The influence of changes in the importance of health and well-being on consumer shopping behavior under consideration of the corona pandemic

Sophia Lücking

Dissertation is written under the supervision of Professor Daniel Fernandes

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Author: Sophia Lücking

Abstract

The COVID-19 pandemic changed the entire world from one day to the next. Various rules and regulations were established that consumers and companies had to comply with. In this regard, consumer behavior has also changed. The constant introduction of new regulations, along with the complete isolation of the population, has resulted in the emergence of new situations that were unknown to many at the time. Therefore, alternatives had to be adopted. But how has the behavior of consumers actually changed? There has been a significant change in consumer behavior, particularly in the area of health. Increasingly, consumers are becoming aware of the importance of taking care of themselves and, in particular, of their health. There is evidence that people with a healthier lifestyle also have fewer mental health problems. Nevertheless, companies face a challenge when anticipating and responding to consumer behavior and determining how consumers have changed as a result of the COVID-19 pandemic. Even though online shopping is becoming more prevalent, physical shopping remains preferred in many areas, and even individuals who enjoy being alone are not inclined to prefer the alternative of online shopping. Consumer behavior is starting to return to normal, leading to the return of old habits. Nevertheless, consumer behavior will continue to change constantly in the future and can never be standardized. Even if the COVID-19 pandemic comes to an official end, behavior and views will never be the same again.

Keywords: COVID-19, Pandemic, Behavior Change, Change Mental Health, Shopping Behavior

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Resumo

A pandemia da COVID-19 mudou o mundo inteiro de um dia para o outro. Foram estabelecidas várias regras e regulamentos que os consumidores e as empresas tiveram de cumprir. A este respeito, o comportamento dos consumidores também mudou. A constante introdução de novas regulamentações, juntamente com o isolamento completo da população, resultou no aparecimento de novas situações que eram desconhecidas para muitos na altura. Por conseguinte, tiveram de ser adoptadas alternativas. Mas como é que o comportamento dos consumidores mudou realmente? Tem havido uma mudança significativa no comportamento dos consumidores, particularmente na área da saúde. Cada vez mais, os consumidores estão a tomar consciência da importância de cuidar de si próprios e, em particular, da sua saúde. Há provas de que as pessoas com um estilo de vida mais saudável também têm menos problemas de saúde mental. No entanto, as empresas enfrentam um desafio quando antecipam e respondem ao comportamento do consumidor e determinam como os consumidores mudaram em resultado da pandemia da COVID-19. Embora as compras online estejam a tornar-se mais prevalecentes, as compras físicas continuam a ser preferidas em muitas áreas, e mesmo os indivíduos que gostam de estar sozinhos não estão inclinados a preferir a alternativa das compras online. O comportamento do consumidor está a começar a voltar ao normal, levando ao regresso de velhos hábitos. No entanto, o comportamento do consumidor continuará a mudar constantemente no futuro e nunca poderá ser padronizado.

Palavras-chave: COVID-19, Pandemia, Mudança de Comportamento, Mudança de Saúde Mental, Comportamento de Compras

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1. Introduction

1.1. Significance of the topic

Consumer behavior is of utmost importance for all companies, especially for those targeting to understand their consumers to generate as many sales as possible by offering suitable products and marketing solutions. However, the mindset, personalities and characteristics of a consumer can never be predicted and identified fully. Consumers can be classified into certain patterns, but it is almost impossible to predict exactly how a consumer will react and think (Jisana, 2014). Companies may be able to influence consumers with diverse measures, but they still cannot control them. In addition, the sudden emergence of the COVID-19 pandemic changed most aspects within the customer journey. (Reiss & Bhakdi, 2020). Companies and consumers had to react and adapt to changes within a very short time. Above all, mental health and well-being became an increasingly important topic in times of lockdowns, restrictions an economic uncertainty. Due to this, the COVID-19 pandemic is not only considered a pandemic, but also a mental health pandemic. (Lemenager, 2021).

Due to social isolation and possible salary cuts and loss of work, mental health suffered for many. Mental health seemed to have suffered from the COVID-19 pandemic, and literature found an increase in mental illness (Scholz, 2021). How did these factors influence consumer behavior? What has changed since the COVID-19 pandemic? It is important to see which behaviors have changed and if the influence of the COVID-19 pandemic is nowadays still as strong as at the beginning of the pandemic.

1.2. Objective

This dissertation aims to understand which changes in the consumer behavior, especially in regard of the mental-health of the consumers ‘after’ COVID-19 occurred. Which lead to the following main research question:

R: How has consumer behavior changed due to the corona pandemic and the new mindset about health?

1.3. Structure

In order to present how this thesis is structured, this section will guide you through the structure of the thesis. This study is divided into six different parts. This section is the first section which describe the significance of the topic and what this thesis will research. Followed by the

literature review, which presents all the findings from existing literature. The literature should help to understand the status quo and build the basis for the hypothesis. After the detailed literature review, the third part follows with the hypothesis formulation section, which describes the hypotheses that have been developed based on the literature review. Following with the fourth part, where the methodology is described. The Methodology helps to understand which type of methodology is used to test the hypothesis and already shows a short overview of the participants of the study. This section is followed by the results and analysis, which reflects the analysis and results of the study. The sixth and thus the final part presents the main findings which includes the conclusion and discussion, which limitations occurred during the study and which future research could be conducted to support the findings.

2. Literature review

The use of secondary data establishes a common ground for experimental research and lays the foundation. A variety of online journals, books, and websites were used to gather as many insights as possible for the literature review.

2.1. COVID-19 Pandemic

In 2019 the Corona Virus broke out in China and spread worldwide (Koley & Dohle, 2020). Currently (November 2022), there have already been 638 million people infected by COVID-19 since January 2020 (Statista, 2022). COVID-19 is known under the category of infectious diseases. Various types of microscopic organisms can cause infectious diseases that affect one or more vital parts of the body, such as the lungs, intestines, or urinary tract. Through the nose, mouth, or skin, these organisms can enter human bodies and multiply, leading to illness or disease (Koley& Dohle, 2020). With the help of several lockdowns, an attempt was made to contain the virus and the associated pandemic, when taking Europe into consideration. Lockdowns have varied in scale and constellation in each country, and different rules have been established (Reiss & Bhakdi, 2020).

Since this scientific work is limited to Europe, various countries were considered. Due to a large German share in the quantitative research, Germany represents the core focus country in terms of analysis. With the help of contact restrictions, mask obligations, and even complete isolation, various restrictions were created for a lockdown. At times, all possibilities of shopping outside the own accommodation were forbidden, and the house could only be left for required grocery purchases. In March 2020, public life was stopped to the utmost extent in Germany, including

all leisure activities, schools, and universities (Reiss & Bhakdi, 2020). A world with online classes, home office, and social separation has begun. With the start of the first lockdown things changed and everyday tasks, such as going to the supermarket, shopping, going to the doctor, meeting with friends, that were normal for the population were no longer typical from one moment to the next.

In order to contain the virus and reduce mortality rates, an effective vaccine was required in a short period of time, as no such existed at this time. Leveraged by large public and private R&D investments, vaccines were developed to prevent the Corona virus and mitigate its symptoms. Europe started COVID-19 vaccination programs in May 2021 (WHO, 2022). At the moment (November 2022), the COVID-19 vaccine has already been administered to more than 5.45 billion people across the globe, which represents 71.1 percent of the world's population (Holder, 2022). It represents the number of people who are fully vaccinated. Restrictions have receded, and normal life has returned in many countries. No lockdowns or significant restrictions are currently in order or planned in Europe. In the next chapters topics that are related to COVID-19 will be researched.

2.1.1 Sustainability and COVID-19

The topic of sustainability is also taken into consideration in the course of COVID-19. The literature presents many definitions of sustainability and many aspects sustainability can be associated with. The definition of sustainability from the United Nation will be used exemplarily. In 1987, the United Nations Brundtland Commission defined sustainability as "meeting the needs of the present without compromising the ability of future generations to meet their own needs" (United Nation, 1987). Sustainability has always been an important aspect of today's world and is gaining more and more importance and attention. Several studies have already been conducted to assess whether COVID-19 has an impact on sustainability, presented in the following.

In a new survey from IBM from 2021, conducted in 9 countries (USA, India, Canada, Germany, Mexico, Spain, Brazil, China) with 14,000 consumers, nine out of ten consumers reported that the COVID-19 pandemic had affected their view of environmental sustainability. Compared to other factors discussed, such as widespread wildfires and brushfires, weather-related disasters, and media coverage, COVID-19 had the most significant influence on sustainability (IBM, 2021). Furthermore, the survey found that many consumers are willing to change their shopping habits, travel

arrangements, employer choices, and even where they make personal investments due to environmental sustainability issues (IBM, 2021). A second study was conducted by Marty et al. during the pandemic by analyzing French citizens' food habits. In their report, the authors noted changes related to health, sustainability, and ethical behavior (Marty et al., 2021). All this changes are presenting an increase in the importance of these fields.

According to Severo et al., Brazilians and Portuguese across different generations were studied to better understand the impact of COVID-19 on social responsibility, sustainable consumption, and environmental awareness. A general conclusion of the study was that the pandemic's consequences played a significant role in encouraging people to change their habits in favor of sustainability (Severo et al., 2021). Besides the mentioned studies, there are several more studies pointing out that COVID-19 had an impact on the customer view, shifting behavior towards sustainability. The next chapter will visualize all aspects that are changed during the lockdown.

2.1.2. Changes during lockdown

The pandemic and adjacent lockdowns didn't just change a few rules; the population had to adjust and adapt to a whole new way of living that no one had ever been exposed to before in the European countries. Researchers found different changes that appeared during the lockdown. New alternatives had to be created so companies would not go bankrupt, and the population could continue to use services on which they might have been dependent (OECD, 2020). To support companies, in Germany, for example, a fiscal Covid-Shield was developed. It is Germany's most extensive financial aid package (Simmons & Simmons, n.d.). This package includes, first of all, a short-time allowance, which means that workers that are affected by working hours losses due to the pandemic, the loss of earnings will be incurred by the government. Additionally, it includes a working hour law provision suspension. In cases of exceptional emergencies with nationwide implications, such as the present COVID-19 pandemic, specific provisions or exceptions to regular working hours are allowed (bmwk, 2022).

Furthermore, the government provided an increase in the supplementary income limits for pensioners. Pensioners and short-term workers receive larger deduction-free additional earnings limits to ultimately support the workforce and compensate for shortages in the system. Another point in this package is the ‘Liquidity Assistance’, a unique program of KfW (Credit

Institute for Reconstruction), a leading public bank. Medium-sized and large enterprises can take advantage of it, while improved credit conditions apply through lower interest rates and simplified risk assessments for loans up to EUR 10 million (Simmons & Simmons, n.d.).
Moreover, there are also loans for them. KfW offers investment loans, as well as working capital loans to these companies. Throughout this programme, KfW takes on a large portion of the risks associated with lending relationships. COVID-19 has caused temporary financing difficulties for enterprises of all sizes. KfW Entrepreneur Loans are available to such enterprises (Simmons & Simmons, n.d.).

The KfW also participates directly in syndicated financing. KfW can provide working capital and investment funding to large and medium sized enterprises. In this way, syndicated financing can be obtained that meets the specific needs of each project in an individual manner and also secures goods movement. Moreover, there is an economic stabilisation fund established by the government and credit insurers to support the economy during difficult times. A large-volume economic stabilisation fund was also launched by the Federal Government: It cushioned the impact of the pandemic on companies whose existence was significant to Germany's reputation as a business location and to the labour market as a whole with a volume of up to EUR 600 billion. As part of this initiative, liquidity bottlenecks will be eliminated, refinancing on the capital markets will be encouraged, and above all, companies' capital bases will be strengthened (Simmons & Simmons, n.d.).

Microenterprises and self-employed individuals can apply for one-off grants worth EUR 9,000 for three months, and two more months if necessary. The grant can be applied for for three months, or two more months, if necessary, by companies with up to ten employees. This program aims to ensure that applicants have economic stability and bridge acute liquidity bottlenecks caused by ongoing operating costs, such as rents and leases, as well as business loan debt. Lastly, tax aids are provided to businesses of all sizes in order to improve liquidity (Simmons & Simmons, n.d.). This should help companies from going bankrupt.

Besides the packages more changes occurred during COVID-19. Employees of companies had to be equipped for their home office and companies had to make it possible to work from home. School children and students had to get the possibility to be taught online and therefore there were some changes in the economy. Restaurants had to close and could only offer delivery service and had to make some changes here as well. All these steps have left their mark on the

economy, and it was necessary to react (Eger et al., 2021). Even before the pandemic, there was a big boom in online shopping and new services like fast-delivery services were coming. According to many studies, online grocery sales have increased significantly and are expected to grow even more among different consumer segments during the pandemic (Meister et al., 2022). But first of all, it is important to see what consumer behavior is. The next section will go more in detail of the topic of consumer behavior.

2.2. Consumer Behavior

Consumer behavior is a complex topic that is very broad in scope. There are several frameworks, definitions and studies that discuss consumer behavior. It's almost impossible to predict how a consumer is behaving (Jisana, 2014). Often, marketers struggle to predict consumer behavior and to prepare sales forecasts because they do not realize how severe the behavior is. Depending on the time, location, circumstance, and category of products, as well as personal preferences, it may differ how the consumer is behaving (Gourville & Norton, 2014). According to many sources, physiological stimuli can trigger emotions (Frijda, 1986). The Central Nervous System determines how the body reacts and what actions to take when external stimuli, for example and advertisement, trigger it. Additionally, a lot of research indicates that an emotional reaction is influenced by what an individual defines as significant stimuli. As a result, emotions are generated of impulses or events that benefit personal motives, objectives, or needs (Lazarus, 1991).

One of the most eminent models of consumer behavior is the stimulus-organism-response (SOR) model from the psychologist Woodworth. It explains consumer behavior and consists of internal and external stimuli and object variables, such as processes of perception. Thus, these stimuli describe external and internal stimuli (Arora, 1982). It can be described how a person processes a stimuli and translates them into the respective behavior. A stimulus (**S**) can trigger an organism (**O**) for example it can be the internal emotion or psychological process, which can cause a reaction (**R**), which is the behavioral outcome (Pandita et al., 2021). A stimulus can be, for example, an advertisement for a product. These stimuli can be both marketing-induced and environment-induced. Stimuli are observable and can therefore be clearly defined. These external stimuli can activate various processes in the organism, i.e. in a customer or a client. The following processes can be triggered:

- **Activating processes (for example emotions),**

- **Cognitive processes (for example, information processing),**
- **Predispositions (for example, personality).**

In contrast to stimuli, these processes are not observable. They show processing procedures, which are not comprehensively researchable and therefore cannot be obviously perceived (Arora, 1982). Various behavioral patterns are activated by the external stimuli reaching the organism. These can be, for example, a purchase or a recommendation. Such behavior patterns are observable like the stimuli and can therefore be clearly defined. This model can thus be used to determine which stimuli trigger what kind of behavior in a customer (Arora, 1982). In the case of COVID-19 the stimulus is the Pandemic and the outcome, therefore the organism is the internal response of the population/customer, and the response is the behavioral outcome from the population/client (Pandita et al., 2021). In the next chapter one direct decision-making process of a purchase will be visualized.

2.2.1. The consumer decision-making process

In the consumer purchase decision-making process, a decision is made before, during, and after a consumer purchases goods or services (Qazzafi, 2019). Not all consumers go through the same process, because all people are different, have different thought processes and ideas. Individuals and groups can make decisions alone or in conjunction with others, for themselves or for others. All these factors make it challenging for marketers to provide customers with the products and services they need, want, and desire, while being cost-effective (Gourville & Norton, 2014). The literatures show various frameworks that are supposed to represent this process and each type of a decision-making process is justified and researched based on different frameworks. However, the following section will focus on one framework that represents the decision-making process of a purchase. It must be mentioned that this framework is only meant to be an example and cannot be applied to the same extent for all products and consumers. It only represents the normal process of a purchase. The consumer buying decision process framework from Kotler and Armstrong is a well summarized framework that represents this process of a purchase from a consumer (Kotler & Armstrong, 2010). This buying process can be divided into **5 different steps,** which are visualized in Figure 1:

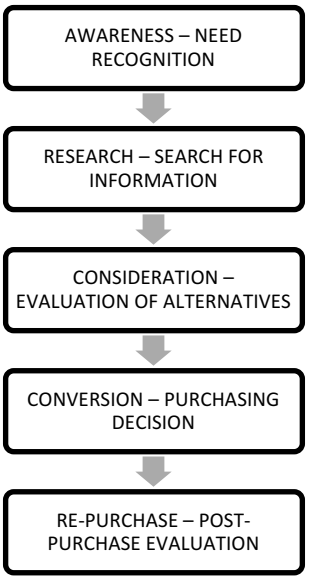

Figure 1: Decision-making process

Need Recognition

The "**Need Recognition phase**" is the first stage in the decision-making process. In this phase, the consumer identifies his/her problem and thus finds out what she/he wants in order to satisfy his/her needs (Qazzafi, 2019). There are internal and external stimuli that can trigger a need. Internal stimuli are for example hunger or thirst. An external stimulus can be for example an advertisement that the consumer sees (Kotler & Armstrong, 2010).

Information Search

The next stage is the "**Search for information**" phase. If a consumer wants to make a purchase, he or she thinks about his or her past experiences with a certain product. If those past experiences were good and satisfied, then the consumer buys that product again, and the process of information seeking ends (Kotler & Armstrong, 2010). For consumers who don`t have any touchpoints before, have had a negative experience, or the product has not met their expectations, they search for information about the product (Jisana, 2014). Consumers will search for suitable information through several sources. For example, experiences from family and friends, reviews from the internet, social media, salespersons and many more. They will use every source that they perceive trustful and who are having a big influence on them for the decision-making process. They will also go through this process when they want to try new products (Qazzafi, 2019).

Evaluation of alternatives

The third stage of the decision-making process is the "**Evaluation for alternatives**" phase. After collecting information about a product or brand, a consumer ranks and evaluates the product or brand by the collected information (Jisana, 2014). Consumers review all the alternatives and information and then weigh which product is the best choice to meet their needs (Qazzafi, 2019). Several evaluation criteria are mentioned in the literature, but these are some of the most significant ones: brand, accessibility, experience, familiarity with the product, quality, and country of origin (Jisana, 2014). Based on a careful review of the alternatives, a clear basis for the purchase can be established.

Purchasing decision

The next stage is the "**Purchasing decision**" phase. After evaluating information from several sources, the consumer decides where and what to purchase (Kotler & Armstrong, 2010). According to the evaluation stage, the consumer purchases the product with the highest ranking. (Qazzafi, 2019).

Post-purchase evaluation

The fifth and the last stage of the decision-making process is the "**Post-purchase evaluation**" phase. After buying a product there are two ways how the consumer feels. Either his/her needs are satisfied or not. On the one hand if his/her needs are satisfied, the chance is higher that it comes to a re-purchase and the consumer buys the product again or further products of this brand (Kotler & Armstrong, 2010). Thus, the loyalty of the customer towards brand can be increased. In addition, it can come to the situation that he/she recommends the brand and/or the product, which can lead that he/she can have a positive influence in the decision-making process (in the information search phase) from another person. On the other hand, if the consumer's needs have not been satisfied, e.g., if the promise is not fulfilled or the product does not accomplish the required aim and purpose, the consumer will not consider a repurchase and will not recommend the product and/or the brand to others. In addition, it can happen that negative reviews are written, which can be attributed negatively to the brand (Qazzafi, 2019).

Within all these five phases, researchers found out that external influences have a high impact on the decision-making process. There are several factors that can influence this process and different literature is giving different examples for these factors. In the next section, the points that have been repeatedly mentioned in various literatures will be discussed. There are other

factors that could have an influence, but which cannot be proven. These are six of the most important factors that can have an influence:

1. Economic factors
2. Marketing-Mix factors
3. Personal factors
4. Psychological factors
5. Social factors
6. Cultural factors

Economic factors

Economic factor can influence the process, being an important factor in how much a consumer earns, how high his/her budget is and whether he/she can afford the product at all. If, for example, a consumer cannot afford this product, or he/she is not willing to pay for the product, the decision process may not even be initiated, or alternatives may be sought directly (Gordon, 2021).

Marketing-Mix factors

The four P's in the marketing-mix (product, price, place, promotion) can influence the decision-making process because if various points do not match the ideas, the purchase can be stopped or an alternative is considered. Thus, for example, an advertisement that has a bad influence on the consumer could lead to this abandonment, furthermore, the price can also play a major role (Bukhari et al., 2018). But it could not only have a negative impact, it could also have an positive aspect. For example, an advertisement can show positive feelings which leads that the consumer decides to buy the product. Generally, the first P, the **product** is the physical product that consumers purchase based on their type, variety, design, packaging, quality, and features (Kotler & Armstrong, 2010). **Prices** refer to how much consumers are willing to pay for a product based on its cost or monetary value. **Places** are venues for customers to access and purchase goods and products. **Promotion** is the advertising and marketing activities around the product or brand (Bukhari et al., 2018).

Personal factors

Personal factors such as age, gender, place of residence, lifestyle and occupation can be another direct or indirect influence on the decision-making process. Depending on age or gender, there

are other aspects that are important in a decision-making process, and, for example, some literature says that women have a longer and more complicated process than men (Jisana, 2014). In addition, people tend to have different tastes when it comes to food, clothes, furniture, and recreation depending on their age. It is also influenced by the stages in the family lifecycle that a family might pass through as it matures. Some Literature is saying that it is important to note that each person's unique personality influences their buying behavior. A person's personality refers to their psychological characteristics that determine how they respond to their environment consistently and permanently (Pemani & Massie, 2017).

Psychological factors

Consumers decisions are influenced by what they need and what motivates them to achieve their goals. In order to satisfy that need, consumers create a drive for it (Kotler & Armstrong, 2010). Consumers will ultimately decide to make a purchase or do something to satisfy their needs as a result of this psychological process (Gordon, 2021). Another important factor is the perception. Consumers perceive things based on the mental impressions they receive from external stimuli. Every person has different perception, and this is the reason why everyone decides differently (Gordon, 2021).

Social factors

Social factors can also be a big role in the decision-making process. They include the family status, reference groups and social status. For example, a person who lives alone would make a different decision than a person who has a family and lives together with the family in a household (Kongsompong et al., 2009). In addition, opinions from friends and families can be a big influence. Reference groups are equally important. If people with whom a consumer identifies have a different opinion, this can strongly influence the decision (Gordon, 2021).

Cultural factors

The last factor of influence is the cultural factor. Values are often dictated or set in motion by a person's cultural background. Values are learned from the culture (Kongsompong et al., 2009). In other words, what consumers think is important or what consumers think is good or bad has everything to do with the culture that they grew up in (Gordon, 2021).

All these factors can strongly influence the decision-making process and should always be taken into consideration when companies are selling products. These factors show that each person

considers different influences as important and that these can vary for each consumer and thus the decision-making process of a purchase is not always the same. As the literature occupied a consumer's decision-making process is influenced by their emotions. It is a complex concept that is defined differently by everyone (Gourville & Norton, 2014). Some researchers occupied that the process if the decision-making changed during COVID-19. For example, researchers from Google stated that the decision-making process is getting more complex with COVID-19 and consumers are getting a too big amount of information when buying a product (Davies & Davies, 2020). Because of the lack of recent studies and literatures it is not possible to specify exact changes currently.

2.3. Mental Health and the impact from COVID-19

Researchers found out that not only the shopping behavior has changed due to the pandemic and lockdowns, but also mental health was strongly influenced. The amount of mental illness has increased dramatically. The World Health Organization (WHO, 2022) defines 'mental health' as “a state of mental well-being in which people cope well with the many stresses of life, can realise their potential, can function productively and fruitfully, and are able to contribute to their communities.” In 2016, one person out of six in all EU countries was affected by mental illness (Scholz, 2021). There is no official and general definition of mental illness, which will be used in any further literature, however the National Institute of Mental Health provide two different smaller definitions of mental illness. They separate the first definition of mental illness into the term ‘any mental illness (AMY)’ which is defined by the National Institute of Mental Health (2022) as “Any mental illness (AMI) is a mental, behavioral, or emotional disorder. AMI can vary in impact, ranging from no impairment to mild, moderate, and even severe impairment.” The second definition is separated into the term ‘serious mental illness (SMI)’. According to the National Institute of Mental Health (2022) “Serious mental illness (SMI) is defined as a mental, behavioral, or emotional disorder resulting in serious functional impairment, which substantially interferes with or limits one or more major life activities. The burden of mental illnesses is particularly concentrated among those who experience disability due to SMI. “

Several studies show that the impact of COVID-19 on mental health differentiates in the outcomes. There are various reasons why this might be the case. One reason is, that studies that are conducted are using results from different countries where mental illness is seen and used differently. It depends on how intense the help for mental illness is and how the countries

behave in terms of this topic (Lindert et al., 2021). All countries are trying to address the issue of mental health, but some lack in resources and funds, such as in developing countries, can make it more complicated. In addition, culture also plays a role, because not every country treats mental health as an open issue (McKinsey Health Institute, 2022). Additionally, it depends if people are already suffered with mental illness before the COVID-19 pandemic or not, which cannot always be proven or found out in the studies. Some literature states that people which were affected by mental illness before the COVID-19 pandemic are having more problems during the pandemic, but because of the lack of information it cannot be proven (Lindert et al., 2021).

Some studies that are conducted in Europe are stating that there is a clear impact from COVID-19 on the mental health of the population which is associated with worry, anxiety, fear and loneliness. It has been found that many people's mental health and stress worsen during and after disasters, based on literature from disasters and earlier epidemics (Lindert et al., 2021). The Health at a Glance, Europe 2020 report found out that higher rates of anxiety, depression and stress were observed during the COVID-19 pandemic (Scholz, 2021). With the help of the Eurofound e-survey, it was found that the biggest drop in well-being was among people who had lost their jobs due to the pandemic and the younger generation (age 18-28) in general (Eurofound, 2022). Different reasons for the drop in well-being are researched. According to Dr. Natasha Azzopardi-Muscat, director of the Division of Country Health Policies and Systems in the WHO it can be said that the reasons can be divided into three different areas:

1. **direct effects** of the outbreak, i.e. fear and anxiety
2. **indirect effects,** i.e. lockdown and isolation.
3. **indirect effects of socioeconomic fallouts**, i.e. debt, unemployment, exclusion and impoverishment (Ciucci, 2020).

The literature states that everyone reacts differently to these factors and that a mental illness does not always have to occur. However, these are factors that have triggered mental illness in many people (Lindert et al., 2021). A study of longitudinal data indicates that mental health symptoms peak after disasters and then improve afterward. But new studies find out that even after the strict lockdowns, mental illnesses do not decrease (Scholz, 2021).

2.4. Healthy Lifestyle

Healthy lifestyle is also connected with mental health and should also taking into consideration. The term "healthy lifestyle" describes a way of living that reduces the risks of getting seriously ill or dying young (WHO, 1999). Having good health contributes to a high quality of life, which has a positive impact on physical, educational, emotional, and spiritual well-being (Hanawi et al., 2020). Some literature is stating that a healthy lifestyle can also lead to a better mental health (Velten et al., 2014). It is important to note that each individual has a different definition of a healthy lifestyle, thus resulting in disparate perceptions.

Due to the pandemic and the accompanying lockdowns, the population had to isolate itself and could therefore no longer pursue many habits. The daily and lifestyle routine that the population had before could no longer be lived and factors such as weight gain due to limited activity and overeating, alcohol consumption and smoking have increased (Lange & Nakamura, 2020). Additionally, studies have shown that less sleep and higher screen time are associated with social isolation due to being largely online and to home offices and home schools, both of which contribute to sleep deprivation. Despite the rise of an unhealthy lifestyle, various studies have found out that a healthy lifestyle in various aspects can lead to preventing or passing through a corona infection with milder symptoms. Having a strong immune system makes the body stronger at fighting viruses (Lange & Nakamura, 2020). Due to the lack of studies in Europe it is not possible to state in deep the changes from the European population.

2.5. Big five personality traits

Besides a healthy lifestyle and mental health, a person's characteristics also play a significant role. Due to limited literature only, a few sources could be considered for this part. Each person has an individual personality and differs within its traits. The Big Five personality trait framework also known as the OCEAN framework can be used to classify these and assign people to different personality traits (Gosling et al., 2003). During the 1930s, Louis Thurstone, Gordon Allport, and Henry Sebastian Odbert developed the Big Five as part of a lexical approach. In this view, personality traits are portrayed through language; therefore, it is assumed that every significant difference between people has already been represented in the dictionary by corresponding terms (John et al., 2008). A factor analysis used to determine five very stable, independent, and largely culturally stable factors: the Big Five (John et al., 2008). In the following years, the Big Five were substantiated by numerous studies, and they are now internationally recognized as the standard personality research model. Using the Big-Five

framework, we can classify human personality differences into five broad, empirically derived categories (Gosling et al., 2003):

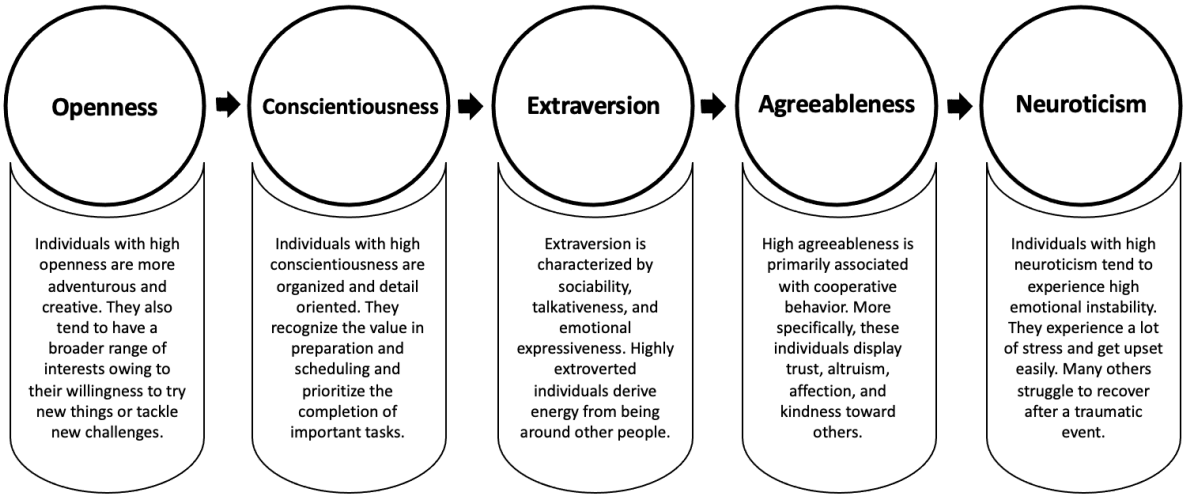

Figure 2: Big Five Personality Framework

Openness: An individual with a high degree of openness is more adventurous and creative. As a result of their willingness to try new things, they also tend to have a broader range of interests (Osea, n.d.). It leads that they are open to new experiences but are not seen as conventional/uncreative (John et al., 2008).

Conscientiousness: A highly conscientious individual is organized and detail oriented. It is important for them to prioritize important tasks and prepare and schedule accordingly (Osea, n.d.). It can be said that they are very dependable.

Extraversion: The extraversion personality trait is characterized by talkativeness, social skills, and emotional expressiveness. Being around other people is a source of energy for highly extroverted individuals (Osea, n.d.). Additionally extroverted people are showing the trait that they are not reserved.

Agreeableness: A high level of agreeableness is usually accompanied by cooperative behavior. Individuals who display these characteristics are trusting, altruistic, affectionate, and kind (Osea, n.d.). People with high agreeableness are very sympathetic and not critical.

Neuroticism: Neurotic individuals tend to experience high levels of emotional instability. Stress causes them to become easily upset and they suffer from a great deal of stress (Gosling et al., 2003). The recovery process after a traumatic event can be difficult for many others (Osea, n.d.). They are very anxious and not calm.

The big-five-personality traits have already been used in various studies to find correlations to the research topic. For example, one study found out that the personality trait shapes impulsive buying behavior (Sofi & Najar, 2018). Another study observed that the personality traits influence the decision-making process, as, for example, extroverted people can decide in a faster way than introverted people (Erjavec et al., 2019). There are several more studies that found a correlation which shows that the personality traits are very important for this research. Due to this, the personality traits are of utmost importance when examining behavior in diverse regards.

2.6. Social Media and the influence during COVID-19

Social media platforms are currently the fastest growing online platforms. A social media platform is an internet-based communication tool. The use of social media platforms allows users to have conversations, share information, and create content for the web. Blogs, micro-blogs, wikis, social networking sites, photo-sharing sites, instant messaging services, video-sharing services, podcasts, widgets, and virtual worlds are just some of the forms of social media (USF, n.d.). Globally, social media facilitates the sharing of information and forming connections between billions of people. Personal uses of social media include communicating with friends, learning new things, developing interests, and being entertained. Using social media professionally can broaden the knowledge in the professional field and help to build a network by networking with other professionals. Additionally social media can help companies to connect with customers, gain feedback, and elevate its brand at the company level (USF, n.d.).

The most known social media platforms are: Instagram, YouTube, Twitter, Facebook and TikTok. The so-called influencers and celebrities also use social media and they act in many different ways with the users. Users use them as role models and companies use influencers as a marketing strategy. They get paid from companies to promote the brand, products, or social activities. In this way they can influence the users and that can lead to higher awareness and sales from the company. Influencers has attracted much attention from companies and brands, both as potential marketing channels and as assets to collaborate with (Masuda et al., 2022).

During COVID-19 the number of users of the platform increased in a short period of time. Due to the limited social contact, social media was the platform to use to connect and communicate with others (Ali Taha, 2021). Platforms for example Instagram integrated an online shop where

it is possible for users to shop online via Instagram. Companies took the advantage from influencers and their own social media marketing to reach more users, to generate more sales. Due to several studies social media marketing had a big influence on the users since COVID-19 (Syaifullan et al., 2021). Additionally, influencers are growing and the importance and the influence on the users as well.

3. Hypothesis Formulation

The second chapter reviewed the literature and considered related and similar subjects in order to develop hypotheses. According to the literature reviewed, there are a lot of aspects strongly influenced by COVID-19 in regard to consumers behavior.

The chapter 2.5. reviewed the big five personality traits which are presenting the different personalities and how they behave. For example, very extroverted people are characterized by sociability. This leads to the **first hypothesis**, analysing whether the personality traits have an impact on the shopping behavior. It is analyzed if, for example, more extroverted people and people that are more open to experiences prefer in-store shopping and vice versa, if introverted people are more likely to shop more online:

H1: Personality traits influence the likeliness and frequency of online shopping.

Moreover, some literature states that younger people and people without a job are having more problems with mental illness and to live healthier, but it is important to see if the gender has an impact as well. As a result, the author wants to find out whether women have more problems with mental illness than men and if COVID-19 did change anything about their lifestyle or well-being. This leads to the **second hypothesis**:

H2: COVID-19 had a higher impact on women's (mental) health, well-being and social anxiety than on men's.

Studies oberserved that a healthier lifestyle with specific supplementation of certain vitamins and foods can help build a better immune system and fight and/or reduce the symptoms of COVID-19 infection. Since there are no recent studies from 2022 showing that the population is living a healthier lifestyle, this will be additionally tested. This leads to the following **third hypothesis:**

H3: People are more concerned about their lifestyle in regard to health now than before COVID-19.

The next important aspect is within the area of sustainability. Since sustainability appears to be very important, especially in connection with COVID-19 and consumer behavior, it is important to test whether people with a higher income are more knowledgeable about sustainability, since sustainability can also be a cost factor in many cases. For this reason, the following **fourth hypothesis** arises:

H4: People with a high income (>2000€) are putting a higher emphasis on sustainability.

Another important point when it comes to shopping behavior is whether people who prefer online shopping also prefer to be alone when shopping physically. Thus, this could be an indicator that this person prefers online shopping because she enjoy being alone. This leads to this **fifth hypothesis**:

H5: People that prefer to shop online rather shop alone when choosing physical shopping while also enjoy being alone

Since COVID-19 has had a much smaller impact on the lives of the population in Europe for a few months now, because the normal live is coming back with no restrictions and literature and studies are of the years where COVID-19 had significant limitations on everyday living, it is interesting to test whether it is really the case that the younger generation see a stronger impact of COVID-19 on their lives than the older generations. Which thus leads to the **sixth and last hypothesis**:

H6: COVID-19 had a higher impact on younger peoples (Age: under 18 – 34) (mental) health, well-being, and social anxiety than older peoples (Age: above 35).

All hypotheses are tested and evaluated in chapter 5. After analysing it can be concluded whether the hypotheses are accepted or rejected. The next chapter will present and describe the whole research process and therefore the methodology.

4. Methodology

The objective of this chapter is to provide an explanation of the research process to answer the research question and the hypothesis. It should help to support the literature review and gain more data. The first section will elaborate the type of the research and the reason why this is helping to answer the research question. It will also represent how the study is structured and

how the answers were collected. Following with the second section which will describe the participants of the study. Afterwards, the results of the study will be analyzed.

4.1. Research Process

To answer the research question and testing the hypothesis, quantitative research was used to collect the data and sufficient information to build well-supported assumptions and arguments. Therefore, an online survey was used as the quantitative research method. This method has several advantages for this study, for example the global reach, flexibility, speed and timeless, question diversity and the control of answer order (Evans & Mathur, 2005). It means that it is possible to reach persons globally and not limiting the respondents to a certain location. Moreover, this offers the respondents a high flexibility as they can answer the survey whenever and wherever they want. They are not under pressure which could affect their answers (Wright, 2005). Regarding the advantages of speed and timeless, it is easier to create the survey and get multiple answer in a short period of time. Furthermore, it is possible to have a large range of questions that can be answered in one survey and brings a diversity of topics included in the questionnaire. Lastly, it is easier to have control of the order of the answers, as the respondent must answer the questions in the order that the researcher provides, leading to an easier way to analyze the data (Evans & Mathur, 2005). In contrast, the quantitative method of an online survey also incurs some disadvantages. One disadvantage of an online survey is that respondents may lack online experience/expertise, which may cause respondents to be unable to complete all questions or understand how to complete an online survey (Wright, 2005). Additionally, in contrast to the advantage of multiple answers in a short period of time, in some cases this is not the case, and it is difficult to get enough responses and the response rate can be very low (Wright, 2005). Another negative point is that an online survey is very impersonal, which can lead to lower motivation to answer the survey in the correct way (Evans & Mathur, 2005). Nevertheless, the positive aspects of an online survey were convincing and led to the decision that this method is the most suitable for this type of study.

The online survey was shared with an online link in social networks, friends and family, and business networks. The survey ran from October 26, 2022 until November 24, 2022 and reached a total of 212 participants. Qualtrics was used to create the survey, which offers useful support for data collection, analysis, and exporting the data. There were 40 questions in total, divided into six sections: Introduction (1), Shopping behavior (2), Importance of sustainability, health & well-being (3), Personality traits (4), COVID-19 impact (5) and Demographics (6).

Before the actual survey starts, the author introduced herself, the study purpose, and the objectives of the study before collecting any information. To ensure the understanding of anonymity and to acknowledge terms of data usage, consent is required in order to continue with the survey. The shopping behavior section (2) covers all the questions that are meaningful in terms of how the participant's shopping behavior is. For example, the frequency, what type of shopping they use (either online shopping or physical shopping), what is preferred, in which segments they prefer which type of shopping and how much they spend. In the importance of sustainability, health, and well-being section (3) all questions are related to how important sustainability is, if the respondents are buying sustainable products, how much they are willing to spend and if they are living a healthy lifestyle. The personality traits part (4) is used to query the big 5 personality traits with 10 measurements. With these questions the personality of the participants can be examined. For this measurement the participants should answer to ten types if they agree or disagree with following scale: disagree strongly; disagree moderately; disagree little; neither disagree nor agree; agree little; agree strongly. Which should be answered for the following ten personality traits: anxious, easily upset; sympathetic, warm; disorganized, careless; critical, quarrelsome; reserved, quiet; extraverted, enthusiastic; dependable, self-disciplined; open to new experiences, complex; calm, emotionally stable; conventional, uncreative. These measurements were adapted from Gosling et al. (2003). The section of the COVID-19 impact (5) all impacts and changes that are the participants felt related to COVID-19 are asked. The last part, the demographic part (6), is used to provide an overview of all demographic characteristics of the participants. Most questions in all sections were closed, and only a few times could other options be specified as possible answers.

4.2. Participants

The survey was designed to provide as many insights as possible, so no restrictions were placed on the respondents. From the 212 recorded responses only 176 fully completed the survey. This represents a rate of around 83%. Only fully completed surveys are included in the analysis, due to the correlation between the different answers. 38.07% of the respondents are male and 61.93% are female, leading to a higher proportion of women participating in the survey. In terms of age structure, the majority of the participants 36.93% are aged between 18-24 and 36.93% aged between 25-34, followed by 11.36% being aged between 35-44, 10.80% aged between 45-54, 2.84% between 55-64 and only 1.14% are under 18 (Appendix B). Therefore, the majority of the participants is between 18 and 34 years old.

In terms of demographics, most of the participants, 88.07%, are from Germany, followed by 4.55% from Switzerland, 3.41% from Portugal, 1.14% from USA, 1.14% from France, 0.57% from Italy, Netherlands, and India. From all of them 73.86% are currently living in Germany, 15.34% in Portugal, 7.95% in Switzerland, 1.14% in Austria and 1.70% in other countries (USA and Netherlands). It is interesting to say, that 43.43% are having a full-time job and 31.43% are Master students and 12% Bachelor students (Appendix B). This also complies with the focus on Germany in the previous analysis.

48.9% of the respondents are living with one other person, 29.5% are living alone, 15.9% with two other people, and 5.7% are living with more than 2 other people. Of those that are living with more than two individuals, the number ranged from three to six people, with a mean of 3.5. Exactly 40.3% stated that they are single, 38.6% are in a relationship, 20.5% are married, and 0.6% said their marital status fell in the "other" category. In terms of monthly household income exactly 19.43% said that they have a household income between 1000€-1999€, 16.57% between 4000€-5000€, 16% between 2000€-2999€, 15.43% between 500€-999€, 10.29% said between 3000€-3999€, 9.14% said less than 500€, 8.57% said more than 5000€ and the other 4.57% preferred not to say their household income. After showing the demographics from the participants the next part will show a detailed data analysis and will visualize all results.

5. Results and Analysis

All survey data were collected and uploaded in Microsoft Excel format. String and categorical variables were recoded, and the data was cleaned prior to export into IBM SPSS Statistics 29, where the analyses took place. Descriptive statistics were provided for the sample. Chi-square was used to measure the association between variables, and ANOVA was used to ascertain the mean statistical differences between groups. Analyses were deemed statistically significant with a 95 percent confidence interval, $p < .05$. The next sub-chapter explores the data in regard to all hypothesis (H1, H2, H3, H4, H5 & H6).

5.1. Hypothesis testing

Personality Traits and Online Shopping (H1)

To test the first hypothesis **(H1)** a chi-square test for association was conducted between respondent personality traits, frequency of online shopping, preference of online or physical shopping, and purchasing habit changes from COVID-19. All expected cell frequencies are greater than five.

First of all, the significance between the personality traits and the online shopping frequency was tested. There is a statistically significant association between disorganized/careless and the frequency of shopping online, $\chi^2(36) = 54.223$, $p = .026$. Those who see themselves with these characteristics are more apt to shop once a month to every two weeks. The following table points out the variables that were tested and the results from the chi-square test.

Crosstab

Count (N)		I see myself as: - Disorganized, careless.							
		Disagree strongly	Disagree moderately	Disagree little	Neither disagree nor agree	Agree little	Agree moderately	Agree strongly	Total
How often do you shop online?	Never	0	3	1	0	0	1	0	**5**
	Every 2 months	8	7	5	3	6	0	0	**29**
	Once a month	12	15	4	2	8	6	0	**47**
	Every 2 weeks	12	15	4	2	8	6	3	**39**
	Every week	2	4	6	1	7	4	2	**26**
	2-3 times a week	2	0	5	4	3	3	0	**17**
	Every day	1	0	1	2	4	0	0	**8**
Total		**37**	**44**	**26**	**14**	**36**	**20**	**5**	**171**

Chi-Square Test

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	54.223[a]	36	.026
Likelihood Ratio	64.935	36	.002
Linear-by-Linear Association	11.674	1	<.001
N of Valid Cases	**171**		

a. 36 cells (73,5%) have expected count less than 5. The minimum expected count is ,15.

Table 1: Crosstab association between disorganized, careless and online shopping frequency

Additionally, there is a statistically significant association between open to new experiences/complex and the frequency of shopping online, $\chi^2(30) = 48.048$, $p = .020$. Those who viewed themselves as being open to new experiences/complex are more apt to shop online infrequently. The following table illustrates the variables that were tested and the chi-square test.

Crosstab

Count (N)		I see myself as: - Open to new experiences, complex.							
		Disagree strongly	Disagree moderately	Disagree little	Neither disagree nor agree	Agree little	Agree moderately	Agree strongly	Total
How often do you shop online?	Never	0	0	0	0	1	4	0	**5**
	Every 2 months	0	2	2	2	9	9	5	**29**
	Once a month	0	0	5	3	11	18	11	**48**
	Every 2 weeks	0	2	2	4	12	15	5	**40**
	Every week	0	0	3	5	5	8	5	**26**
	2-3 times a week	0	4	4	6	0	3	1	**18**
	Every day	0	0	0	1	2	3	2	**8**
Total		**0**	**8**	**16**	**21**	**40**	**60**	**29**	**174**

Chi-Square Test

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	48.048[a]	30	.020
Likelihood Ratio	49.879	30	.013
Linear-by-Linear Association	5.485	1	.019
N of Valid Cases	**174**		

a. 30 cells (71,4%) have expected count less than 5. The minimum expected count is ,23.

Table 2: Crosstab association between open to new experiences, complex and online shopping frequency

Furthermore, there is a statistically significance association between conventional/uncreative and the frequency of shopping online, $\chi^2(36) = 69.749$, $p < .001$. Those who see themselves as conventional/uncreative are more apt to shop online every two weeks or every week. The table provides the variables and the results from the test.

Crosstab									
Count (N)		I see myself as: - Conventional, uncreative.							
		Disagree strongly	Disagree moderately	Disagree little	Neither disagree nor agree	Agree little	Agree moderately	Agree strongly	Total
How often do you shop online?	Never	0	1	3	0	1	0	0	**5**
	Every 2 months	8	3	3	5	8	1	1	**29**
	Once a month	3	10	16	4	8	4	3	**48**
	Every 2 weeks	1	2	8	10	4	10	5	**40**
	Every week	2	3	3	4	3	6	5	**26**
	2-3 times a week	0	1	10	1	2	2	1	**17**
	Every day	0	3	2	0	2	1	0	**8**
Total		**14**	**23**	**45**	**24**	**28**	**24**	**15**	**173**

Chi-Square Test			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	69.749[a]	36	<.001
Likelihood Ratio	68.330	36	<.001
Linear-by-Linear Association	3.968	1	.046
N of Valid Cases	173		

a. 37 cells (75,5%) have expected count less than 5. The minimum expected count is ,40.

Table 3: Crosstab association between conventional, uncreative and online shopping frequency

Moreover, there is no statistically significant association between feeling anxious/easily upset, being sympathetic/warm, critical/quarrelsome, reserved/quiet, extraverted/enthusiastic, dependable/self-disciplined, calm/emotionally stable, and online shopping frequency, $p > .05$.

As a next step the significance between the personality traits and the preference of online vs. physical shopping was tested. As a result, there is a statistically significant association between disorganized/careless and online/physical shopping preferences, $\chi^2(12) = 23.711$, $p = .022$. Those who see themselves as disorganized/careless are more apt not to have a preference between the shopping types. The table shows the variables that were tested and results from the analysis.

Crosstab									
Count (N)		I see myself as: - Disorganized, careless.							
		Disagree strongly	Disagree moderately	Disagree little	Neither disagree nor agree	Agree little	Agree moderately	Agree strongly	Total
Do you prefer online over physical shopping?	No	7	13	7	8	10	6	5	**56**
	Sometimes	16	19	11	8	13	13	0	**80**
	Yes	5	5	8	2	13	2	0	**35**
Total		**28**	**37**	**26**	**18**	**36**	**21**	**5**	**171**

Chi-Square Test			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	23.711[a]	12	.022
Likelihood Ratio	24.147	12	.019
Linear-by-Linear Association	.367	1	.545
N of Valid Cases	171		

a. 5 cells (23,8%) have expected count less than 5. The minimum expected count is 1,02.

Table 4: Crosstab association between disorganized, careless and shopping preference

There is no statistically significant association between feeling anxious/easily upset, being sympathetic/warm, being critical/quarrelsome, reserved/quiet, being extraverted/enthusiastic, being dependable/self-disciplined, calm/emotionally stable, and shopping preference, $p > .05$.

As a final part of this hypothesis testing a significance between the personality traits and the online purchasing frequency change after COVID-19 was tested. As a result, there is a statistically significant association between sympathetic/warm and shopping frequency changes due to COVID-19, $\chi^2(15) = 25.919$, $p = .039$. Those who see themselves as sympathetic/warm are experiencing slightly more changes. The table displays the tested variables and the result from the chi-square test.

Crosstab

Count (N)		I see myself as: - Sympathetic, warm.							
		Disagree strongly	Disagree moderately	Disagree little	Neither disagree nor agree	Agree little	Agree moderately	Agree strongly	Total
How did your online purchasing frequency change due to Covid?	Less	0	0	0	0	1	6	3	**10**
	Slightly less	0	1	6	5	7	16	3	**38**
	Slightly more	0	0	7	3	26	37	27	**100**
	More	0	1	2	4	6	5	9	**27**
Total		**0**	**2**	**15**	**12**	**40**	**64**	**42**	**175**

Chi-Square Test

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	25.919[a]	15	.039
Likelihood Ratio	28.787	15	.017
Linear-by-Linear Association	.091	1	.763
N of Valid Cases	**175**		

a. 13 cells (54,2%) have expected count less than 5. The minimum expected count is ,11.

Table 5: Crosstab association between sympathetic, warm and shopping frequency change

Additionally, there is no statistically significant association between feeling anxious/easily upset, being disorganized/careless, critical/quarrelsome, reserved/quiet, extraverted/enthusiastic, dependable/self-disciplined, open to new experiences/complex, calm/emotionally stable, conventional/uncreative, and online purchasing frequency change due to COVID-19, $p > .05$.

COVID-19 and Gender Health Differences (H2)

For **Hypothesis 2** there was also a chi-square test conducted for association between gender, mental health, and social anxiety. All expected cell frequencies are greater than five. There is no statistically significant association between gender and feeling as though COVID-19 influenced personal well-being, being healthier, a stronger sense of responsibility about their life, bigger influence from social media/influencers, and more social anxiety, $p > .05$. Therefore, there is no gender health difference found in this sample.

Lifestyle and Health Concerns towards COVID-19 (H3)

A chi-square test for association was conducted between the belief that the respondent is living a healthier lifestyle now than before COVID-19, playing more sports, eating healthier, impact on mental health, personal sustainability, concern for physical health, concern for mental health, shopping consciously, strong influence by influencers, and spending more time with family and friends to test **Hypothesis 3**. All expected cell frequencies are greater than five. There is a statistically significant association between the belief that the respondent is living a healthier lifestyle now than before COVID-19 and playing more sports, $\chi^2(1) = 31.060$, $p < .001$. Those that believe they are now living a healthier lifestyle reported playing more sports. Furthermore, there was a statistically significant association between the belief that the respondent is living a healthier lifestyle now than before COVID-19 and eating healthier, $\chi^2(1) = 31.060$, $p < .001$. Those that believed they are now living a healthier lifestyle reported to eat healthier.

Moreover, there is a statistically significant association between the belief that the respondent is living a healthier lifestyle now than before COVID-19 and mental health, $\chi^2(1) = 9.591$, $p = .002$. Those that believe they are now living a healthier lifestyle reported no impact on their mental health.

Additionally, there is a statistically significant association between the belief that the respondent is living a healthier lifestyle now than before COVID-19 and sustainability, $\chi^2(1) = 9.967$, $p = .002$. Those that believed they are now living a healthier lifestyle reported that they are not more sustainable. Also, there is a statistically significant association between the belief that the respondent is living a healthier lifestyle now than before COVID-19 and concern for physical health, $\chi^2(1) = 18.027$, $p < .001$. Those that believe they are now living a healthier lifestyle reported that they are more concerned about their physical health.

Moreover, there is a statistically significant association between the belief that the respondent is living a healthier lifestyle now than before COVID-19 and concern for mental health, $\chi^2(1) = 15.360$, $p < .001$. Those that believed they were now living a healthier lifestyle reported that they are more concerned about their mental health. Furthermore, there is a statistically significant association between the belief that the respondent is living a healthier lifestyle now than before COVID-19 and shopping more consciously, $\chi^2(1) = 10.391$, $p < .001$. Those that believed they are now living a healthier lifestyle reported that they were not shopping more consciously. Additionally, there is a statistically significant association between the belief that the respondent is living a healthier lifestyle now than before COVID-19 and the influence from

influencers, $\chi^2(1) = 14.071$, $p < .001$. Those that believed they are now leading a healthier lifestyle reported that they are not strongly influenced by influencers and their lifestyle. As the last point there is a statistically significant association between the belief that the respondent is living a healthier lifestyle now than before COVID-19 and time spent with family and friends, $\chi^2(1) = 22.460$, $p < .001$. Those that believe they are now leading a healthier lifestyle report that they are spending more time with their family and friends.

Income and Sustainability (H4)

A one-way ANOVA was conducted to test **H4** and to determine if general sustainability, product sustainability, price, quality, brand, and the purchasing of sustainable products differed among household income. There are no differences in general sustainability, product sustainability, price, quality, and the purchasing of sustainable products by income, $p > .05$. However, there are statistically significant differences in the rank of importance of brand by income group, $F(7, 167) = 2.501$, $p = .018$, with following means (Table 6).

						95% Confidence Interval for Mean			
		N	M	SD	SE	LL	UL	Min	Max
Please rank the importance of the following aspects when buying a product? (from most important to least important) - Brand	Less than 500€	16	2.69	1.014	0.254	2.15	3.23	1	4
	500€ - 999€	27	3.15	0.989	0.190	2.76	3.54	1	4
	1,000€ - 1,999€	34	3.47	0.662	0.114	3.24	3.70	2	4
	2,000€ - 2,999€	28	3.50	0.745	0.141	3.21	3.79	1	4
	3,000€ - 3,999€	18	3.11	0.963	0.227	2.63	3.59	1	4
	4,000€ - 5,000€	29	2.90	0.976	0.181	2.53	3.27	1	4
	More than 5,000€	15	3.27	1.033	0.267	2.69	3.84	1	4
	Prefer not to say	8	3.63	0.518	0.183	3.19	4.06	3	4

Table 6: Importance of Brand by Income Group.

Additionally, a chi-square test for association was conducted between monthly income and how much the respondents were willing to pay for more sustainable products. There are no statistically significant associations, $p = .121$.

Physical Shopping and Enjoying Being Alone (H5)

For **H5** a chi-square test for association was conducted between the preference for online versus physical shopping and the preference for companionship while shopping in a physical location. There are no statistically significant associations between preferring online/physical shopping

and preference in companionship during shopping, $p > .05$. This leads to the conclusion that the hypothesis could not be supported.

COVID-19, Mental Health, Well-being, Social Anxiety, and Age (H6)

For **H6** there was also chi-square test for association conducted between age, COVID-19 influence on personal importance of well-being, understanding of sustainability, cooking alone, and online shopping. The participant was able to rank these variables from one (most) to eight (least). There is no statistically significant associations between age and COVID-19 influence of personal importance of well-being, cooking alone, and shopping online, $p > .05$. There is a statistically significant association between age and a better understanding of sustainability, $\chi^2(35) = 52.580$, $p = .029$. Younger individuals are more apt to have a better understanding of sustainability.

Crosstab

Count (N)		How old are you?							
		Under 18	18 – 24	25 – 34	35 – 44	45 – 54	55 – 64	65 or older	Total
Better understanding of sustainability	1	0	1	0	0	1	0	0	2
	2	0	4	3	1	1	0	0	9
	3	0	8	3	1	1	0	0	13
	4	1	11	13	5	1	3	0	34
	5	0	12	13	9	4	0	0	38
	6	0	13	19	1	4	1	0	38
	7	1	16	13	2	4	0	0	36
	8	0	0	0	0	2	1	0	3
Total		2	65	64	19	18	5	0	173

Chi-Square Test

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	52.580[a]	35	.029
Likelihood Ratio	42.255	35	.115
Linear-by-Linear Association	.198	1	.657
N of Valid Cases	173		

a. 40 cells (83,3%) have expected count less than 5. The minimum expected count is ,02.

Table 7: Crosstab association between age and better understanding of sustainability

5.2. Additional analysis

Besides the hypothesis it was possible to gain additional insights from the survey. The first block, the shopping behavior, is giving additional insights about the preferred category when it comes to choose online or physical shopping. For the participants it was possible to choose between: groceries; clothes; electronics; convenience; furniture; shoes; medicine; cosmetics and others. It was possible to choose multiple answers. By using a descriptive analysis, it is possible to conclude which segments the participants prefer during online shopping and physical shopping. For online shopping most of the participants prefer to buy electronics (23%) and clothes (18%) online. This shows that within these categories, the respondents are likely to buy it online instead in a physical shop. For physical shopping the majority of the participants

prefers to buy groceries (17%), furniture (16%) and shoes (15%) in a physical shop. This leads to the conclusion that in these three categories they are more likely to buy them in a physical shop.

When looking to the hypothesis testing it was tested if people with a higher income put a higher emphasis on sustainability. When analyzing the data, it is interesting to analyze as well how important sustainability is in general for the participants. With the question: "On a scale of 1-4, how important is sustainability for you in general? (1 = unimportant; 4 = important)", it was possible to analyze the importance of the sustainability of the participants. After running a descriptive analysis, a mean of M=2.49 with a standard deviation of SD=0.78 was analyzed. It can be said that sustainability is neither unimportant nor completely important, however, for most of the participants it is slightly important.

Furthermore, it is interesting to see if the participants are having and influence from influencers/social media marketing. Related to the literature review this was also a part of the survey. With the question what changed the most during COVID-19 6.73% answered that they are strongly influenced from influencers and their lifestyle. It can be indicated that only a small percentage of the participants perceived an influence of influencers. In the other questions the participants should rang from most to least important what COVID-19 changed the most in their life. The variable of bigger influence from social media/influencers has a mean of M=4.28 and a standard deviation of SD=1.80. This indicates a high standard deviation, which means that the observed values are further dispersed from the mean and therefore influence varies strongly across participants. It can be concluded that the participants ranked this type of influence in the middle, meaning that it is neither important nor unimportant.

6. Main findings

H1 stated that the personality traits are having an influence on the likeliness and the frequency of online shopping. Based on the analysis of the data, this hypothesis is partially supported. The analysis showed that people with the characteristic disorganized/careless, open to new experiences/complex and conventional/uncreative are showing a significance regarding the online shopping frequency. Additionally, it showed that people that are disorganizes/careless did not have a preference to online or physical shopping. Another significant finding can be made about the participants who are sympathetic/warm. In this participant group, the frequency of online shopping increased after COVID-19. As a conclusion this hypothesis does not support

that all personality traits are showing an influence on the likeliness and frequency of online shopping. Only the personality traits disorganized/careless, open to new experiences/complex, conventional/uncreative and sympathetic/warm show an influence in online shopping frequency (Appendix D, Table 42).

H2 has suspected that COVID-19 had a higher impact on women's (mental) health, well-being and social anxiety than on men's. The data analysis finds that there is no gender difference in terms of the health, well-being and social anxiety, leading to the conclusion that this hypothesis could not be supported and has to be rejected (Appendix D, Table 42).

H3 stated that people are now more concerned about their lifestyle in regard to health now than before COVID-19. The analysis shows that the participants that now live a healthier lifestyle than before COVID-19 that there is a statistical significance with playing more sports, eating healthier, mental health, sustainability, physical health, more consciously shopping, influence from influencers/social media and more time with friends and family. The data analyzed that the participants with a healthier lifestyle are playing more sports, which changed during COVID-19. Additionally, they have a better habit in eating healthier. Furthermore, analysis states that the participants who think they live a healthier life now are having no impact on their mental health, but they are more concerned about mental health. Moreover, the analysis shows that the participants are not more sustainable in cause of COVID-19. Additionally, they are more concerned about their physical health. The analysis also provides the information that they are not shopping more consciously. Also, they are not strongly influenced from influencers and social media. As the last point it can be said that they are spending more time with friends and family. It can be concluded that this hypothesis is supported, and that people are living a healthier lifestyle and are more concerned about their health (Appendix D, Table 42).

H4 has suspected that people with a high income are putting a higher emphasis on sustainability. The analysis states that there is no impact of income on sustainability. Additionally, it shows that people with higher income are not showing a significance in the willingness to pay more for sustainable products. By testing this hypothesis, one of the only things discovered is that people with higher incomes ranked the importance of brands the highest, leading to the conclusion that the hypothesis cannot be supported. However, it is also examined that people with higher incomes place a high value on the brand when purchasing a product, which is an interesting finding (Appendix D, Table 42).

H5 stated that people who are preferring to shop online are more likely to be alone when going physical shopping. The analysis provides no significance between these variables, leading to this hypothesis being rejected (Appendix D, Table 42).

H6 stated that COVID-19 had a higher impact on younger people (Age: under 18 – 34) (mental) health, well-being, and social anxiety than older people (Age: above 35). It appears that this hypothesis cannot be supported based on the analysis. However, the analysis indicates that there is a significant correlation between age and a better understanding of sustainability, indicating that the younger generation (under 18 – 34) is more knowledgeable about sustainability. In conclusion, the younger generation of participants are not showing a higher impact on their well-being than the older generation, which suggests that there is no difference in regard to age (Appendix D, Table 42).

6.1. Discussion and Conclusion

As a preliminary step, it is necessary to recall the research question: **"How has consumer behavior changed due to the corona pandemic and the new mindset about health?".** After analysing the survey and the literature review, results have been found and conclusions have been established. All these analyses were important to answer the main research question. The literature states that age and gender have an influence on which persons are affected by mental illnesses, or at which gender and age the frequency occurs. First of all, the literature states that the younger generation is more often affected by mental illness than the older generation. The analysis of this study analyzed that there is no difference between gender. Therefore, it could not be established that, for example, women are more often affected by mental illness than men. Thus, no correspondences between literature and the study could be found.

There is a lack of information and a limited amount of literature regarding personality traits, therefore no comparisons could be made. As a result of this study, it was found that some personality traits have a significant effect on online shopping behavior. Thus, it can be demonstrated that every personality reacts differently, thus proving that every individual behaves differently, and every individual is unique as well. Furthermore, the population now lives a much healthier lifestyle than before the pandemic. In conclusion, it has been found that the COVID-19 pandemic has altered population behavior in relation to health. As an example,

they eat healthier, prepare their own meals, and are more likely to exercise and participate in sports.

In terms of the sustainability topic, no correlation could be found between the income group and sustainability. Accordingly, it is not possible to conclude that people with higher incomes place a greater emphasis on the issue of sustainability, even after the COVID-19 pandemic. Furthermore, it was not possible to conclude that people who prefer to go shopping alone physically prefer online over physical shopping. Thus, it could not be proven that people who prefer to be alone prefer to use the opportunity of online shopping. In conclusion, it can be said that behavior has changed in some aspects, especially when it comes to the topic of health, but not all hypotheses that were based on existing literature could be proven with the help of this study. However, the main research question could thus be answered, because the view of health in particular has changed significantly. People are more concerned about their health and people with a healthier lifestyle are having fewer mental issues. It is also important to note that different personalities have a significant impact on consumer behavior.

6.2. Limitation and future research

Whenever research is conducted, there are always limitations that must be considered. There are also limitations associated with this study that should be taken into consideration. The purpose of this section is to provide an overview of limitations and possible future research. First of all, despite the high proportion of female participants, this study may be influenced by the fact that more than 60% of the participants are female. Due to this, it may be more challenging to provide accurate conclusions. For meaningful conclusions and concrete analysis, the survey should be conducted with equal proportions of both genders in the future. Additionally, there were problems understanding the language. As a large proportion of participants came from Germany, especially the older generation had problems to understand the survey in English. Therefore, the survey shall be conducted in other, native, languages. Moreover, the environment of the survey participants may influence the answers, since they may be stressed or influenced by other external factors, for example other persons or a noisy environment, during the survey. Additionally, since the COVID-19 pandemic has not been officially ended yet, some aspects may continue to change on a continuous basis. It is possible to present current results due to the fact that the COVID-19 pandemic is subsiding, but these may still change over time. Furthermore, the availability of current studies that address the topic

of COVID-19 is limited due to the fact that most studies and literature were published prior to or during the pandemic, and therefore do not reflect current developments.

Furthermore, it is always interesting to understand what other research can be conducted to extend this study in the future. One possibility is to conduct the survey again, but to divide it into three surveys. The purpose of three survey is to create more control values to ensure that clear results can be achieved and delimited to determine how the consumer behavior is before (1), during (2), and after (3) COVID-19. Additionally, a further review of current literature and studies should be conducted in the future. Within the next few years, there will probably be a greater number of studies to compare with. Furthermore, it could be helpful to conduct qualitative expert interviews with experts such as psychologists. Further insight into mental health can be gained from qualitative research, which serve as an important source of information. As a final opportunity, observation could be conducted to gain a better understanding of the diversity of consumers, such as observing offline shopping behavior, for example. There is the possibility of observing the behavior of various age groups in different types of physical stores to determine their current behavior.

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Appendix

Appendix A – Online Survey

(2) Shopping Behavior

Q1 How often do you shop online?

- ○ Every day (1)
- ○ 2-3 times a week (2)
- ○ Every week (3)
- ○ Every 2 weeks (4)
- ○ Once a month (5)
- ○ Every 2 months (6)
- ○ Never (7)

Q2 How often do you buy groceries online?

- ○ Every day (1)
- ○ 2-3 times a week (2)
- ○ Every week (3)
- ○ Every 2 weeks (4)
- ○ Once a month (5)
- ○ Every 2 months (6)
- ○ Never (7)

Q3 How often do you shop in a physical store? (Supermarkets excluded)

- ○ Every day (1)
- ○ 2-3 times a week (2)
- ○ Every week (3)
- ○ Every 2 weeks (4)
- ○ Once a month (5)
- ○ Every 2 months (6)
- ○ Never (7)

Q4 How often do you go to a supermarket?

- ○ Every day (1)
- ○ 2-3 times a week (2)
- ○ Every week (3)
- ○ Every 2 weeks (4)
- ○ Once a month (5)
- ○ Every 2 months (6)
- ○ Never (7)

Q5 Do you prefer online over physical shopping?

- ○ Yes (1)
- ○ No (2)
- ○ Sometimes (3)

Q6 If you go to a physical shop, what do you enjoy more, going alone or with family and friends?

- ○ Alone (1)
- ○ With family (2)
- ○ With friends (3)
- ○ With both (4)

Q7 If you shop alone, do you enjoy being alone?

- ○ Yes (1)
- ○ No (2)

Q8 If you shop at a physical store do you take advantage from the advice from the salespersons?

- ○ Yes (3)
- ○ No (4)
- ○ Depends (5)

Q9 If you shop online do you use online consultation (chat bots, online appointment)?

- ○ Yes (1)
- ○ No (2)

Q10 Do you like to see and touch the products before buying?

- ○ Yes (1)
- ○ No (2)
- ○ Depends on the product (3)

Q11 In which segments do you prefer online over physical shopping? (multiple answers possible)

- ☐ Groceries (1)
- ☐ Clothes (2)
- ☐ Electronics (3)
- ☐ Convenience (4)
- ☐ Furniture (5)
- ☐ Shoes (6)
- ☐ Medicine (7)
- ☐ Cosmetics (8)
- ☐ Other (9)

Q12 In which segments do you prefer physical over online shopping? (multiple answers possible)

- ☐ Groceries (1)
- ☐ Clothes (2)
- ☐ Electronics (3)
- ☐ Convenience (4)
- ☐ Furniture (5)
- ☐ Shoes (6)
- ☐ Medicine (7)
- ☐ Cosmetics (8)
- ☐ Others (9)

Q13 When choosing to shop online, what are the main factors for choosing this channel? (multiple answers possible)

- ☐ Convenience (1)
- ☐ Price (2)
- ☐ Efficiency (3)
- ☐ Larger product base (4)
- ☐ Online discounts (5)
- ☐ Others (6)

Q14 When choosing to shop physically, what are the main factors for choosing this channel? (multiple answers possible)

- ☐ Personal contact (1)
- ☐ Look and feel of the shop (2)
- ☐ Smaller product base (3)
- ☐ Products are usable immediately after purchase (4)
- ☐ Others (5)

Q15 How much do you spend for grocery shopping in a month?

- ○ 1€ - 50€ (1)
- ○ 51€ - 100€ (2)
- ○ 101€ - 200€ (3)
- ○ 201€ - 300€ (4)
- ○ 301€ - 500€ (5)
- ○ More than 500€ (6)

Q16 How much do you spend for non-grocery shopping per month?

- ○ Nothing (1)
- ○ 1€ - 50€ (2)
- ○ 51€ - 100€ (3)
- ○ 101€ - 200€ (4)
- ○ 201€ - 300€ (5)
- ○ 301€ - 500€ (6)
- ○ More than 500€ (7)

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(3) Importance of sustainability, health and well-being

Q17 On a scale of 1-4, how important is sustainability for you in general? (1 = unimportant ; 4 = important)

Not at all important	Slightly important	Very important	Extremely important
1	2	3	4

Q18 Please rank the importance of the following aspects when buying a product? (from most important to least important)

_____ Sustainability (1)
_____ Price (2)
_____ Quality (3)
_____ Brand (4)

Q19 On a scale of 1-4, how important is it for you to buy sustainable products? (1 = unimportant ; 4 = important)

	Not at all important	Slightly important	Very important	Extremely important
	1	2	3	4
Sustainable products ()				

Q20 On a scale of 1-4, how important is it for you to live a healthy lifestyle? (1 = unimportant ; 4 = important)

	Not at all important	Slightly important	Very important	Extremely important
	1	2	3	4
Healthy lifestyle ()				

Q21 Do you prefer to buy healthy and organic snacks over sweets etc.?

- ○ No (1)
- ○ Yes (2)

Q22 How much you are willing to pay for a more sustainable product?

- ○ 0% (1)
- ○ 1% - 10% (2)
- ○ 11% - 30% (3)
- ○ 31% - 50% (4)
- ○ 51% - 70% (5)
- ○ 71% - 100% (6)
- ○ More than 100% (7)

(4) Personality types

Q23 Please indicate how much you enjoy being alone?

- ○ 0 (0)
- ○ 1 (1)
- ○ 2 (2)
- ○ 3 (3)
- ○ 4 (4)
- ○ 5 (5)
- ○ 6 (6)
- ○ 7 (7)
- ○ 8 (8)
- ○ 9 (9)
- ○ 10 (10)

Q24 Please indicate to what you disagree or agree with each of the following statements. I see myself as:

	Disagree strongly (1)	Disagree moderately (2)	Disagree little (3)	Neither disagree nor agree (4)	Agree a little (5)	Agree moderately (6)	Agree strongly (7)
Anxious, easily upset. (1)	○	○	○	○	○	○	○
Sympathic, warm. (2)	○	○	○	○	○	○	○
Disorganized, careless. (3)	○	○	○	○	○	○	○
Critical, quarrelsome. (4)	○	○	○	○	○	○	○
Reserved, quiet. (5)	○	○	○	○	○	○	○
Extraverted, enthusiastic. (6)	○	○	○	○	○	○	○
Dependable, self-disciplined (7)	○	○	○	○	○	○	○
Open to new experiences, complex. (8)	○	○	○	○	○	○	○
Calm, emotionally stable. (9)	○	○	○	○	○	○	○
Conventional, uncreative. (10)	○	○	○	○	○	○	○

Q25 Is it important for you what other people think about you?

- 0 (0)
- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 (7)
- 8 (8)
- 9 (9)
- 10 (10)

Q26 Is it more important for you to have a big friends group instead of a few close friends?

- 0 (0)
- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 (7)
- 8 (8)
- 9 (9)
- 10 (10)

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(5) COVID-19 impact

Q27 Do you think Covid-19 influenced your personal importance of well-being?

- ○ No (1)
- ○ Yes (2)

Q28 How big would you rate the impact from Covid-19 on your wellbeing and health on a scale from 1-4? (1 = no impact ; 4 = big impact)

	1	2	3	4
Impact from Covid-19 ()				

Q29 What changed regarding your wellbeing and health? (multiple answers possible)

- ☐ I am doing more sports (1)
- ☐ I eat healthier (2)
- ☐ Big impact on my mental health (depression, social anxiety, etc.) (3)
- ☐ I am more sustainable (4)
- ☐ I am more concerned with physical health (5)
- ☐ I am more concerned with my mental health an wellbeing (6)
- ☐ I shop more consciously (7)
- ☐ I am strongly influenced from influencers and their lifestyle (8)
- ☐ I spend more time with my family and friends (9)
- ☐ Other: (10) _____
- ☐ Nothing (11)

Q30 Do you think you have a healthier lifestyle now than before Covid-19?

- ○ No (1)
- ○ Yes (2)

Q31 How did your online purchasing frequency change due to Covid? I am shopping …. online

- ○ Less (1)
- ○ Slightly less (2)
- ○ Slightly more (3)
- ○ More (4)

Q32 What do you think Covid-19 changed the most in your life? (from most to least, please rank)

_____ Being healthier (1)
_____ Stronger sense of responsibility about your life (2)
_____ Bigger influence from Social Media / Influencers (3)
_____ (More) social anxiety (4)
_____ Better understanding of sustainability (5)
_____ Cook more by yourself (6)
_____ More online shopping (7)
_____ Other: (8)

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(6) Demopgraphics

Q33 What is your gender?

- ○ Male (1)
- ○ Female (2)
- ○ Non-binary / third gender (3)
- ○ Prefer not to say (4)

Q34 How old are you?

- ○ Under 18 (1)
- ○ 18 - 24 (2)
- ○ 25 - 34 (3)
- ○ 35 - 44 (4)
- ○ 45 - 54 (5)
- ○ 55 - 64 (6)
- ○ 65 - 74 (7)
- ○ 75 - 84 (8)
- ○ 85 or older (9)

Q35 Where are you from?

- ○ Portugal (1)
- ○ Germany (2)
- ○ Switzerland (3)
- ○ Italy (4)
- ○ France (5)
- ○ Austria (6)
- ○ Other: (7) _____

Q37 Do you live alone or together with other people?

- ○ Alone (1)
- ○ Together with 1 other person (2)
- ○ Together with 2 other persons (3)
- ○ If together with more than 2 persons, with how many?: (4) _____

Q38 What is your profession?

- ○ Master student (1)
- ○ Bachelor student (2)
- ○ Full time worker (3)
- ○ Part time worker (4)
- ○ Apprenticeship (5)
- ○ Unemployed (6)
- ○ Gap Year (7)
- ○ Intern (8)
- ○ Other: (9) _____

Q39 What is your marital status?

- ○ Single (1)
- ○ In a relationship (2)
- ○ Married (4)
- ○ Other (6)

Q40 What is your monthly household income?

- ○ Less than 500€ (1)
- ○ 500€ - 999€ (2)
- ○ 1,000€ - 1,999€ (3)
- ○ 2,000€ - 2,999€ (4)
- ○ 3,000€ - 3,999€ (5)
- ○ 4,000€ - 5,000€ (6)
- ○ More than 5,000€ (7)
- ○ Prefer not to say (8)

Appendix B – Demographics Online Survey

Table 8: Gender

Gender	**%**
Male	38.07
Female	61.93
Non-binary / third gender	0.00
Prefer not to say	0.00
Total	**100**

Table 9: Age

Age	**%**
Under 18	1.14
18-24	36.93
25-34	36.93
35-44	11.36
45-54	10.80
55-64	2.84

65-74	0.00
75-84	0.00
85 or older	0.00
Total	**100**

Table 10: Demopgraphics

Country	**%**
Germany	88.07
Switzerland	4.55
Portugal	3.41
USA	1.14
France	1.14
Italy	0.57
Netherlands	0.57
India	0.57
Total	**100**

Table 11: Current Country

Country	**%**
Germany	73.86
Portugal	15.34
Switzerland	7.95
Austria	1.14
USA & Netherlands	1.70
Total	**100**

Table 12: Profession

Profession	**%**
Full-time job	43.43
Master students	31.43
Bachelor students	12
Part-time job	8.57
Gap Year	1.14
Intern	1.14

Other	1.14
Unemployed	0.57
Apprenticeship	0.57
Total	**100**

Table 13: Household

Household	**%**
One other person	48.9
Living alone	29.5
Two other person	15.9
More than 2 people	5.7
Total	**100**

Table 14: Marital status

Marital status	**%**
Single	40.3
Relationship	38.6
Married	20.5
Other	0.6
Total	**100**

Table 15: Household income

Income	**%**
1000€ - 1999€	19.43
4000€ - 5000€	16.57
2000€ - 2999€	16
500€ - 999€	15.43
3000€ - 3999€	10.29
Less than 500€	9.14
More than 5000€	8.57
Preferre not to say	4.57
Total	**100**

Appendix C – Data Analysis

Table 16: Chi-Square test calm and shopping frequency

Chi-Square Test			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	47.745[a]	36	.091
Likelihood Ratio	51.642	36	.044
Linear-by-Linear Association	9.998	1	.002
N of Valid Cases	173		

a. 34 cells (69,4%) have expected count less than 5. The minimum expected count is ,12.

Table 17: Chi-Square test dependable and shopping frequency

Chi-Square Test			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	34.443[a]	36	.543
Likelihood Ratio	35.580	36	.488
Linear-by-Linear Association	1.311	1	.252
N of Valid Cases	173		

a. 36 cells (73,5%) have expected count less than 5. The minimum expected count is ,06.

Table 18: Chi-Square test extroverted and shopping frequency

Chi-Square Test			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	42.225[a]	36	.220
Likelihood Ratio	45.288	36	.138
Linear-by-Linear Association	4.621	1	.032
N of Valid Cases	172		

a. 35 cells (71,4%) have expected count less than 5. The minimum expected count is ,29.

Table 19: Chi-Square test reserved and shopping frequency

Chi-Square Test			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	33.576[a]	36	.584
Likelihood Ratio	40.017	36	.296
Linear-by-Linear Association	.548	1	.459
N of Valid Cases	172		

a. 35 cells (71,4%) have expected count less than 5. The minimum expected count is ,20.

Table 20: Chi-Square test critical and shopping frequency

Chi-Square Test			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	35.872[a]	36	.475
Likelihood Ratio	38.691	36	.349
Linear-by-Linear Association	.387	1	.534
N of Valid Cases	174		

a. 36 cells (73,5%) have expected count less than 5. The minimum expected count is ,14.

Table 21: Chi-Square test sympathetic and shopping frequency

Chi-Square Test			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	34.557[a]	30	.259
Likelihood Ratio	37.896	30	.152
Linear-by-Linear Association	5.496	1	.019
N of Valid Cases	175		

a. 29 cells (69,0%) have expected count less than 5. The minimum expected count is ,06.

Table 22: Chi-Square test anxious and shopping frequency

Chi-Square Test			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	33.517[a]	36	.587
Likelihood Ratio	32.825	36	.620
Linear-by-Linear Association	4.312	1	.038
N of Valid Cases	175		

a. 34 cells (69,4%) have expected count less than 5. The minimum expected count is ,14.

Table 23: Chi-Square test calm and shopping preference

Chi-Square Test			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	12.701[a]	12	.391
Likelihood Ratio	13.778	12	.315
Linear-by-Linear Association	1.151	1	.283
N of Valid Cases	173		

a. 6 cells (28,6%) have expected count less than 5. The minimum expected count is ,81.

Table 24: Chi-Square test dependable and shopping preference

Chi-Square Test			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	13.325[a]	12	.346
Likelihood Ratio	15.693	12	.206
Linear-by-Linear Association	4.024	1	.045
N of Valid Cases	173		

a. 7 cells (33,3%) have expected count less than 5. The minimum expected count is ,40.

Table 25: Chi-Square test extroverted and shopping preference

Chi-Square Test			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	11.098[a]	12	.521
Likelihood Ratio	11.658	12	.474
Linear-by-Linear Association	.164	1	.686
N of Valid Cases	172		

a. 8 cells (38,1%) have expected count less than 5. The minimum expected count is 2,03.

Table 26: Chi-Square test reserved and shopping preference

Chi-Square Test			
	Value	**df**	**Asymptotic Significance (2-sided)**
Pearson Chi-Square	15.893[a]	12	.196
Likelihood Ratio	19.332	12	.081
Linear-by-Linear Association	5.517	1	.019
N of Valid Cases	**172**		

a. 7 cells (33,3%) have expected count less than 5. The minimum expected count is 1,42.

Table 27: Chi-Square test critical and shopping preference

Chi-Square Test			
	Value	**df**	**Asymptotic Significance (2-sided)**
Pearson Chi-Square	12.791[a]	12	.384
Likelihood Ratio	14.714	12	.257
Linear-by-Linear Association	.014	1	.906
N of Valid Cases	**174**		

a. 8 cells (38,1%) have expected count less than 5. The minimum expected count is 1,01.

Table 28: Chi-Square test sympathetic and shopping preference

Chi-Square Test			
	Value	**df**	**Asymptotic Significance (2-sided)**
Pearson Chi-Square	9.989[a]	10	.441
Likelihood Ratio	9.858	10	.453
Linear-by-Linear Association	.726	1	.394
N of Valid Cases	**175**		

a. 7 cells (38,9%) have expected count less than 5. The minimum expected count is ,41.

Table 29: Chi-Square test anxious and shopping preference

Chi-Square Test			
	Value	**df**	**Asymptotic Significance (2-sided)**
Pearson Chi-Square	9.327[a]	12	.675
Likelihood Ratio	10.417	12	.579
Linear-by-Linear Association	.397	1	.529
N of Valid Cases	**175**		

a. 7 cells (33,3%) have expected count less than 5. The minimum expected count is 1,03.

Table 30: Chi-Square test H2 association gender and influence COVID-19 wellbeing

Crosstab				
Count (N)		What is your gender?		
		Male	Female	Total
Do you think Covid-19 influenced your personal importance of wellbeing?	Yes	16	24	**40**
	No	51	85	**136**
Total		**67**	**109**	**176**

Chi-Square Test					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.082[a]	1	.775		
Continuity Correction [b]	.010	1	.920		
Likelihood Ratio	.082	1	.775		
Fisher's Exact Test				.853	.457
Linear-by-Linear Association	.081	1	.775		
N of Valid Cases	**176**				

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 15,23.
b. Computed only for a 2x2 table

Table 31: Chi-Square test H2 association gender and being healthier

Crosstab				
Count (N)		What is your gender?		
		Male	Female	Total
Being healthier	**1**	22	33	**55**
	2	14	24	**38**
	3	17	20	**37**
	4	6	12	**18**
	5	6	5	**11**
	6	1	10	**11**
	7	0	3	**3**
Total		**66**	**107**	**173**

Chi-Square Test			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	8.278[a]	6	.218
Likelihood Ratio	10.147	6	.119
Linear-by-Linear Association	1.595	1	.207
N of Valid Cases	**173**		

a. 4 cells (28,6%) have expected count less than 5. The minimum expected count is 1,14.

Table 32: Chi-Square test H2 association gender and stronger sense of responsibility of life

Crosstab				
Count (N)		What is your gender?		
		Male	Female	Total
Stronger sense of responsibility about your life	**1**	19	27	**46**
	2	9	21	**30**
	3	20	21	**41**
	4	11	20	**31**
	5	5	13	**18**
	6	2	3	**5**
	7	0	2	**2**
Total		**66**	**107**	**173**

Chi-Square Test			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	5.157[a]	6	.524
Likelihood Ratio	5.858	6	.439
Linear-by-Linear Association	.659	1	.417
N of Valid Cases	**173**		

a. 4 cells (28,6%) have expected count less than 5. The minimum expected count is ,76.

Table 33: Chi-Square test H2 association gender and bigger influence from social media

Crosstab				
Count (N)		What is your gender?		
		Male	Female	Total
Bigger influence from social media / influencers	1	3	8	11
	2	10	17	27
	3	7	15	22
	4	11	16	27
	5	15	22	37
	6	12	16	28
	7	8	12	20
	8	0	1	1
Total		66	107	173

Chi-Square Test			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.015[a]	7	.959
Likelihood Ratio	2.390	7	.935
Linear-by-Linear Association	.567	1	.451
N of Valid Cases	173		

a. 3 cells (18,8%) have expected count less than 5. The minimum expected count is ,38.

Table 34: Chi-Square test H2 association gender and social anxiety

Crosstab				
Count (N)		What is your gender?		
		Male	Female	Total
(More) social anxiety	1	6	13	19
	2	8	11	19
	3	3	8	11
	4	5	14	19
	5	13	11	24
	6	16	23	39
	7	14	23	37
	8	1	4	5
Total		66	107	173

Chi-Square Test			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	5.598[a]	7	.587
Likelihood Ratio	5.673	7	.578
Linear-by-Linear Association	.171	1	.679
N of Valid Cases	173		

a. 3 cells (18,8%) have expected count less than 5. The minimum expected count is 1,91.

Table 35: Chi-Square Test H3 between healthier lifestyle now and doing more sports

Crosstab				
		Do you think you have a healthier lifestyle now than before Covid-19?		
		No	Yes	Total
I am doing more sports	0	39	32	71
	I am doing more sports	16	89	105
Total		55	121	176

Chi-Square Tests					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	31.060[a]	1	<.001		
Continuity Correction[b]	29.240	1	<.001		
Likelihood Ratio	31.255	1	<.001		
Fisher's Exact Test				<.001	<.001
Linear-by-Linear Association	30.884	1	<.001		
N of Valid Cases	176				

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 22,19.

b. Computed only for a 2x2 table

Table 36: Chi-Square Test H3 between healthier lifestyle now and eating healthier

Crosstab

		Do you think you have a healthier lifestyle now than before Covid-19?		
		No	Yes	Total
I eat healthier	0	45	51	96
	I eat healthier	10	70	80
Total		55	121	176

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	24.000[a]	1	<.001		
Continuity Correction[b]	22.427	1	<.001		
Likelihood Ratio	25.630	1	<.001		
Fisher's Exact Test				<.001	<.001
Linear-by-Linear Association	23.864	1	<.001		
N of Valid Cases	176				

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 25,00.
b. Computed only for a 2x2 table

Table 37: Chi-Square Test H3 between healthier lifestyle now and big impact on mental health

Crosstab

		Do you think you have a healthier lifestyle now than before Covid-19?		
		No	Yes	Total
Big impact on my mental health (depression, social anxiety, etc.)	0	45	70	115
	Big impact on my mental health (depression, social anxiety, etc.)	10	51	61
Total		55	121	176

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	9.591[a]	1	.002		
Continuity Correction[b]	8.562	1	.003		
Likelihood Ratio	10.248	1	.001		
Fisher's Exact Test				.002	.001
Linear-by-Linear Association	9.536	1	.002		
N of Valid Cases	176				

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 19,06.
b. Computed only for a 2x2 table

Table 38: Chi-Square Test H3 between healthier lifestyle now and sustainability

Crosstab

		Do you think you have a healthier lifestyle now than before Covid-19?		Total
		No	Yes	
I am more sustainable	0	46	72	118
	I am more sustainable	9	49	58
Total		**55**	**121**	**176**

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	9.967[a]	1	.002		
Continuity Correction[b]	8.904	1	.003		
Likelihood Ratio	10.753	1	.001		
Fisher's Exact Test				.002	.001
Linear-by-Linear Association	9.910	1	.002		
N of Valid Cases	176				

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 18,13.
b. Computed only for a 2x2 table

Table 39: Chi-Square Test H3 between healthier lifestyle now and physical health

Crosstab

		Do you think you have a healthier lifestyle now than before Covid-19?		Total
		No	Yes	
I am more concerned with physical health	0	43	53	96
	I am more concerned with physical health	12	68	80
Total		**55**	**121**	**176**

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	18.027[a]	1	<.001		
Continuity Correction[b]	16.667	1	<.001		
Likelihood Ratio	18.948	1	<.001		
Fisher's Exact Test				<.001	<.001
Linear-by-Linear Association	17.924	1	<.001		
N of Valid Cases	176				

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 25,00.
b. Computed only for a 2x2 table

Table 40: Chi-Square Test H3 between healthier lifestyle now and more concern about mental health

Crosstab

		Do you think you have a healthier lifestyle now than before Covid-19?		
		No	Yes	Total
I am more concerned with my mental health and wellbeing	0	42	54	96
	I am more concerned with my mental health and wellbeing	13	67	80
Total		55	121	176

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	15.360[a]	1	<.001		
Continuity Correction[b]	14.107	1	<.001		
Likelihood Ratio	16.035	1	<.001		
Fisher's Exact Test				<.001	<.001
Linear-by-Linear Association	15.273	1	<.001		
N of Valid Cases	176				

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 25,00.
b. Computed only for a 2x2 table

Table 41: Chi-Square Test H3 between healthier lifestyle now and more time with friends and family

Crosstab

		Do you think you have a healthier lifestyle now than before Covid-19?		
		No	Yes	Total
I spend more time with friends and family	0	43	48	91
	I spend more time with friends and family	12	73	85
Total		55	121	176

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	22.460[a]	1	<.001		
Continuity Correction[b]	20.944	1	<.001		
Likelihood Ratio	23.539	1	<.001		
Fisher's Exact Test				<.001	<.001
Linear-by-Linear Association	22.332	1	<.001		
N of Valid Cases	176				

a. 0 cells (,0%) have expected count less than 5. The minimum expected count is 26,56.
b. Computed only for a 2x2 table

Appendix D – Hypothesis Conclusion

Table 42: Hypothesis conclusion

Hypothesis	Conclusion
H1: Personality traits influence the likeliness and frequency of online shopping.	Supported only for disorganized/careless; open to new experiences/complex; conventional/uncreative; sympathetic/warm
H2: COVID-19 had a higher impact on women's (mental) health, well-being and social anxiety than on men's.	Not supported
H3: People are more concerned about their lifestyle in regard to health now than before COVID-19.	Supported
H4: People with a high income (>2000€) are putting a higher emphasis on sustainability.	Not supported
H5: People that prefer to shop online rather shop alone when choosing physical shopping while also enjoy being alone.	Not supported
H6: COVID-19 had a higher impact on younger peoples (Age: under 18 – 34) (mental) health, well-being, and social anxiety than older peoples (Age: above 35).	Not supported