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COVID-19: How has the pandemic influenced consumers' sustainable attitudes and behaviors?

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## **Abstract**

The COVID-19 pandemic has been a great strain on the whole world. Millions of people have died worldwide, and Norway has also been affected. The outbreak of COVID-19 has led to fear among people all over the world, and individuals have developed health concerns in relation to the virus. Thus, governments all over the world have introduced lockdowns, which has had a positive effect on the environment. The lockdowns and COVID-19 related restrictions from the government in Norway have changed consumers' attitudes and behaviors towards more sustainable choices and increased consumers' environmental awareness. Thus, the purpose of this research was to uncover if and how concerns for COVID-19 influences consumers' sustainable attitudes and behaviors. As a result, the following research question was formulated:

*How has concerns for COVID-19 influenced sustainable attitudes and affected sustainable behavior during the pandemic?*

A quantitative research design was used to investigate possible changes in consumers' sustainable attitudes and behavior due to COVID-19. The results indicate that consumers are concerned about the consequences of the virus, both on their own health but also on their local communities. In addition, several consumers want to support vulnerable businesses, as a desire to help the society. Consequently, the concerns for COVID-19 have positively affected consumers' environmental awareness, practice of environmental conservation, willingness to practice social responsibility and local shopping behavior.

Our findings suggest that the changes in sustainable attitudes and sustainable behavior we have witnessed as a result of COVID-19 could contribute to several positive impacts on the environment in the future. However, it is therefore important for companies to continuously adapt sustainable ideas from the field, in order to adapt their practices to market trends and meet consumers' expectations. Thus, the study provides future directions for how businesses can cope with future crises, such as the COVID-19 pandemic. Consequently, the thesis contributes to an understanding of how the COVID-19 pandemic has influenced sustainable attitudes and affected sustainable behavior.

## 1.0 Introduction

In March 2020, the Norwegian government implemented a complete lockdown because of the COVID-19 pandemic that hit the country. This was the most intrusive measures on people's private life that have been done in peacetime. To this date, 784 people have died in Norway, and more than 3.7 million people in the world have died in total from the coronavirus (VG, 2021; FHI, 2021a). The reason for these dark numbers is that this was a new virus that no one was protected against before the outbreak (Løf, 2020). Thus, it has been critical to get a vaccine to end the COVID-19 pandemic (WHO, 2021).

The corona virus includes several severe symptoms, which can lead to a relatively high mortality rate (Ahorsu et al., 2020). Based on this, several corona-infected patients have been hospitalized, which has consequently led to a strain on the health care system (Jeyabaladevan, 2020). In addition, many people with socially critical jobs have had to risk their own health by helping others throughout the pandemic (Skjæraasen, 2020). As a result, the outbreak of COVID-19 has led to fear among people all over the world, and individuals have developed health concerns in relation to the virus (Ahorsu et al., 2020). Even though Norway is one of the countries with the lowest number of infected patients, the virus has had a major impact on the daily lives of Norwegian citizens (Manbari & Kristensen, 2020). Thus, since the virus is highly contagious, the Norwegian government has during the pandemic initiated several restrictions in order to stop the spread of the virus in the country. Examples of restrictions are the use of face masks in public areas, to stay at home whenever possible, mandatory home office if possible, restrictions and in certain periods prohibitions with visitors in your own home, and avoid close contact with people outside of your household (Regjeringen, 2020). However, these restrictions have all had major impacts on society, and have led to a slowdown of economic activities. Thus, the virus has affected both individuals and companies, and thousands of people have been temporarily laid off or lost their jobs (E24, 2020). As a result, consumers have been forced to change their usual way of living in order to adapt to the ongoing situation. Consumers have also used personal initiatives in addition to the national restrictions to avoid spread of the virus, both to protect themselves, but also the society (Lindorff, 2020).

However, several other countries have also implemented local restrictions. Thus, research shows that these restrictions have had a positive impact on the environment (Zowalaty et al., 2020). A positive environmental change that has been highlighted in the media is that the water in Venice, Italy has become clean again after many years of over-tourism. The water, previously very polluted and dirty, is after COVID-19 clearer and the inhabitants can clearly see the wildlife living in the water (Wold, 2020). In addition, the restrictions have led to closure of factories, and thus reduced emissions related to manufacturing and transport (Atalan, 2020). This can make consumers more aware of how the environment affects their everyday lives and their own impact on the environment (Zowalaty et al., 2020).

As a result of the corona virus, companies have been forced to seek new solutions to be able to meet consumers' changing demands. With a desire to comply with the serious measures and restrictions, consumers want to make purchases in an efficient and safe way by minimizing social interaction and avoiding the spread of the virus (NTB Kommunikasjon, 2020). Although the whole world has started vaccinating against the COVID-19 virus, no one knows how long the pandemic will last and possibly affect the world's population. Thus, consumers are concerned that they expose themselves and others to danger, and therefore may require companies to ensure a safe experience throughout their customer journey (Accenture, 2021).

Nevertheless, research has discovered that consumers can change their behavior and their decision-making based on concerns and lack of control in a current situation (Visser-Keizer et al., 2016). Thus, the purpose of this research is to address a theoretical research gap by uncovering if and how concerns for COVID-19 influence consumers' sustainable attitudes and behaviors. Accordingly, we want to analyze the impact of COVID-19 on environmental awareness, environmental conservation, consumer social responsibility attitude and local shopping behavior. Consequently, businesses will be able to adapt to these changes in attitudes and behavior during the pandemic and be prepared if something similar occurs later in time. Thus, the following research question was developed:

*How has concerns for COVID-19 influenced sustainable attitudes and affected sustainable behavior during the pandemic?*



## **2.0 Literature Review**

In this section, we will look into the following main topics; Concerns for COVID-19, Green Consumerism and Consumers' Social Responsibility. We will thoroughly inspect both attitudes and behaviors related to the main topics “Green Consumerism” and “Consumers’ Social Responsibility”, which are presented as sub-topics.

### ***2.1 Concerns for COVID-19***

Following the outbreak of COVID-19, the virus has posed a threat to the health of the entire world's population. The virus has led to increasing infection and high mortality rates, which in turn have led to great strain on the health care system (Popescu, 2020). Many people are concerned about their own personal health and fear family or friends are going to get sick (Abdel Wahed et al., 2020). The reason for this is that many of those who are infected are hospitalized, need intensive care, and respiratory protection (Helsedirektoratet, 2021). Furthermore, as many people have been hospitalized with this infectious virus, several hospitals have not had enough staff available to provide the healthcare needed. Hospitals have not been prepared for such a virus, and thus more people are afraid of getting sick in fear that they will not get the sufficient help they need (Jeyabaladevan, 2020). As a result, the Norwegian population follows the restrictions set by the government, in addition to developing social norms. Many consumers engage in a “national effort” to reduce infection rates, but also to take care of society (Isachsen, 2020). This has led to Norwegian consumers being encouraged to behave more morally conscious through their customer journey (Robson, 2020). This means that consumers expect everyone to get involved in the “national effort” and follow the restrictions, in order to reduce infection rates and achieve a positive effect on society as a whole (Isachsen, 2020). In addition, consumers influence each other through the pandemic by communicating important information and opinions through casual conversations (Bertrandias & Goldsmith, 2006). Thus, consumers see the consequences of the corona pandemic for better and worse. The Norwegian population has become aware of how the situation affects themselves and their family, but also how it affects the entire Norwegian economy (Kampevoll, 2020).

Furthermore, due to the lockdowns that have been introduced all over the world because of the virus, there are many companies that have gone bankrupt or have had to temporarily close their businesses. All stores except pharmacies and grocery stores have also had to stay closed periodically to avoid the unnecessary spread of infection. This has led to a considerable impact on local communities, which may have influenced consumers to be concerned for their local communities. In addition, closed shops and companies have led to many people being temporarily laid off and/or losing their jobs. This may contribute to concerns about one's own personal finances, as many people could not foresee such a crisis (Donthu & Gustafsson, 2020). However, since the virus affects everyone differently, we can expect consumers to develop different levels of concerns for the virus (Manbari & Kristensen, 2020).

## ***2.2 Consumers and the Environment***

Now, we will look at Consumers and the Environment where we will focus on both attitude (i.e. 2.2.2 Environmental Awareness) and behavior (i.e. 2.2.3 Environmental Conservation).

### ***2.2.1 Background***

Over the last decades, there has been an increase in consumer consumption of goods, which has caused damage to the environment. This consumption has led to production of products and services causing waste damage, air pollution, global warming and the impact on flora and fauna, among other things (Chen & Chai, 2010). Based on these serious consequences on the environment, research has found that an increased environmental awareness has been developed among consumers (Baquer, 2012).

As a result of increasing environmental awareness over the years, some consumers have developed basic values towards sustainability. These values are influenced by their concerns towards welfare and may act as a motivation for the development of several sustainable trends (Solomon, 2013). The Cambridge Dictionary states that "a trend is a general development in a situation or in the way people are behaving". Thus, increasing environmental awareness affects consumers' general purchasing

patterns (Solomon, 2013). Hence, consumers may want to protect the environment by engaging in sustainable consumption and reducing their personal impact on the environment (Baqer, 2012). Nevertheless, the Paris Agreement was implemented in 2015, where the goal is to limit global warming to 1.5 degrees Celsius, compared to pre-industrial levels. To reach this climate target by the year 2030, we will have to reduce greenhouse gas emissions by 55 per cent below 1990 levels (EU, 2020).

The increase in environmental awareness is an important issue for companies, as they depend on meeting consumers' needs and expectations. Consumers build up expectations simultaneously as trends arise and will reject those brands that do not meet their expectations. As a result of environmental movements, consumers expect companies to take environmental responsibility by having products produced in sustainability (Accenture, 2020). Some companies are responding by implementing green practices and initiatives as a result of external pressure (Flammer, 2013). However, according to Leonidou (2010), it is important that companies are able to predict future developments with regards to environmental trends, in order to take proactive measures when developing these future products. Companies must thus adopt sustainable ideas from the field, in order to adapt their practices to market trends and meet consumers' expectations. In addition, it is important that companies increase the credibility among consumers with detailed and truthful environmental claims (Leonidou, 2010). Having desirable, affordable and convenient sustainable products, is something businesses should prioritize. According to Accenture (2020), "The future of companies lies in reconciling economic performance with social and environmental sustainability". Thus, it is the companies that focus on following the trends in the market that will grow in the long term (Accenture, 2020).

### *2.2.2 Environmental Awareness (Attitude)*

As mentioned earlier, COVID-19 has had several different impacts on consumers' daily lives. Due to various restrictions, consumers have not had the opportunity to maintain their normal everyday habits and have had to seek other solutions to maintain their course of life (Sofa & Sofa, 2020). People have been recommended and at times forced to stay at home, which has led to a change in our impact on the environment (Rousseau & Deschacht, 2020). Despite the fact that the pandemic can

lead to severe consequences for health and economy, Zowalaty et al. (2020) explains that "the outbreak of COVID-19 may serve as a demonstration of possible positive changes for the environment".

Research has discovered that the slowdown in the economy has had several positive impacts on the environment (Hallema et al., 2020). Among other things, major improvements in air quality have been discovered. Using satellite data, it has been investigated how the air quality has been affected by COVID-19, and it has been discovered that there is a reduction of nitrogen dioxide over large landscapes such as in China, Europe and India. NASA Earth Observatory (2020) explains that this is a part of the aftermath of the lockdown. In addition, companies have also been affected by the pandemic as there has been a reduction in local transport and the aviation sector due to COVID-19. This has thus led to a reduction in emissions related to transport, which in turn has improved air quality (Rugani & Caro, 2020). Equally significant is the fact that travel restrictions have led to reduced international air travel, both for companies and consumers (Zowalaty et al., 2020). Furthermore, clearer water has been proven in Venice, Italy despite over-tourism for years prior, which is also a result of lockdown (Hallema et al., 2020). This may be due to the fact that people are not allowed to travel as much now as before, due to the various restrictions that require people to stay at home and avoid unnecessary travel (Regjeringen, 2021).

These improvements in the environment will play an important role in the analysis of how COVID-19 has affected environmental awareness, as the findings point to the origin of some man-made environmental problems. However, according to Zowalaty et al. (2020), positive impacts on the environment can be temporary, but still play a significant role when it comes to consumers' environmental awareness. The reason is that these positive impacts on the environment that we have seen through COVID-19 so far are communicated evenly across social and digital media. The changes in the environment are so significant that the media choose to emphasize how lockdown has led to positive improvements in the environment. Consumers are thus continuously reminded and exposed to, among other things, how the reduced emissions have had a positive effect on the Earth, as the environment visibly has had the opportunity to heal and "flourish". This may help

consumers to reflect on how our everyday activities we were used to before the outbreak of COVID-19 actually affects the environment (Zowalaty et al., 2020). In addition, consumers may develop sustainable beliefs based on the fact that they become aware of the threat of environmental damage (Joshi & Rahman, 2015).

As several consumers have seen the consequences of the virus may reinforce sustainable beliefs and provoke environmental concerns (Khan et al., 2020; Mainieri et al., 1997). In addition, the positive impacts that COVID-19 has had on the environment can serve as a source of learning (Zowalaty et al., 2020). Consequently, we can expect that consumers' concern for COVID-19 has influenced their environmental awareness. Thus, the following hypothesis was formulated:

**Hypothesis 1 (H1).** *Consumers' concern for COVID-19 positively affects their environmental awareness.*

Regarding H1, it may seem that reverse causality could be a potential problem. This means that Environmental Awareness can be part of a general concern factor that manifests itself in relation to COVID-19. However, we have tried to avoid this based on the way we designed the survey, which may reduce the concern for reverse causality. Thus, we formulated the questions where the respondents would answer whether any changes in attitude/behavior are "Due to COVID-19" (see Appendix). Needless to say, with the proviso that these are self-statements and that the respondents answered honestly.

### *2.2.3 Environmental Conservation (Behavior)*

As mentioned, research suggests that consumers' environmental awareness has been gradually increasing in recent years (Baqer, 2012). Especially in the Western world, consumers are aware of ecological problems and thus may be willing to take responsibility and decrease their overall consumption. This means that consumers may be willing to pay more for green products and change attitudes towards recycling because they believe that it will improve their quality of life in the future (Baqer, 2012).

The Cambridge Dictionary (2021) defines environmental conservation as “The protection of plants and animals, natural areas, and interesting and important structures and buildings, especially from the damaging effects of human activity”. Further, Braimah (2015) explains that this indicates that consumers engage in socially conscious and responsible sustainable consumer behavior, such as environmentally concerning consumption. Consumers want to achieve positive environmental effects, which leads consumers to consider their choices during their customer journey based on their environmental impact (Sachdeva et al., 2015). This includes everything from how they buy and use the products, in addition to how they obtain the products or services (Moisander, 2007).

As mentioned, consumers are constantly exposed to COVID-19’s positive effect on the Earth, which can further develop consumers’ concern for the environment and thus contribute to a pro-environmental behavior and continuous environmentally friendly commitment. In addition, COVID-19 may lead consumers to reduce their own environmental impact during their customer journey, as COVID-19 might act as a motivating factor of the development of sustainable practices (Prakash et al., 2019). Thus, as a result of COVID-19, consumers may expect products and services to have undergone an eco-friendly process, to reflect their sustainable behavior intention (Sachdeva et al., 2015). This forces companies to implement sustainable practices within the firms and in the production of products. In addition, this further leads to companies having to learn the background for what motivates consumers’ eco-friendly and sustainable buying intention (Prakash et al., 2019).

According to Whitmarsh & O’Neill (2010), a pro-environmental behavior involves different types of behaviors that are in favor of the environment. This means that consumers may engage in waste-reduction behavior, transport-reduction behavior and eco-friendly shopping behavior, among other things (Whitmarsh & O’Neill, 2010). The lockdown may therefore serve as a motivating factor to keep reducing their waste and emissions related to transportation of goods to stores, as consumers have discovered the positive effects of these pro-environmental behaviors (Rugani & Caro, 2020). In addition, several consumers have experienced being temporarily laid off or lost their jobs due to COVID-19, which has resulted in reduced income.

(Statista, 2021). Hence, people have had to adjust the amount of goods purchased in order to reduce their expenditures (McKenzie & Schargrodsky, 2011). Further, McKenzie and Schargrodsky (2011) find that consumers shop less, and that overall consumption decreases during crises when people experience a decrease in their personal economy. Thus, we can expect that consumers are more willing to engage in an eco-friendly shopping behavior due to COVID-19, such as reducing their shopping frequency in order to reduce their expenditures (McKenzie & Schargrodsky, 2011). In addition, consumers may see that excessive consumption is not in favor of the environment (Whitmarsh & O'Neill, 2010).

COVID-19 has resulted in a reduction of everyday activities which may further contribute to several environmental benefits (Zowalaty al., 2020). The reason is that COVID-19 has given us the opportunity to reduce human behavior that negatively affects the environment. In addition, lockdown has given consumers the opportunity to reflect on how COVID-19 can lead to a transition to a more sustainable system consisting of eco-friendly behavior (Sofa & Sofa, 2020). Further, consumers may take inspiration from seeing how positively COVID-19 has affected the environment so far (Zowalaty et al., 2020). As a result, we expect consumers to take part in an increasing environmentally concerned consumption, driven by the fact that they want to contribute to and achieve positive environmental effects (Braumah, 2015). Thus, we expect consumers who are more concerned about COVID-19 and its consequences, to have a greater chance of developing a stronger pro-environmental attitude. Thus, the following hypothesis was formulated:

**Hypothesis 2 (H2).** *Consumers' concern for COVID-19 positively affects their practice of environmental conservation behavior.*

#### *2.2.4 Mediation of Conservation Behavior by Awareness*

According to Mainieri et al. (1997), consumers usually behave according to their pro-environmental attitude. However, studies have found that consumers develop attitudes towards a specific environmentally friendly behavior and prioritize the frequency of that behavior. As a result, it is uncertain if consumers with environmental concerns will adopt companies' sustainable products, unless they have a pro-environmental belief towards that specific product. This also means that

consumers do not implement sustainable behavior unless they think that the specific behavior is in favor of the environment (Mainieri et al., 1997). This can result in consumers having different opinions about what kind of products and specific actions have a positive impact on the environment, and thus sustainable behavior will also vary among consumers with a pro-environmental attitude. In addition, consumers are price-sensitive when buying sustainable products. On the other hand, consumers are more likely to buy sustainable products if the products match their pro-environmental belief (Mainieri et al., 1997). However, if consumers' environmental concerns are not strong enough, they will not perform environmentally friendly behaviors as frequently as consumers with pro-environmental beliefs (Fisher et al., 2012).

In addition, according to Malik & Singhal (2017), consumers' willingness to buy eco-friendly products are influenced by their attitude towards such products. Thus, prior research has studied how perceived eco-friendliness influences consumers attitude, and how this attitude influences their behavior towards a brand selling eco-friendly products and services. The results of the study indicated that consumers' behavior is strongly influenced by their attitude towards the various eco-friendly brands (Malik & Singhal, 2017). Consequently, this leads consumers to develop a sustainable purchase behavior when they perceive the product as eco-friendly (Punyatoya, 2014). Hence, perceiving the brand as eco-friendly may act as a driver to form trust and loyalty to a brand (Chan, 2000; Chrisjatmiko, 2018), which may increase consumers' willingness to buy (Malik & Singhal, 2017). Based on this, one can expect that consumers with higher environmental awareness are more likely to implement different types of sustainable behavior.

As already mentioned, we expect consumers who are more concerned about COVID-19 to have a greater chance of developing a stronger pro-environmental attitude. Based on the theory of Mainieri et al. (1997), we can expect that consumers who are more concerned about COVID-19 also have increased their sustainable behavior based on their sustainable attitudes. Thus, the following hypothesis was formulated:

**Hypothesis 3 (H3).** *The positive effect of consumers' concern for COVID-19 on environmental conservation behavior is mediated by environmental awareness.*



## ***2.3 Consumers' Social Responsibility***

Furthermore, we will now look at Consumer Social Responsibility, where we will focus on both attitude (i.e. 2.3.1 Consumer Social Responsibility) and behavior (i.e. 2.3.2 Local Shopping).

### *2.3.1 Consumer Social Responsibility (Attitude)*

Due to COVID-19, lockdowns have happened in countries all over the world, and people have had to comply with social distancing, such as avoiding large gatherings of people (Sarkis et al., 2020). Among other things, people have completed the transition from working in an office to working from home, and students have had to follow their studies from their homes in online classes. In addition, people have not had the opportunity to visit several public arenas they normally do daily, such as stores, gyms and cultural institutions, to mention a few. Thus, social distancing has, among other things, led to reduced travel, both short and long distance. People have been forced to change their everyday routines and adapt to new habits. Further, during a crisis, people are expected to support each other. However, due to restrictions and the subsequent consequences, people have been forced to do this from a distance (Sarkis et al., 2020).

When businesses experience external crises, such as e.g., terrorist attacks or a pandemic, consumers increase their sympathy for the affected businesses and may want to support these (Majid et al., 2021). According to Arli & Tjiptono (2018), consumer social responsibility implies that consumers are socially conscious and/or morally motivated to support and behave according to their ethical concerns for the society. Further, research shows that consumers are motivated to shop more or pay a little extra to help businesses during such a crisis (Majid et al., 2021). In addition, by helping the businesses during such circumstances, consumers also contribute to the stores being open, which is in the consumers' own interest in order to keep shopping at their local or favorite stores (Majid et al., 2021). However, as one of the outcomes of COVID-19 has been layoffs, several consumers have experienced a reduced income. Thus, it may influence their overall consumption and may cause consumers to think carefully about their spending habits (Kaytaz & Gul, 2014). On the other hand, we can expect some consumers to feel compassion for their society, and thus carefully adjust their consumption to help vulnerable businesses (Majid et al., 2021).

According to Majid et al. (2021), there are different ways consumers can support vulnerable businesses. One way is through increased patronage. However, during an economic crisis or a pandemic like we now have, we can expect consumers to show their support through financial donations. This is especially common for businesses in the service industry, such as cafes and restaurants which have been heavily affected and forced to close. However, consumers have had the opportunity to show their extra support in the form of tipping for the restaurants that have been open for take-aways. In addition, it can be expected that consumers want to prioritize who they want to support and where they choose to shop, in order to help particularly vulnerable companies (Majid et al., 2021). Thus, we expect consumers to be more willing to donate both financially and consumer goods such as food and clothes to those in need due to COVID-19.

Majid et al. (2021) finds that when an external crisis occurs and affects vulnerable businesses, in which the business itself is not responsible, consumers' willingness to helping other people can be transformed to helping these companies. Thus, when the consumers are willing to help, they have to investigate opportunities and ways they can do so. In addition, research finds that when consumers want to support businesses, they are willing to offer more than what is required of them (Majid et al., 2021). Hence, we can expect consumers who are concerned about the virus and its consequences to be willing to support vulnerable companies during the COVID-19 pandemic. Thus, the following hypothesis was formulated:

**Hypothesis 4 (H4).** *Consumers' concern for COVID-19 positively affects their willingness to practice social responsibility.*

### 2.3.2 Local Shopping (Behavior)

As mentioned, COVID-19 has pushed consumers out of their normal routines and behaviors, and forced them to adopt new ones (Sarkis et al., 2020). As many retailers have been forced to close their stores, consumer demands and behavior have changed (Majid et al., 2021). In addition, as people are forced to stay at home and not being able to socialize, there has been a radical change in consumer habits and lifestyles, such as in eating habits and everyday behaviors (Di Renzo et al., 2020). Thus, at the peak of the corona pandemic, the most prioritized items were

revolved around basic needs, with hygiene and cleaning products, and everyday staples soaring, while non-essential categories of goods slumped. Further, during the pandemic, a “buy local” trend has emerged, influencing the brand choices consumers make (Accenture, 2021).

Tauber (1972) found that consumers are not just driven by the products purchased, but also from the activity of shopping itself. This means that consumers choose to shop in stores that stimulates customers’ motivations, such as physical activity, sensory simulation, and social motives (Tauber, 1972). This shows that for people to choose local shops, the stores must provide more than just the right products and services, and that close proximity is not enough (Handy & Clifton, 2001). In addition, as the consumers have adopted new behaviors, retailers have to understand the change in consumers’ perceptions and demands to win their purchase (Faour-Klingbeil et al., 2021).

Further, local shopping is also an act of sustainability, something that may also act as a motivating factor for consumers. When consumers choose local products, local economies get stronger against bigger producers with a larger geographical distribution as well as transportation costs are reduced (Seyfang, 2005). Hence, local communities get closer and more connected to e.g., the local farmers and companies. There is also an environmental perspective related to locally produced food, as consumers perceive it as with improved food safety, health and nutrition (Seyfang, 2005).

When consumers choose to shop locally produced products, they may make choices based on the benefits of local production, such as giving positive values back to their local community and the environment. Thus, consumers consider the negative effects of mass production and the consequences of pollution from larger producers in need of larger geographical distribution (Seyfang, 2005). Based on this, we can expect that consumers who are more concerned about COVID-19 and its consequences on the local community, shop more locally during the pandemic. Thus, the following hypothesis was formulated:

**Hypothesis 5 (H5).** *Consumers’ concern for COVID-19 positively affects local shopping behavior.*

### *2.3.3 Mediation of Local Shopping Behavior by Social Responsibility*

According to Caruana & Chatzidakis (2012), consumers who are willing to practice social responsibility will also be morally motivated to behave accordingly to their beliefs. This means that if consumers have concerns for their local community, they are more likely to actually act accordingly, e.g. through local shopping (Arli & Tjiptono, 2018). Consumers who can relate to social responsibility are motivated to act in a way that reflects their concerns. However, consumers' attitudes are strongly influenced by their beliefs towards the probability of certain outcomes. This indicates that consumers' attitudes towards a specific behavior must bring a perceived benefit in order for them to complete the behavior (Caruana & Chatzidakis, 2012).

Further, as mentioned, consumer social responsibility implies that “consumers are socially conscious and/or morally motivated to support and behave according to their ethical concerns for society” (Arli & Tjiptono, 2018). As research has discovered that consumers are more willing to show sympathy and help vulnerable businesses during crises, one can expect that consumers will also act consistently based on their moral values. Therefore, we expect that there is a connection between those who practice social responsibility, and those who shop locally - both because it supports society during a crisis (Majid et al., 2021), but also because it corresponds morally with taking care of the environment as local shopping is a sustainable initiative (Seyfang, 2005). These changes in behavior can adapt towards an increased sustainable supply and production, which could contribute to more positive impacts on the environment (Sarkis et al., 2020). Based on this, we can expect that consumers' willingness to practice social responsibility will be reflected in an increased sustainable behavior, such as local shopping.

As beforementioned, we expect consumers who are more concerned about COVID-19 to be more willing to practice social responsibility. Based on the theory of Caruana & Chatzidakis (2012), we can thus expect that consumers who are more concerned about COVID-19, also have developed social responsibility behavior, such as local shopping, based on their social responsibility attitudes. Thus, the following hypothesis was formulated:

**Hypothesis 6 (H6).** *The positive effect of consumers' concern for COVID-19 on local shopping behavior is mediated by the willingness to practice social responsibility.*

**2.4 Research Model and Overview of Hypotheses**

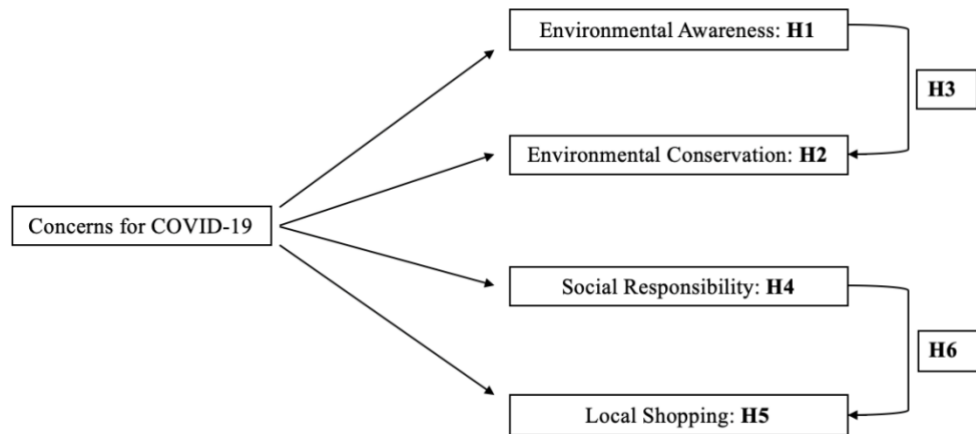


Figure 1: Research Model

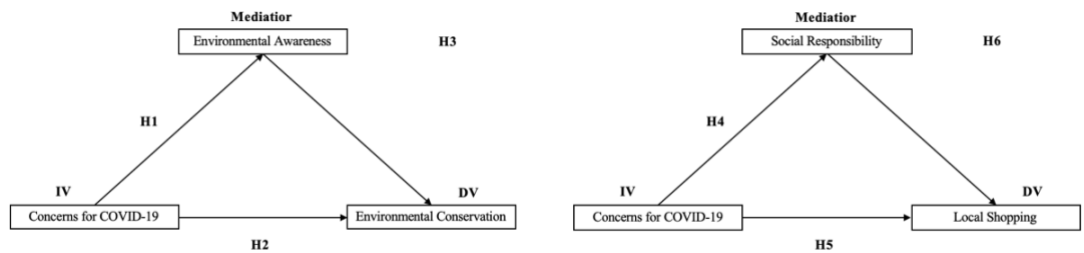


Figure 2: Research Model with Mediators

**H1.** *Consumers' concern for COVID-19 positively affects their environmental awareness.*

**H2.** *Consumers' concern for COVID-19 positively affects their practice of environmental conservation behavior.*

**H3.** *The positive effect of consumers' concern for COVID-19 on environmental conservation behavior is mediated by environmental awareness.*

**H4.** *Consumers' concern for COVID-19 positively affects their willingness to practice social responsibility.*

**H5.** *Consumers' concern for COVID-19 positively affects local shopping behavior.*

**H6.** *The positive effect of consumers' concern for COVID-19 on local shopping behavior is mediated by the willingness to practice social responsibility.*

### **3.0 Methodology**

#### ***3.1 Objective***

The objective of this study was to measure how COVID-19 has affected environmental awareness, environmental conservation, consumer social responsibility attitude and local shopping behavior. Thus, in this section we will present the process behind the data collection we conducted to answer our research question. Consequently, we will present our research design, our sample and collection of data. Furthermore, we will explain the validity and reliability of the study, before we explain how we conducted pretests and developed our survey.

We conducted a survey to test our research model (Figure 1 and Figure 2). The aim was to uncover how concerns for COVID-19 have affected environmental awareness, environmental conservation, social responsibility and local shopping (H1, H2, H4, H5). Finally, we wanted to test whether the positive effect of consumers' concern for COVID-19 on sustainable behavior was mediated by sustainable attitude (H3-H6). Further, we conducted a pretest of our survey in order to identify and eliminate potential problems before the actual survey was distributed to the respondents (Malhotra, 2010).

#### ***3.2 Research design***

This research design is a framework we used to implement the research. The methodology for this master thesis will therefore consist of a quantitative research design. The quantitative data will be based on a survey with different respondents from the age 18 to 75 years, which will make it possible to get the information needed to conduct the research. A thorough understanding of reasonings, feelings and perceptions is key to get trustworthy results (Malhotra, 2010). Furthermore, we used Qualtrics to conduct the survey as this is a web-based survey tool where we can do evaluations and collect data (Qualtrics, 2020).

When conducting the survey, it was important that we constructed it in a way that helped the participants get the best information they could, in order to get the answers and information we were looking for. To obtain the best answers from the

respondents, we asked the most relevant and important questions in the beginning of the survey, in order to not lose the participants' focus when answering the questions (Brace, 2018). Thus, it was also important that we structured the questions properly and placed similar questions in the same block. Hence, the more basic questions such as demographics were asked at the end of the survey. In addition, to evaluate the survey design, we followed Malhotra's (2010) Questionnaire Design Checklist.

### ***3.3 Population and Sample***

Our target population of this study is people who have lived in Norway during the COVID-19 pandemic. We wanted to target both genders and consumers of all ages, as we wanted to uncover the general attitude among Norwegian consumers. In addition, we used a convenience sample for this qualitative data, which is a type of non-probability sampling technique (Malhotra, 2010).

Using Qualtrics (2021) online sample size calculator, we found that our ideal sample size was 385 respondents. This is based on Norway's population (5,328 million), a 95% confidence level and 5% margin of error. However, since our sample would not be generalizable, we used this number as an indication of how many respondents we should retrieve.

### ***3.4 Data Collection***

The data were collected at the very end of April and in the first two weeks of May 2021 through an online survey. We used Qualtrics to perform the survey and it was distributed through Facebook and LinkedIn to reach as many participants as possible. The participants were informed that the survey was anonymous and ethically conducted, and that the internal BI guidelines for GDPR were followed. We tried to keep the survey as short as possible, in order to get as many participants as possible to reach our target sample size and to avoid fatigue when answering the questions. The survey took approximately 5-10 minutes to complete. We chose to use a 5-point Likert-scale for the answers to make it easier for the participants to contribute, and to increase the number of participants. Another method used to get

a sufficient number of participants was to create the survey in both Norwegian and English. This way we would reach both Norwegians and foreigners living in Norway, as consumers in Norway were our population of interest.

To ensure that we got as many participants as we needed, we used the snowball effect. Snowball sampling is when the existing participants recruit their acquaintances (Naderifar et al., 2017). Hence, we got other friends and family to share the survey with their friends and colleagues through their social media platforms. As our target group for the survey was the average consumer in the age between 18 to 75, this was a good way to get participants of all ages. There were 260 Norwegian respondents who completed the survey.

### ***3.5 Validity and Reliability***

Malhotra (2010) defines the validity of a scale as “the extent to which differences in observed scale scores reflect true differences among objects on the characteristic being measured, rather than systematic or random errors”.

To ensure that the survey had a strong external validity and that the results could be generalized, we wanted to get 200 to 300 respondents (Malhotra, 2010). The respondents for the survey were of both genders, and were between 18 to 75 years old, with different demographics. According to Malhotra (2010), this way the results could be generalized, and most people could relate to it (Malhotra, 2010). As the sampling design is not too specific, there should be less threats to external validity (Malhotra, 2010).

According to Malhotra (2010) “Reliability is the extent to which a scale produces consistent results if repeated measurements are made and is assessed by determining the proportion of systematic variation in a scale”. To test for reliability, we would have to do a test-retest and see if the same results occur. In the relationship between reliability and validity, reliability is a necessary, but not a sufficient, condition for validity (Malhotra, 2010).



### ***3.6 Survey Pretest***

We conducted a pretest of our survey in order to identify and eliminate potential problems before the actual survey was distributed to the respondents. The reason is that we had to uncover potential problems to avoid errors with our data collection. Thus, we chose to test everything from the wording of the questions, the content of the questions, the structure of the survey, and the time the respondents spent completing the questions. For the pretest, we selected respondents who would have been included in the actual survey, so that respondents for both the pretest and the survey were selected from the same population. The reason for this choice was that the pretest should be as accurate as possible, compared to the survey itself. Thus, we could identify potential problems that would be relevant to respondents of the actual survey (Malhotra, 2010). Consequently, we contacted 10 potential respondents personally via Facebook, which we knew fell under the same characteristics as the respondents to the actual survey. We thus asked these 10 respondents to conduct the survey before we published and distributed the completed survey.

Through pretests, we discovered some problems in connection with wording and sentence structure on some of the questions. Several of the respondents explained that it was difficult to interpret exactly what some of the question asked for, and thus we were able to correct the wording to something they all understood. In addition, we discovered that some of the respondents spent a little longer on completing the survey than we initially thought, so we ended up changing the estimated time of completion from 5 minutes to 5-10 minutes.

### ***3.7 Survey Development***

Since our population of interest was Norwegians, we chose to distribute the survey in both Norwegian and English. By distributing the survey in the population's native language, we were able to avoid potential misunderstandings. However, we also wanted the respondents to have the opportunity to complete the survey in English. The reason is that we know there are several English speakers who have also lived in Norway during the COVID-19 pandemic. Thus, we made sure to distribute the survey in English to be able to include these respondents in our study.

The survey started with an introduction where we briefly explained what the purpose of the survey was. Furthermore, the respondents were presented with 36 questions related to existing relevant literature, which we divided into 7 blocks to distinguish the topics we investigated (Table 1). We presented the questions in the following order to give the respondent a mental reset and to prevent specific questions from biasing responses to general questions (Malhotra, 2010).

***Table 1: Survey***

Block	Scale
Block 1: Introduction	
Block 2: Concerns for COVID-19	1-5
Block 3: Environmental Awareness	1-5
Block 4: Social Responsibility	1-5
Block 5: Environmental Conservation	1-5
Block 6: Local Shopping	1-5
Block 7: Demographic Questions	Gender, Age, Location

A 5-point Likert scale was used when the respondents answered the questions in the survey. This way, we could ensure that more people were willing to complete the survey, and prevent dropouts based on the fact that they might not would complete the survey if they had to write long sentences to answer the questions (Brace, 2018). In addition, the most important questions were presented at the beginning, as the respondent is more focused at the beginning of a survey. Accordingly, the demographic questions were presented in the end, as this did not require as much thinking. Thus, throughout the survey, the respondents were asked general questions about COVID-19, environmental awareness, social responsibility, environmental conservation and local shopping that were relevant to our topic. In addition, we asked where the respondents lived as we only wanted to investigate the Norwegian market. Consequently, we could remove possible respondents who were not meeting the criteria for the population of interest.

### ***3.8 Variable Description***

To perform the analyzes in section 4-5, we wanted to compute several constructs for sets of items; ConcernCOV, EnvAware, SocialResp, EnvCons and LocalShop.

*Concerns for COVID-19 (ConcernCOV)*

This construct was computed by combining six different items (Table 2). All of the items included in the construct was measured by using a five-point Likert scale. The question “How concerned are you overall about COVID-19, including its effect on health, economy, local communities and environment?” were measured between 1=Not concerned at all, 3=Neither unconcerned or concerned, and 5=Very concerned. The other statements presented were measured between 1=Strongly disagree, 3= Neither disagree nor agree, and 5=Strongly agree.

**Table 2: The Construct "ConcernCOV"**

<b>Variable</b>	<b>Items</b>	<b>Scale</b>
<b>ConcernCOV</b>	How concerned are you overall about COVID-19?	1-5
	I am concerned about getting infected	1-5
	I am concerned that someone I care about might get infected	1-5
	I am concerned about losing my job as a result of COVID-19	1-5
	I am concerned about negative effects of COVID-19 on my personal financial economy	1-5
	I am concerned about negative effects of COVID-19 on my local community	1-5

*Environmental Awareness (EnvAware)*

This construct was computed by combining five different items (Table 3). All of the items included in the construct was measured by using a five-point Likert scale. Thus, all the statements presented were measured between 1=Strongly disagree, 3= Neither disagree nor agree, and 5=Strongly agree.

**Table 3: The Construct "EnvAware"**

<b>Variable</b>	<b>Items</b>	<b>Scale</b>
<b>EnvAware</b>	I am concerned for the environment	1-5
	COVID-19 has made me more aware of environmental challenges	1-5
	COVID-19 has made me more aware of the environmental impact caused on the planet by humans	1-5
	COVID-19 has made me more aware of my own environmental impact	1-5
	COVID-19 has increased my environmental awareness	1-5

*Social Responsibility (SocialResp)*

This construct was computed by combining nine different items (Table 4). All of the items included in the construct was measured by using a five-point Likert scale. The statements “I plan to...” were measured between 1=Strongly disagree, 3= Neither disagree nor agree, and 5=Strongly agree, and all the other statements presented were measured between 1=Decreased, 3= No change, and 5=Increased.

**Table 4: The Construct "SocialResp"**

<b>Variable</b>	<b>Items</b>	<b>Scale</b>
<b>SocialResp</b>	Due to COVID-19, the degree of social responsibility I'm willing to practise has...	1-5
	Willingness to: Support vulnerable businesses	1-5
	Willingness to: Donate consumer goods to those in need	1-5
	Willingness to: Donate financially to those in need	1-5
	Willingness to: Support products/services known for practicing social responsibility	1-5
	I plan to: Support vulnerable businesses	1-5
	I plan to: Donate consumer goods to those in need	1-5
	I plan to: Donate financially to those in need	1-5
	I plan to: Support products/services known for practicing social responsibility	1-5

### *Environmental Conservation (EnvCons)*

This construct was computed by combining eight different items (Table 5). All of the items included in the construct was measured by using a five-point Likert scale. "Shopping frequency, overall consumption, waste, emissions related to transport to stores, and own environmental impact" were measured between 1=Increased, 3=No change, and 5=Decreased. However, the three other statements presented were measured between 1=Decreased, 3=No change, and 5=Increased. The reason why Decreased-Increased was presented differently in the various statements was because we had to turn them over and use reverse coding so that all statements went in the same direction.

**Table 5: The Construct "EnvCons"**

<b>Variable</b>	<b>Items</b>	<b>Scale</b>
<b>EnvCons</b>	Shopping frequency	1-5
	Overall consumption	1-5
	Waste	1-5
	Emissions related to transport to stores	1-5
	Own environmental impact	1-5
	Shopping for environmentally friendly products	1-5
	Shopping for products that will reduce your own environmental impact	1-5
	Willingness to pay a premium for environmentally friendly products	1-5

### *Local Shopping (LocalShop)*

This construct was computed by combining five different items (Table 6). All of the items included in the construct was measured by using a five-point Likert scale. All the statements presented were measured between 1=Strongly disagree, 3=Neither disagree nor agree, and 5=Strongly agree.

**Table 6: The Construct "LocalShop"**

<b>Variable</b>	<b>Items</b>	<b>Scale</b>
<b>LocalShop</b>	I am more concerned for my local community during COVID-19 than before the pandemic	1-5
	COVID-19 has made me more willing to preserve my local stores	1-5
	I shop more at local stores during COVID-19 than before the pandemic	1-5
	I prioritize shopping in local stores during COVID-19 than before the pandemic	1-5
	I am more willing to pay a premium at local stores during COVID-19 than before the pandemic	1-5

## 4.0 Analysis

Before we can test the hypotheses and analyze the results, we followed the data-preparation process by Malhotra (2010). Thus, in this section we explain how we prepared the data for analysis, and consequently which analyzes we performed to test the hypotheses.

### 4.1 Data Cleaning

When ending the data collection, we were left with 358 respondents. According to Malhotra (2010), missing responses should be treated as the respondents' answers to the survey will not provide a sufficient basis without missing values being treated. The reason why missing values may occur is that the respondents for one reason or another do not want or have the opportunity to complete the survey. However, there are several ways to treat missing responses. We chose to exclude 82 respondents who had not completed the survey in further analyzes, based on the fact that we did not want to substitute with a neutral value or imputed response. The reason was that there was too much variation among the respondents who had not completed the survey when it came to how many questions they answered. In addition, there were missing values for over 10% of the respondents, which could lead to biased estimates if we substituted the values (Eekhout et al., 2014). Nevertheless, we also excluded 11 respondents who were resident in countries other than Norway, as these respondents were not meeting the criteria for the population of interest.

Furthermore, we performed consistency checks to identify possible outliers in the data. However, there are various factors to consider when identifying such outliers. We wanted to identify possible inconsistency or extreme values, such as values that stand out from the average. Among other things, this can be a very high rating of

an item, that a respondent is very young / old or that the respondent has spent a long time answering the survey (Malhotra, 2010). We found that 2 of the respondents had spent accordingly three and eight days conducting the survey, which can be a reliability threat. Thus, there are potentially other factors that may have influenced their answers during these days, and as a result, we chose to eliminate the respondent to avoid weakened reliability. In addition, we discovered that 3 of the respondents had evaluated all the questions in the survey to 5, which may be a result of the respondent wanting to distinguish the number 5. Thus, we chose to remove these 3 respondents, as it may be a potential reliability threat and show misleading results (Malhotra, 2010). After we removed these, we performed descriptive statistics of all the items in the dataset, to see if there was more potential threat to the reliability of the data. Among other things, we wanted Standard deviation to be as low as possible on all items, which indicates that the data is close to mean. Consistently, this will indicate that the data does not contain more extreme values. In addition, we were able to examine the minimum and maximum values of the items and see if there were still more potential outliers. However, no more outliers were detected. Thus, we ended up with 260 respondents after missing values and outliers were excluded,  $N = 260$ .

#### ***4.2 Multiple Linear Regressions***

We performed multiple linear regressions to test the hypotheses: H1 (Consumers' concern for COVID-19 positively affects their environmental awareness), H2 (Consumers' concern for COVID-19 positively affects their practice of environmental conservation behavior), H4 (Consumers' concern for COVID-19 positively affects their willingness to practice social responsibility), and H5 (Consumers' concern for COVID-19 positively affects local shopping behavior). However, prior to conducting multiple linear regressions, we wanted to compute related items into various constructs. Thus, we performed an analysis of internal consistency reliability for the construct, a bivariate analysis to examine whether our constructs were correlated based on Pearson's correlation. Furthermore, we also investigated the possibility that a multicollinearity problem could occur (Janssens, 2008). We will discuss the results of these analyzes in section 5.

### ***4.3 Mediation***

Furthermore, we conducted mediating analysis (Hayes & Rockwood, 2017), where we wanted to analyze whether consumers' sustainable attitudes influenced their sustainable behavior. Thus, we tested H3 (The positive effect of consumers' concern for COVID-19 on environmental conservation behavior is mediated by environmental awareness) and H6 (The positive effect of consumers' concern for COVID-19 on local shopping behavior is mediated by the willingness to practice social responsibility). Using mediation analysis through model 4 in PROCESS, we were able to test the X effect on Y with the mediating effect of M (Hayes & Rockwood, 2017).

### **5.0 Results**

H1-H2 and H4-H5 were tested through multiple linear regressions to check if Concerns for COVID-19 had a positive effect on Environmental Awareness (H1), Environmental Conservation (H2), Social Responsibility (H4), and Local Shopping (H5) (Malhotra, 2010). Furthermore, to test H3 and H6, we conducted two mediating analyzes (Hayes & Rockwood, 2017), to further investigate whether the effect of Concerns for COVID-19 on sustainable behavior (H3: Environmental Conservation, H6: Local shopping) was mediated by sustainable attitudes (35: Environmental Awareness, H6: Social Responsibility). All hypotheses are analyzed in 6 separate analyzes.

**Table 7: Variables and Descriptive Statistics**

Variable	Measurement	Mean		
		Mean	Std. Error	Std.dev
<b>ConcernCOV</b>	How concerned are you overall about COVID-19?	3,82	0,05	0,87
	I am concerned about getting infected	3,56	0,07	1,13
	I am concerned that someone I care about might get infected	4,35	0,06	0,91
	I am concerned about losing my job as a result of COVID-19	2,48	0,09	1,46
	I am concerned about negative effects of COVID-19 on my personal financial economy	3,06	0,08	1,36
	I am concerned about negative effects of COVID-19 on my local community	3,92	0,06	0,99
<b>EnvAware</b>	I am concerned for the environment	4,02	0,06	0,89
	COVID-19 has made me more aware of environmental challenges	3,27	0,07	1,15
	COVID-19 has made me more aware of the environmental impact caused on the planet by humans	3,42	0,07	1,19
	COVID-19 has made me more aware of my own environmental impact	3,14	0,07	1,15
	COVID-19 has increased my environmental awareness	3,25	0,07	1,19
<b>SocialResp</b>	Due to COVID-19, the degree of social responsibility I'm willing to practise has...	3,72	0,07	1,04
	Willingness to: Support vulnerable businesses	3,96	0,05	0,73
	Willingness to: Donate consumer goods to those in need	3,61	0,05	0,8
	Willingness to: Donate financially to those in need	3,55	0,05	0,81
	Willingness to: Support products/services known for practicing social responsibility	3,77	0,05	0,76
	I plan to: Support vulnerable businesses	3,96	0,05	0,76
	I plan to: Donate consumer goods to those in need	3,58	0,06	0,92
	I plan to: Donate financially to those in need	3,57	0,06	0,9
	I plan to: Support products/services known for practicing social responsibility	3,82	0,05	0,84
<b>EnvCons</b>	Shopping frequency	3,81	0,08	1,24
	Overall consumption	3,74	0,07	1,08
	Waste	3,35	0,06	0,99
	Emissions related to transport to stores	3,95	0,06	1
	Own environmental impact	3,73	0,06	0,94
	Shopping for environmentally friendly products	3,41	0,05	0,75
	Shopping for products that will reduce your own environmental impact	3,44	0,05	0,74
	Willingness to pay a premium for environmentally friendly products	3,42	0,05	0,78
<b>LocalShop</b>	I am more concerned for my local community during COVID-19 than before the pandemic	3,97	0,05	0,81
	COVID-19 has made me more willing to preserve my local stores	4,11	0,05	0,72
	I shop more at local stores during COVID-19 than before the pandemic	3,76	0,06	0,99
	I prioritize shopping in local stores during COVID-19 than before the pandemic	3,8	0,06	0,95
	I am more willing to pay a premium at local stores during COVID-19 than before the pandemic	3,56	0,06	0,94

Before combining sets of items into various constructs, we performed descriptive statistics for all the items in order to examine the descriptives of the dataset (Janssens, 2008). As seen in Table 7, the mean for most items is above 3 on the Likert scale. The exception is the variable “I am concerned about losing my job as a result of COVID-19” which has a value of Mean = 2.48. In addition, as standard deviation for all items is relatively low, indicates that all data is close to mean (Table 7). Furthermore, descriptive statistics provide an overview of the items related to the five constructs we wanted to compute for further analysis; ConcernCOV, EnvAware, SocialResp, EnvCons, and LocalShop.

**Table 8: Cronbach's Alpha**

	ConcernCOV	EnvAware	SocialResp	EnvCons	LocalShop
<b>Cronbach's Alpha</b>	0,75	0,86	0,90	0,86	0,83

Since we wanted to compute several constructs for sets of items (Table 7), we analyzed the internal consistency of the following constructs; Concerns for COVID-19 (ConcernCOV), Environmental Awareness (EnvAware), Social Responsibility (SocialResp), Environmental Conservation (EnvCons), and Local



Shopping (LocalShop). Thus, we calculated Cronbach's alpha to analyze the reliability of the summed scale where the items were summed to form a total score. The reason we wanted to test the reliability of the items was because we wanted to see if the items were related to each other (Ley, 1972). All of our computed constructs ended up having a Cronbach's alpha higher than 0.6 (Table 8), which is considered as an acceptable level of reliability (Malhotra, 2010). Thus, we could go further in the analysis with these five constructs based on various sets of items, as ConcernCOV (0.745), EnvAware (0.862), SocialResp (0.901), EnvCons (0.856), and LocalShop (0.828) all were considered to be reliable.

**Table 9: Correlations**

		ConcernCOV	EnvAware	SocialResp	EnvCons	LocalShop
<b>ConcernCOV</b>	<b>Pearson Correlation</b>	1	0,50	0,47	0,35	0,39
	Sig. (2-tailed)		0,001	0,001	0,001	0,001
	N	260	260	260	260	260
<b>EnvAware</b>	<b>Pearson Correlation</b>	0,50	1	0,52	0,45	0,52
	Sig. (2-tailed)	0,00		0,001	0,001	0,001
	N	260	260	260	260	260
<b>SocialResp</b>	<b>Pearson Correlation</b>	0,47	0,52	1	0,57	0,59
	Sig. (2-tailed)	0,00	0,001		0,001	0,001
	N	260	260	260	260	260
<b>EnvCons</b>	<b>Pearson Correlation</b>	0,35	0,45	0,57	1	0,42
	Sig. (2-tailed)	0,00	0,001	0,001		0,001
	N	260	260	260	260	260
<b>LocalShop</b>	<b>Pearson Correlation</b>	0,39	0,52	0,59	0,42	1
	Sig. (2-tailed)	0,00	0,001	0,001	0,001	
	N	260	260	260	260	260

Table 9 indicates that the constructs are indeed correlated. This means that if we do a linear regression using only one of these constructs, we will get a significant result. However, according to Janssens (2008), a multicollinearity problem could arise if the correlation between the variables is 0.6 or above. As seen in Table 5, none of the variables are correlated above the value of 0.6, which means that the multicollinearity problem is unlikely to occur.

**Table 10: N = 260 for all constructs**

	Mean	Std. Dev	SE	95CI	t (vs mean = 3)	p
ConcernCOV	3,53	0,76	0,05	3,44-3,62	11,27	<0,001
EnvAware	3,42	0,90	0,06	3,31-3,53	7,52	<0,001
EnvCons	3,61	0,67	0,04	3,53-3,69	14,56	<0,001
SocialResp	3,73	0,63	0,04	3,65-3,80	18,55	<0,001
LocalShop	3,84	0,68	0,04	3,76-3,92	19,86	<0,001

Furthermore, we performed descriptive statistics of the constructs in order to analyze the means of the summed items. Note that we changed the order of the constructs in Table 10 so that they are presented in the same order as the individual analyzes (Section 5.1-5.7). As seen in Table 10, we see that all of the five constructs have a mean above 3. However, since our measurement scale from the survey indicated that 3 = Neither / No change from before COVID-19, we had to perform a One- Sample T-Test with a test value of = 3 for all the constructs in order to test if  $\text{Mean} > 3$ . This way, we could avoid the problem related to not having measurements pre-COVID-19. As seen in Table 10, the results from the One-Sample T-Test are significant ( $p = 0.001$  for all constructs). However, we will go more into these results from Table 10 in the further analyzes.

### ***5.1 Concerns for COVID-19***

To measure the existence of possible Concerns for COVID-19, we formulated six statements related to the topic. From Table 7, we see that the mean value for most of the items is above 3.0. However, an interesting finding is that the statement "I am concerned about losing my job as a result of COVID-19" has a lower score (2.48) than the other statements. In addition, the statement "I am concerned about the negative effects of COVID-19 on my personal financial economy" is slightly higher (3.06). These results give an indication that people are more worried about their personal financial economy than losing their job due to COVID-19.

Another relevant finding is that the respondents are more afraid that someone they care about will be infected (4.35), than being infected themselves (3.56). In addition, the results indicate that consumers are concerned about the negative effects of COVID-19 on their local community (3.92), which will be very relevant for the further analyzes.

However, in order to indicate a change in Concerns for COVID-19, we had to analyze the data from Table 10. As seen in Table 10, we see that the mean value for the construct is 3.53. In addition, the table shows that the mean of  $3.53 > 3$ , due to 95% CI [3.44, 3.62]. Thus, we find support in our sample that  $\text{mean} > 3$ . Further, the result from the One-Sample T-Test is significant ( $p=0.001$ ), which supports our

hypothesis. Considering how we designed and formulated the survey (see Appendix), and with assumptions that the respondents have answered sincerely, this indicates that consumers are generally concerned about various aspects of the coronavirus.

### ***5.2 Analysis of Environmental Awareness (Attitude)***

To measure the possibility of increasing Environmental Awareness due to COVID-19, we made five statements related to the topic. As seen in Table 7, all five statements had a mean above 3.0. However, an interesting finding is that the statement “I am concerned for the environment” has the highest mean (4.02), which gives an indication that consumers in general are quite concerned for the environment.

***Table 11: Analysis of Environmental Awareness***

<b>Model Summary</b>	
R Square	Adjusted R Square
0,249	0,246

<b>ANOVA</b>			
	df	F	Sig.
Regression	1	85,62	0,001
Residual	258		
Total	259		

a. Dependent Variable: EnvAware

b. Predictors: (Constant), ConcernCOV

<b>COEFFICIENTS</b>					
	Unstandardized B	Std. Error	Standardized B	t	Sig.
(Constant)	1,33	0,23		5,76	0,001
ConcernCOV	0,59	0,06	0,50	9,25	0,001

a. Dependent Variable: EnvAware

However, in order to indicate an increased Environmental Awareness due to COVID-19, we had to analyze the data from Table 10. As seen in Table 10, we see that the mean value for the construct is 3.42. In addition, Table 10 shows that the mean of  $3.42 > 3$ , due to 95% CI [3.31, 3.53]. Thus, we find support in our sample that  $\text{mean} > 3$ . Further, the result from the One-Sample T-Test is significant ( $p=0.001$ ), which supports our hypothesis. Considering how we designed and

formulated the survey (see Appendix), and with assumptions that the respondents have answered sincerely, this indicates that consumers have experienced an increased Environmental Awareness due to COVID-19.

Finally, we performed a linear regression to examine whether the results from the survey were significant (Janssens, 2008). As seen in Table 11, the results indicate that the model is significant ( $F(1,258) = 85,62, p < 0.001$ ). This means that the variable ConcernCOV was a good predictor of Environmental Awareness. Furthermore, Adjusted R Square shows that 24.6% of the variance in Environmental Awareness can be explained by consumers' concern for COVID-19. This means that the variation in the responses is relatively low, and supports the fact that the data points are clustered around the mean (Malhotra, 2010). Also, as seen in Table 11, Standardized beta (0.50) is positive and significant, meaning that the relationship between ConcernCOV and EnvAware has a moderate intensity relationship. Consequently, this means that Concern for COVID-19 has a positive impact on Environmental Awareness. Thus, Hypothesis 1 is supported.

### ***5.3 Analysis of Environmental Conservation (Behavior)***

To measure the extent to which consumers practice Environmental Conservation due to COVID-19, we made eight statements related to the topic. As seen in Table 7, the means indicate that consumers have reduced shopping frequency (3.81), overall consumption (3.74), waste (3.35), emissions related to transport to stores (3.95), and their own environmental impact (3.73). In addition, the results show that consumers have increased shopping for environmentally friendly products (3.41), products that will reduce their own environmental impact (3.44), and willingness to pay a premium for environmentally friendly products (3.42). However, an interesting finding is that the Standard deviation for "Shopping frequency" is highest (1.24), which indicates that there is most variation in the data related to this statement.

**Table 12: Analysis of Environmental Conservation Behavior****Model Summary**

	R Square	Adjusted R Square
	0,122	0,119

**ANOVA**

	df	F	Sig.
Regression	1	35,91	0,001
Residual	258		
Total	259		

a. Dependent Variable: EnvCons

b. Predictors: (Constant), ConcernCOV

**COEFFICIENTS**

	Unstandardized B	Std. Error	Standardized B	t	Sig.
(Constant)	2,51	0,19		13,42	0,001
ConcernCOV	0,31	0,05	0,35	5,99	0,001

a. Dependent Variable: EnvCons

However, in order to indicate a possibility of increased practice of Environmental Conservation due to COVID-19, we had to analyze the data from Table 10. As seen in Table 10, we see that the mean value for the construct is 3.61. In addition, Table 10 shows that the mean of  $3.61 > 3$ , due to 95% CI [3.53, 3.69]. Thus, we find support in our sample that  $\text{mean} > 3$ . Further, the result from the One-Sample T-Test is significant ( $p=0.001$ ), which supports our hypothesis. Considering how we designed and formulated the survey (see Appendix), and with assumptions that the respondents have answered sincerely, this indicates that consumers have increased their practice of Environmental Conservation due to COVID-19.

Finally, we performed a linear regression to examine whether the results from the survey were significant (Janssens, 2008). As seen in Table 12, the results indicate that the model is significant ( $F(1,258) = 35,91, p = 0.001$ ). This means that the variable ConcernCOV was a good predictor of Environmental Conservation. In addition, Adjusted R Square shows that 11.9% of the variance in Environmental Conservation can be explained by consumers' concern for COVID-19. This means that the variation in the responses is relatively low and supports the fact that the data points are clustered around the mean. Also, as seen in Table 12, Standardized beta (0.35) is positive and significant, meaning that the relationship between ConcernCOV and EnvCons has a moderate intensity relationship. Consequently, this means that Concern for COVID-19 has a positive impact on Environmental Conservation. Thus, Hypothesis 2 is supported.

### 5.4 Analysis of the Mediating Effect by Environmental Awareness (Attitude) on Environmental Conservation (Behavior)

Table 13: Mediation by Environmental Awareness

Outcome Variable: EnvAware	b	SE	t	p	LLCI	ULCI
ConcernCOV	0,59	0,06	9,25	0,00	0,47	0,72

a. Adjusted R Squared = 0,2492

Outcome Variable: EnvCons	b	SE	t	p	LLCI	ULCI
ConcernCOV	0,15	0,06	2,67	0,01	0,04	0,26
EnvAware	0,27	0,05	5,67	0,00	0,18	0,36

a. Adjusted R Squared = 0,2198

Indirect effects of X on Y	Effect	BootSE	BootLLCI	BootULCI
EnvAware	0,16	0,03	0,10	0,23

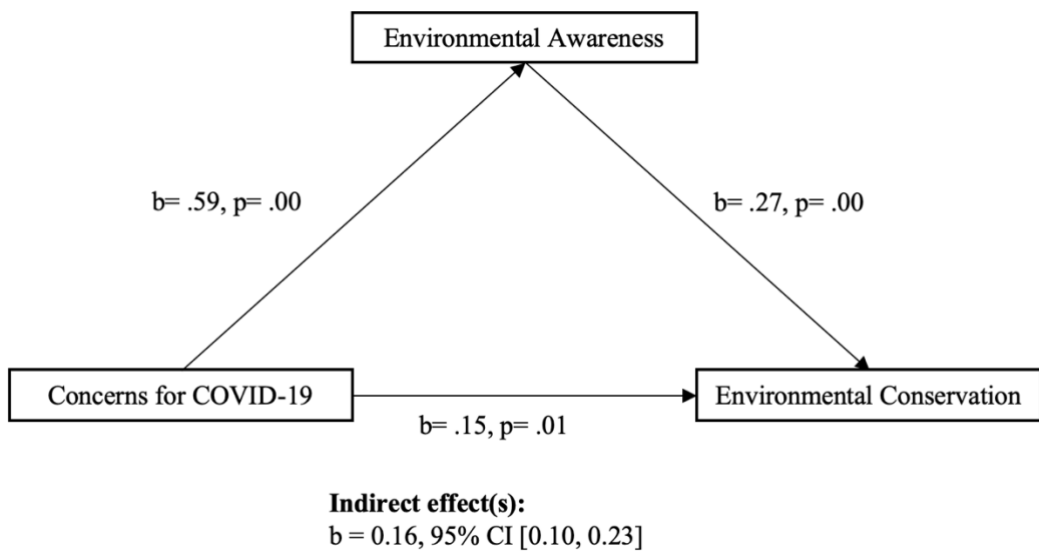


Figure 3: Mediating Effect by Environmental Awareness

To measure the mediating effect of Environmental Awareness (attitude) on the relationship between Concern for COVID-19 and Environmental Conservation (behavior), we conducted a mediation analysis using PROCESS in SPSS by Hayes (Hayes & Rockwood, 2017). As seen in Table 13, we discovered a significant direct effect of Concern for COVID-19 on Environmental Conservation ( $b = 0.15, p = 0.01$ ). The effect of Concern for COVID-19 were also significant on the Mediator Environmental Awareness ( $b = 0.59, p = 0.00$ ). In addition, the indirect effect(s) of Concern for COVID-19 on Environmental Conservation was also significant as  $b = 0.16, 95\% \text{ CI } [0.10, 0.23]$ . Thus, a mediating effect of Environmental Awareness on the relationship between Concern for COVID-19 and Environmental Conservation was detected, and Hypothesis 3 was supported.

### 5.5 Analysis of Social Responsibility (Attitude)

To measure the extent to which consumers are willing to practice Social Responsibility due to COVID-19, we made eight statements related to the topic. As seen in Table 7, all the statements had a mean above 3.0, which gives an indication that consumers are willing to practice Social Responsibility.

**Table 14: Analysis of Social Responsibility Attitude**

#### Model Summary

	R Square	Adjusted R Square
	0,218	0,215

#### ANOVA

	df	F	Sig.
Regression	1	71,81	0,001
Residual	258		
Total	259		

a. Dependent Variable: SocialResp

b. Predictors: (Constant), ConcernCOV

#### COEFFICIENTS

	Unstandardized B	Std. Error	Standardized B	t	Sig.
(Constant)	2,36	0,17		14,23	0,001
ConcernCOV	0,39	0,05	0,47	8,47	0,001

a. Dependent Variable: SocialResp

However, in order to indicate a possibility of increased willingness to practice Social Responsibility due to COVID-19, we had to analyze the data from Table 10. As seen in Table 10, we see that the mean value for the construct is 3.73. In addition, Table 10 shows that the mean of  $3.73 > 3$ , due to 95% CI [3.65, 3.80]. Thus, we find support in our sample that  $\text{mean} > 3$ . Further, the result from the One-Sample T-Test is significant ( $p=0.001$ ), which supports our hypothesis. Considering how we designed and formulated the survey (see Appendix), and with assumptions that the respondents have answered sincerely, this indicates that consumers have increased their willingness to practice Social Responsibility due to COVID-19.

Finally, we performed a linear regression to examine whether the results from the survey were significant (Janssens, 2008). As seen in Table 14, the results indicate that the model is significant ( $F(1,258) = 71.81, p = 0.001$ ). This means that the variable ConcernCOV was a good predictor of Social Responsibility. In addition,

Adjusted R Square shows that 21.5% of the variance in Social Responsibility can be explained by consumers' concern for COVID-19. This means that the variation in the responses is relatively low, and supports the fact that the data points are clustered around the mean. Also, as seen in Table 14, Standardized beta (0.47) is positive and significant, meaning that the relationship between ConcernCOV and SocialResp has a moderate intensity relationship. Consequently, this means that Concern for COVID-19 has a positive impact on consumers' willingness to practice Social Responsibility. Thus, Hypothesis 4 is supported.

**5.6 Analysis of Local Shopping (Behavior)**

To measure the extent to which consumers shop locally due to COVID-19, we made five statements related to the topic. The means presented in Table 7 give an indication that consumers are more concerned for their local community during COVID-19 than before the pandemic, in addition to prioritizing to preserve and shop at their local stores. As Standard deviation is low for all the statements, indicated that the data is close to mean. This means that there has been minimal variation in the responses of the respondents, which gives an indication that many consumers have the same attitudes to Local Shopping.

**Table 15: Analysis of Local Shopping Behavior**

**Model Summary**

	R Square	Adjusted R Square
	0,155	0,152

**ANOVA**

	df	F	Sig.
Regression	1	47,26	0,001
Residual	258		
Total	259		

a. Dependent Variable: LocalShop

b. Predictors: (Constant), ConcernCOV

**COEFFICIENTS**

	Unstandardized B	Std. Error	Standardized B	t	Sig.
(Constant)	2,59	0,19		13,91	0,001
ConcernCOV	0,36	0,05	0,39	6,87	0,001

a. Dependent Variable: LocalShop



However, in order to indicate an increase in Local Shopping behavior due to COVID-19, we had to analyze the data from Table 10. As seen in Table 10, we see that the mean value for the construct is 3.84. In addition, Table 10 shows that the mean of  $3.84 > 3$ , due to 95% CI [3.76, 3.92]. Thus, we find support in our sample that  $\text{mean} > 3$ . Further, the result from the One-Sample T-Test is significant ( $p=0.001$ ), which supports our hypothesis. Considering how we designed and formulated the survey (see Appendix), and with assumptions that the respondents have answered sincerely, this indicates that consumers have an increased Local Shopping Behavior due to COVID-19.

Finally, we performed a linear regression to examine whether the results from the survey were significant (Janssens, 2008). As seen in Table 15, the results indicate that the model is significant ( $F(1,258) = 47,26, p = 0.001$ ). This means that the variable ConcernCOV was a good predictor for Local Shopping. In addition, Adjusted R Square shows that 15.2% of the variance in Local Shopping can be explained by consumers' concern for COVID-19. This means that the variation in the responses is relatively low and supports the fact that the data points are clustered around the mean. Also, as seen in Table 15, Standardized beta (0.39) is positive and significant, meaning that the relationship between ConcernCOV and SocialResp has a moderate intensity relationship. Consequently, this means that Concern for COVID-19 has a positive impact on Local Shopping. Thus, Hypothesis 5 is supported.

### 5.7 Analysis of the Mediating Effect by Social Responsibility (Attitude) on Local Shopping (Behavior)

**Table 16: Mediation by Social Responsibility**

<b>Outcome Variable: SocialResp</b>	<b>b</b>	<b>SE</b>	<b>t</b>	<b>p</b>	<b>LLCI</b>	<b>ULCI</b>
ConcernCOV	0,39	0,05	8,47	0,00	0,30	0,48

a. Adjusted R Squared = 0,2177

<b>Outcome Variable: LocalShop</b>	<b>b</b>	<b>SE</b>	<b>t</b>	<b>p</b>	<b>LLCI</b>	<b>ULCI</b>
ConcernCOV	0,14	0,51	2,73	0,01	0,04	0,24
SocialResp	0,55	0,06	9,09	0,00	0,43	0,68

a. Adjusted R Squared = 0,3604

<b>Indirect effects of X on Y</b>	<b>Effect</b>	<b>BootSE</b>	<b>BootLLCI</b>	<b>BootULCI</b>
SocialResp	0,22	0,04	0,14	0,30

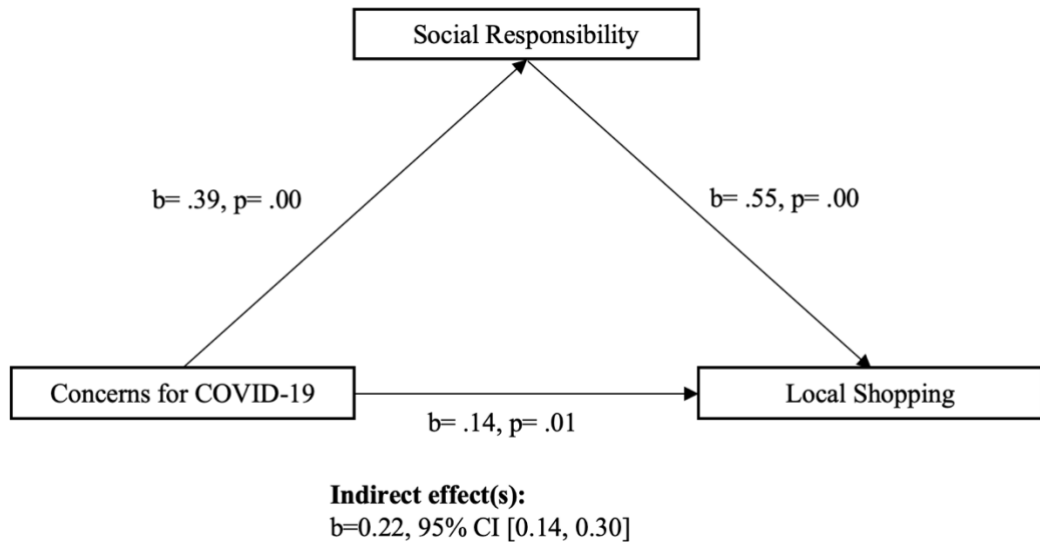


Figure 4: Mediating Effect by Social Responsibility

To measure the mediating effect of Consumers’ Social Responsibility (attitude) on the relationship between Concern for COVID-19 and Local Shopping (behavior), we conducted a mediation analysis using PROCESS in SPSS by Hayes (Hayes & Rockwood, 2017). As seen in Table 16, there is a significant direct effect of Concerns for COVID-19 on Local Shopping ( $b = 0.14, p = 0.01$ ). Further, there is also a significant direct effect of Concern for COVID-19 on the mediator Social Responsibility ( $b = 0.39, p = 0.00$ ). In addition, the indirect effect(s) of Concern for COVID-19 on Local Shopping was also significant as  $b = 0.22, 95\% \text{ CI } [0.14, 0.30]$ . Thus, a mediating effect of Social Responsibility on the relationship between Concern for COVID-19 and Local Shopping was detected, and Hypothesis 6 was supported.

**5.8 Summary of Results**

Hypothesis	Variables	Results
H1	<i>Consumers’ concern for COVID-19 positively affects their environmental awareness.</i>	Supported
H2	<i>Consumers’ concern for COVID-19 positively affects their practice of environmental conservation behavior.</i>	Supported

H3	<i>The positive effect of consumers' concern for COVID-19 on environmental conservation behavior is mediated by environmental awareness.</i>	Supported
H4	<i>Consumers' concern for COVID-19 positively affects their willingness to practice social responsibility.</i>	Supported
H5	<i>Consumers' concern for COVID-19 positively affects local shopping behavior.</i>	Supported
H6	<i>The positive effect of consumers' concern for COVID-19 on local shopping behavior is mediated by the willingness to practice social responsibility.</i>	Supported

## 6.0 Discussion

### 6.1 Findings and Predictions

One main discovery from our research was that consumers' concern for COVID-19 positively affects their environmental awareness. This supports the theory that when consumers have seen the consequences of the virus, it can reinforce sustainable beliefs and provoke environmental concerns (Khan et al., 2020; Mainieri et al., 1997). This can also be explained by the fact that the positive impacts COVID-19 has had on the environment can function as a source of learning, and thus that consumers have taken inspiration from the positive environmental effects when making choices in purchase decisions (Zowalaty et al., 2020). This has also influenced consumers' practice of environmental conservation, as our research showed that environmental conservation was mediated by environmental awareness. In practice, this indicates that COVID-19 has led consumers to develop a stronger pro-environmental attitude, which is further reflected in their sustainable behavior (Mainieri et al., 1997). This may be due to previous research having discovered that consumers usually act consistently towards their pro-environmental attitude.

However, we discovered that consumers practice environmental conservation differently, based on the fact that there was a variation in consumers' practices. The reason may be that research has discovered that consumers develop attitudes towards a specific environmentally friendly behavior and prioritize the frequency of that behavior (Mainieri et al., 1997). This means that consumers do not implement sustainable behavior unless they themselves think that the specific behavior is in favor of the environment. However, our research showed that concerns for COVID-19 positively affect environmental conservation. Thus, this indicates a general change in consumers' practice of environmental conservation, even though consumers sustainable behavior differs. Consequently, this finding may be related to the research of Prakash et al. (2019), which discovered that by constantly exposing consumers to sustainable practices, can further contribute to a continuous environmentally friendly commitment. In addition, being continuously exposed by COVID-19's positive effects on the environment (Zowalaty et al., 2020), may have influenced the fact that our research discovered that consumers practice environmental conservation. The reason is that consumers may want to continuously achieve positive environmental effects (Bramah, 2015), once they have been exposed to it during COVID-19 (Zowalaty et al., 2020).

Further, another main finding was the fact that concerns' for COVID-19 positively affects consumers' willingness to practice social responsibility. In our research, we discovered that consumers are concerned about their local communities, which could be due to previous research discovering that it is in consumers' own interest to keep the businesses alive so they can continue shopping at their local stores (Majid et al., 2021). In addition, previous research has discovered that consumers show sympathy for vulnerable businesses in external crisis, which may be the reason why consumers' practice of social responsibility has increased during COVID-19 (Majid et al., 2021). Furthermore, consumers are concerned about this unpredictable virus and how it affects the entire Norwegian economy (Kampevoll, 2020), which may also have been the reason why they practice social responsibility. The reason for this claim is that they may be unsure of what is happening to their local community and are thus willing to help businesses in the local area (Majid et al., 2021). This theory is also supported by the fact that we discovered that consumers' concern for COVID-19 positively affects local shopping. This may also

be a reason why our research discovered that the relationship between concerns 'for COVID-19 and local shopping is mediated by willingness to practice social responsibility. We discovered a connection between consumers 'who are willing to practice social responsibility and consumers' who shop locally. This can be explained by the fact that their actions support society during the pandemic (Majid et al., 2021), but also because it corresponds morally with taking care of the environment as local shopping is a sustainable initiative (Seyfang, 2005).

Our findings show that concerns for COVID-19 have influenced sustainable attitudes and affected sustainable buying during the pandemic. Thus, as COVID-19 has influenced consumers to engage in sustainable practices, we can predict that COVID-19 will contribute to continuous conscious consumption (Brammah, 2015). The changes in sustainable attitudes and sustainable behavior we have witnessed as a result of COVID-19, can adapt towards more sustainable supply and production (Sarkis et al., 2020), which could contribute to more positive impacts on the environment in the future. However, it is therefore important for companies that they are able to understand consumers' sustainable needs and demands, as we predict that this trend will only continue in the future. Thus, they must continuously adapt sustainable ideas from the field, in order to adapt their practices to market trends and meet consumers' expectations.

## ***6.2 Managerial Implications***

COVID-19 is a pandemic that has affected the whole world and is a reality we still have to consider. The modern world has never seen a crisis like this (Abel & McQueen, 2020), which has affected so many for a long time. Research on the pandemic is still a new area for researchers, as the COVID-19 pandemic originated only 1.5 years ago and is still a current situation consumers are getting used to. Thus, as mentioned earlier, we wanted to investigate what kind of consequences this has for companies that specifically focus or want to focus on sustainability. Making sustainable purchase decisions is something that has increased in recent years and is thus something consumers have begun to implement more in their everyday lives (Solomon, 2013). However, our findings suggest that consumer behavior and demands do change during crises like this. Thus, businesses can better

understand changes in consumers' behavior when future crises or pandemics hit, and they are then able to prepare for consumers' demands during such times. Nevertheless, there are several factors that influence consumers' purchase decisions during a crisis, and this study presents findings with interesting implications for B2C businesses. Thus, businesses can use this study and our suggested findings to predict change in consumer behavior in a future economic crisis.

Our findings indicate that consumers have become more concerned about their local community, and that they are more willing to practice social responsibility due to COVID-19. Nevertheless, consumer concern alone is not enough to support the local community, as consumers have different preferences for how they want to show their support. Thus, local and small businesses should evaluate our findings, as they can develop their strategies to fit consumer preferences. Our findings can thus help local businesses, start-ups or pop-up stores with their strategy when they want to further develop or establish in local communities. However, as consumers want to support the local community differently, it is important that local businesses are able to encourage consumers to show support and prove that it contributes to more benefits. In addition, the findings show that consumers are more willing to pay a premium for locally produced products to support local producers, which is also essential for Norwegian farmers.

The findings also indicate that consumers have become more aware of environmental issues because of the COVID-19 pandemic, which are useful for businesses focusing on sustainability. Consumers are more willing to make environmentally friendly purchase decisions, which is positive for green businesses as they might expect a growth in sales. The media has also demonstrated how improved air quality and cleaner water in different parts of the world have been a valuable tool for increasing consumers' environmental awareness. Accordingly, it can create awareness and encourage reflection on man-made environmental issues, which can influence consumers to engage in sustainable practices. However, businesses should take the opportunity to prove how sustainable products can benefit the environment in the long run. This can motivate consumers to see the benefits of sustainable initiatives and eliminate concerns for future environmental issues when everyday life returns to normal. Consequently, we discovered that

consumers have different levels of concern for COVID-19, and also different levels of environmental concerns and awareness. However, our findings suggest that the COVID-19 pandemic has in fact affected consumers' sustainable attitude and their sustainable behavior.

## **7.0 Limitations and Future Research**

### ***7.1 Limitations***

Our research included some limitations that should be addressed. An important limitation is that we have conducted the study while COVID-19 has still been a reality, and we can thus not measure the full effect with no before-after measures. This means that no empirical studies have been conducted on how consumers' concern for COVID-19 influences their sustainable attitudes and subsequently, their sustainable behavior. Thus, the data we have collected is based on self-statements regarding the participants' opinions on how they believe they have been affected by COVID-19, which means that we can only predict the effect measurement. Because the data were collected during COVID-19, this may also affect their response. Thus, there is a risk of all the responses being correlated by a general type of concern of the situation that may affect consumers' worries. Consequently, the change in consumers' sustainable attitude and sustainable behavior due to COVID-19 will only be a prediction. Despite this, we wanted to reduce this limitation by a well-chosen survey design and question formulation. Nevertheless, we want to emphasize that this does not eliminate the limitation, but possibly reduces it. In addition, consumer self-statements could be altered post-pandemic and will not necessarily reflect the same opinions when the pandemic is over.

Our study was conducted with the aim of gaining a better understanding of whether and how consumers' sustainable attitudes and behavior have been affected by the COVID-19 pandemic. Thus, we wanted to find a representative sample to examine the Norwegian population. However, one limitation was to find a sufficient number of participants for the survey that would constitute a representative sample for the population. Using a convenience sampling technique prevented us from generalizing the results to the Norwegian population. While our results were useful, selection bias would still occur based on the fact that we could not control the

participants. In addition, we did not distinguish between the genders, and thus we did not investigate whether there were any gender-related differences in concerns for COVID-19 and sustainable attitudes/behaviors. Previous research shows that there is often a difference between the genders in how they practice environmental conservation (Leach et al, 1995; Mainieri et al., 1997). Thus, by distinguishing between genders, we could have discovered several possible interesting findings and had the opportunity to state whether or not there are any differences.

We also want to acknowledge some limitations regarding method and data collection through the survey. A true cause-and-effect study involves an experimental design with manipulating variables to infer a cause-and-effect relationship (Malhotra, 2010). We were not able to divide participants into controlled and experimental groups because of our limitations regarding the timing (as the COVID-19 pandemic still is a current reality). In addition, using an online survey for data collection may violate ecological validity (Schmuckler, 2001). We were not able to control the participants while conducting the survey, and thus we could not check for any possible non-serious respondents causing problems concerning valid responses (Aust et al., 2013). Furthermore, we would like to address that the questions in the survey were based on existing relevant literature produced before the COVID-19 pandemic, as COVID-19 is still a relatively new research topic. However, this means that the questions presented to the participants in the survey may not be applicable to post-pandemic. As mentioned, we conducted the study while COVID-19 has still been a reality, and thus there is a possibility that there are other variables that would have been more relevant to measure if we conducted the study post-pandemic. If the study had been conducted post-pandemic, we could have had a better measurement for cause-and-effect and analyzed variables that would have given a more accurate result. In addition, we would like to mention that we provided general information and definitions of various terms related to COVID-19 throughout the survey, which may have misled the respondents and influenced their answers (Malhotra, 2010).



## ***7.2 Future Research***

For future research, an interesting area would be to explore consumers' sustainable attitudes and behaviors both pre- and post-COVID-19. As we did not cover this research area in our study, it will be useful for researchers to investigate if the attitudes and behaviors consumers adapted during the COVID-19 pandemic will continue after the pandemic. Simultaneously, it would also be interesting to see if our findings are comparable to any new findings discovered at a later date. We discovered that consumers are more willing to purchase environmentally friendly products and support local communities during the pandemic, but if these attitudes and behaviors will continue when the pandemic is over remains to be seen. As the majority of the Norwegian population should be vaccinated when the pandemic is over and thus probably less affected by the virus (FHI, 2021b), it will be interesting to see to what extent concerns for COVID-19 actually affected sustainable attitudes and behavior.

In addition, future research should focus more on differences among different segments and markets. As mentioned above, this research did not distinguish between gender and their concerns related to COVID-19 and sustainable attitudes/behavior. Thus, since previous research has discovered interesting differences in gender, future research should focus on these differences for a possible more accurate result. As well, it could be interesting to investigate any possible differences in age and whether a significant difference can be detected in their concern for COVID-19 and sustainable attitudes / behavior. In addition, our research focused only on the Norwegian market, and it might be interesting for future research to compare our results with other Scandinavian countries. Especially Sweden, which did not complete the lockdown to the same extent as Norway and Denmark (Wergeland & Ghorbani, 2021). The results from the different countries might therefore be different.

Further, based on how we conducted our research, our findings are most relevant to the B2C segment. However, an interesting area for future research could be to investigate how the B2B segment has been affected by the COVID-19 pandemic. As mentioned earlier, the pandemic has affected a majority of businesses on many different levels and will thus also be relevant to the B2B segment.

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## 9.0 Appendix

### *Survey*

#### *Block 1: Introduction*

Q0

Hi!

We are almost done with our MSc in Strategic Marketing Management at BI Norwegian Business School.

We kindly ask you to participate in this survey, which will take about 5-10 minutes to complete. This survey is part of our data collection for our Master Thesis, and your honest opinions will be of great help.

All responses will remain anonymous, and no identifying data such as names or IP-addresses will be collected. The data will be deleted when the thesis is submitted this summer.

By proceeding with this survey, you acknowledge that you have read the information above and approve that you are over 18 years of age.

Thank you very much for your participation!

For questions regarding the survey, please contact Martine Barkved Næss (martine.b.nass@student.bi.no) or Caroline Bråthen (caroline.p.brathen@student.bi.no).

*Block 2: Concerns for COVID-19*

Q1 How concerned are you overall about COVID-19, including its effect on health, economy, local communities and environment?

- Not concerned at all (1)
- Not really concerned (2)
- Neither unconcerned or concerned (3)
- Concerned (4)
- Very concerned (5)

Q2 Please indicate to what extent you agree with the following statements, while considering the possible effects of COVID-19:

	Strongly disagree (1)	Somewh at disagree (2)	Neither disagree nor agree (3)	Somewhat agree (4)	Strongly agree (5)
I am concerned about getting infected (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am concerned that someone I care about might get infected (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am concerned about losing my job as a result of COVID-19 (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am concerned about negative effects of COVID-19 on my personal financial economy (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am concerned about negative effects of COVID-19 on my local community (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q3 Please indicate to what extent you agree with the following statement:

	Strongly disagree (1)	Somewhat disagree (2)	Neither disagree nor agree (3)	Somewhat agree (4)	Strongly agree (5)
I am concerned for the environment (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*Block 3: Environmental Awareness*

Q4 Please read the following: Research has investigated how COVID-19 has affected the environment so far. NASA has discovered that air quality has improved as a result of reduced emissions. In addition, the water in Venice has become clearer, despite over-tourism for several years.

Please indicate to what extent you agree with the following statements:

	Strongly disagree (1)	Somewhat disagree (2)	Neither disagree nor agree (3)	Somewhat agree (4)	Strongly agree (5)
COVID-19 has made me more aware of environmental challenges (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
COVID-19 has made me more aware of the environmental impact caused on the planet by humans (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
COVID-19 has made me more aware of my own environmental impact. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5 Please read the following: Environmental awareness arises when you are aware of how choices consumers and businesses make, affect the environment - for better or worse.

Please indicate to what extent you agree with the following statement:

	Strongly disagree (1)	Somewhat disagree (2)	Neither disagree nor agree (3)	Somewhat agree (4)	Strongly agree (5)
COVID-19 has increased my environmental awareness (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*Block 4: Social Responsibility*

Q6 Please read the following:

According to research, social responsibility implies that you as a consumer are socially conscious and/or morally motivated to support and behave according to your ethical concerns for society.

Due to COVID-19, the degree of social responsibility I'm willing to practice has:

- Decreased (1)
- Somewhat decreased (2)
- No change (3)
- Somewhat increased (4)
- Increased (5)

Q7 Please indicate to what extent COVID-19 has influenced your willingness to:

	Decreased (1)	Somewhat decreased (2)	No change (3)	Somewhat increased (4)	Increased (5)
Support vulnerable businesses (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Donate consumer goods to those in need (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Donate financially to those in need (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Support products/services known for practicing social responsibility (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q8 Please indicate to what extent you agree that you will perform the following actions due to COVID-19:

	Strongly disagree (1)	Somewhat disagree (2)	Neither disagree nor agree (3)	Somewhat agree (4)	Strongly agree (5)
Support vulnerable businesses (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Donate consumer goods to those in need (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Donate financially to those in need (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Support products/services known for practicing social responsibility (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*Block 5: Environmental Conservation*

Q9 Please indicate to what extent COVID-19 has influenced your:

	Increased (1)	Somewhat increased (2)	No change (3)	Somewhat decreased (4)	Decreased (5)
Shopping frequency (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall consumption (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Waste (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emissions related to transport to stores (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Own environmental impact (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q10 Please read the following: By environmentally friendly products, we mean products that are not harmful to the environment. Environmentally friendly products also prevent contributions to air, water and land pollution.

Please indicate to what extent COVID-19 has influenced your:

	Decreased (1)	Somewhat decreased (2)	No change (3)	Somewhat increased (4)	Increased (5)
Shopping for environmentally friendly products (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shopping for products that will reduce your own environmental impact (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Willingness to pay a premium for environmentally friendly products (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



*Block 6: Local Shopping*

Q11 Please read the following:

By local community, we mean the area nearby where you live. By local stores, we mean stores nearby where you live.

Please indicate to what extent you agree with the following statements:

	Strongly disagree (1)	Somewhat disagree (2)	Neither disagree nor agree (3)	Somewhat agree (4)	Strongly agree (5)
I am more concerned for my local community during COVID-19 than before the pandemic (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
COVID-19 has made me more willing to preserve my local stores. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I shop more at local stores during COVID-19 than before the pandemic (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prioritize shopping in local stores during COVID-19 than before the pandemic (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am more willing to pay a premium at local stores during COVID-19 than before the pandemic (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*Block 7: Demographic Questions*

Q12 Gender

- Male (1)
- Female (2)
- Non-binary (3)
- Prefer not to say (4)

Q13 Age

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Q14 Which country do you live in?

- Norway (1)
- Other. Please specify in the text box. (2)

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