλλα προϊόντα κατά τη διάρκεια των αγορών	1	2	3	4	5
Έχω αγοράσει περισσότερα τρόφιμα που ενισχύουν το ανοσοποιητικό μου σύστημα (π.χ. λαχανικά και φρούτα)	1	2	3	4	5

Έχω αγοράσει περισσότερες βιταμίνες και συμπληρώματα για να ενισχύσω το ανοσοποιητικό μου σύστημα	1	2	3	4	5
Έχω προσθέσει αθλητικές δραστηριότητες στη ρουτίνα μου για να ενισχύσω το ανοσοποιητικό μου σύστημα	1	2	3	4	5
Έχω βρει τον εαυτό μου να αποφεύγει την επαφή με τους πωλητές	1	2	3	4	5
Προτιμούσα να ψωνίζω από καταστήματα με ανέπαφες πληρωμές	1	2	3	4	5
Προτιμούσα τις ανέπαφες συναλλαγές κατά τη διάρκεια των αγορών	1	2	3	4	5
Έχω μειώσει τις αγορές μη απαραίτητων ειδών	1	2	3	4	5
Έχω βρει τον εαυτό μου να ελέγχει τις τιμές ακόμη και για μικρά αντικείμενα	1	2	3	4	5
Έχω αγοράσει προϊόντα απαραίτητα για την υγεία και τη διατροφή μου	1	2	3	4	5
Έχω αγοράσει περισσότερα προϊόντα ιδιωτικής ετικέτας ή μαρκών καταστήματος για να εξοικονομήσω χρήματα	1	2	3	4	5
Έχω αγοράσει νέο εξοπλισμό για να διευκολύνω την εργασία από απόσταση (π.χ. φορητό υπολογιστή, εκτυπωτή, σαρωτή κλπ)	1	2	3	4	5
Έχω στραφεί σε ψηφιακές πλατφόρμες για καθημερινές ανάγκες	1	2	3	4	5

Δημογραφικά	
Φύλο: Ανδρας ☐ Γυναίκα ☐	
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