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How has consumer behavior related to food changed during the pandemic in Sweden?

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Abstract

The purpose of this paper is to analyze how consumer behavior related to food changed during the pandemic in Sweden. At the beginning of 2020 a global pandemic named Covid-19 hit all the countries, Sweden being one of them.

The pandemic has forced everyone to change their usual lifestyle in order to be safe from the virus. The consumers' food choices have been changed during the pandemic; this topic would be interesting to be researched by the authors.

Since the pandemic has urged worldwide, most of the countries has been affected because of it. The researchers have conducted a questionnaire in order to be able to analyze the situation in Sweden from the consumers point of view.

The findings indicate changes in consumer behavior and buying behavior that are tied with the pandemic times in the context of health. Some changes have been observed in product buying for food consumption as many people bought healthier products.

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Yours sincerely,

Diana Racoreanu & Rosemary Angel Lunkuse

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1. Introduction

This chapter introduces the background of what the research topic is about, defines the aspect of food and consumer behavior and later presents an insight of how consumer behavior in relation to food has changed in both Sweden and the world at large. A problem statement is presented and it will discuss further why our research topic is very significant. Lastly, the purpose of this thesis is defined together with what the research question of this study intends to answer.

1.1 Background

Over the past years in world history, people have been exposed to many epidemic outbreaks such Ebola, Spanish flu too mention but a few (Laato, 2020). In addition to these continuous evolving world outbreaks, the majority have had a greater impact on different categories of human behavior for instance consumer behavior. Currently, the world has been facing the coronavirus disease commonly called COVID-19 that was first identified in 2019 in December (Hopkins, 2021). COVID-19 is an infectious disease caused by the SARS CoV-2 Virus. (Huizen, 2020) *"Why the name corona?"* Research says that the virus is shaped with an element that has protein spikes hence appearing to look like a crown (Russel, 2020). However, in the Latin language, a crown is called corona hence the name "coronavirus." The context of the COVID-19 crisis allows us to conduct an investigation on consumers behavior during such a global pandemic when information about is being circulated through various media channels and outlets especially when it comes to the topic of how their food behavior patterns will change or how they are likely to be affected. Since the coronavirus disease is unprecedented and unique as stated by (Laato, 2020) it allows the authors to gain a deeper insight into consumer behavior and how it relates with food amidst the pandemic given the fact that it is in times like this that people have considerable uncertainty about how they should act since there is no clear point of reference.

1.1.1 Food

Food is one of the basic needs for one to survive and is also a key to one's personal health. (Janssen et. al. 2021). Therefore, a crisis such as the COVID-19 situation disrupts the food system of a country and causes changes in the relationship of food and the consumers (Janssen et. al. 2021). For instance, people can be pushed into acts of food security and food safety since they could be looking for ways to protect themselves and boost their immune systems hence adopting healthier diets. (Galanakis, 2020)

Food safety refers to the handling, preparing and storing of food in a way that is known to be best in order to reduce the risk of people becoming sick from any illnesses ("Australian Institute for Food Safety", 2019). Amidst a pandemic, food safety is seen as a way for individuals to be able to access sufficient amounts of safe and nutritious food as a way of being able to sustain their life and promote their health ("World Health Organization", 2020). Food security refers to a way that all people and at all times should have physical, social and economic access to sufficient, safe and nutritious food that is able to meet their food preferences and dietary needs in order to have an active and healthy life ("Food Policy Research institute", n.d). Food security depends on three main pillars which are; food should be readily available to individuals in places like markets, shops and farms. Secondly, there should be easy access to food. For instance individuals should have the ability to grow their own food or buy it. Lastly food should be able to be utilized by individuals in a way that food is correctly cleaned, stored and processed before taken into the body.("Food Security and Livelihoods", n.d)

1.1.2 Food Consumption

The fact that it is known as an essential basic need to live, explains the reason as to why food consumption plays a big role when it comes to such pandemics (Janssen, 2021). This is so because the consumption of food is usually challenged in such a humanitarian crisis. An outbreak of such contagious diseases often contributes to a food crisis such as a decrease in food consumption, an interruption in the food supply chains, neglecting farming activities, to mention but a few (Janssen, 2021).

According to (Janssen, 2021) disruptions hinder the consumer behavior of a country's cit izens hence creating a crisis within a crisis. For instance, a breakdown in a food supply suppresses the supply of food and this could also be because of the workers that abandon production due to the fear instilled in them.Being that food is mandatory in our everyday lives it explains why panic buying is a highly typical consumer response to a crisis (Ben Hassen et al., 2020). People's food consumption patterns were compelled to adapt as a result of social isolation and lockdowns. Because of Covid-19, people began undertaking home-based jobs related to food such as cooking, food shopping, and gardening (Cambefort, 2020).

Since the outbreak of the novel coronavirus (COVID-19) in early 2020, consumer food purchasing habits have changed dramatically. The impending threat of COVID-19, which overwhelmed cities and neighborhoods, prompted panicked shopping behaviors, resulting in stockouts and purchasing limits on many food items. These actions revealed a deep lack of trust and confidence in our global food supply chain. (Chenarides et. al. 2020)

1.1.3 Consumer Behavior

Consumer behavior can be addressed with several definitions such as the process where the customer absorbs the information given and transforms it into a study of purchase or disposal of products, services, ideas or experiences to satisfy needs and desires (Solomon, 2009). Gordon R. Foxall presents consumer behavior as very easy to be predicted among individuals, superficially speaking (Foxall, 2004). Customer behavior covers multiple fields: it is the study of processes of individual patterns in regards to the buying behavior, purchasing, and disposal of a product or service. The needs and desires are satisfied throughout this process. Consumer behavior is also related to studying an individual's psychics in terms of the decision-making process, it also includes the study of emotional and mental behavior. (Foxall, 2004).

People's purchasing and consumption habits, as well as the food supply chain, have altered all over the world. On the supply side, several nations are confronting labor shortages due to limitations on people, border restrictions, and lockdowns (Barman, 2021). According to (Barman, 2021) pandemics disrupt supply chains, preventing it from entering markets and selling items, resulting in increased food loss and waste, particularly in perishable products such as fish, meat, fruit, vegetables, and dairy products. Farmers in several nations are burying perishable food since interruption has a significant impact on the supply chain. During the pandemic, international food markets suffered export limitations, resulting in worldwide food shortages, market instability, and soaring global food costs. On the demand side, customers concentrated on panic purchasing during the start of the pandemic due to the uncertainty of future shortages. (Barman, 2021)

Researchers have tried to understand the complexity of consumer behavior and the process of purchasing but they have come up with multiple theories. One of which is that the consumer plays a role, theory role (Solomon, 2006), as every person has his own unique perception about certain actions. This is applied for decision-making since every individual decides which product or service is beneficial.

A criteria used to evaluate consumer behavior is the way a group of people is evaluating differently a product or service One simple definition of a consumer related to consumer behavior is that the consumer is a "chooser" somebody who can choose different alternatives and explores various criteria for making his choice as Micheal Solomon illustrates in "Consumer Behavior, A European Perspective".(Solomon, 2006)

Interestingly, this coronavirus disease has had a major impact on consumer patterns both positively and negatively (Bassen, 2021). For instance, due to the pandemic, people were forced to stay home due to the fear of contracting the virus and this led to a reduction of people in public eating places such as restaurants, bars, shopping malls, and so on and thus this leads us to examine our research on how the consumer behavior was during this crisis in Sweden.

1.1.4 Consumer behavior during the Covid-19 in General

Depending on cultures, geographies, and other factors, behavior can vary greatly from one location to the next. This dimension of consumer behavior is becoming more complex as a result of the pandemic; for example, because physical movement is restricted, consumers are migrating into virtual worlds at an unprecedented rate and are exposed to newer influences. This may necessitate going beyond traditional methods of modeling their behavior. Changes in behavior and habits are also directly related to the amount of time spent in new environments (DePaul, 2021). According to research, it can take anywhere from 18 to 254 days to form a new habit; on average, it takes about 66 days. (Frothingham, 2019)

The Covid-19 virus had an impact on global consumer behavior. First and foremost, in multiple countries where a lockdown was implemented, many consumers were forced to work from home, prioritizing savings overspending. (Stancu, 2020). Many psychological factors impacted consumer behavior during this time (Foxall, 2004). In times of dramatic situations like pandemics or natural disasters, changes in consumer behavior may occur. Due to these factors, some fractures appeared in social lives that lead to strong behavioral changes.
(Lacey ,2009)

Such epidemics like the COVID-19 situation can lead to negative emotions that affect the health of individuals such as lack of control and instability which are directly associated with stress in emergency situations. Researchers have found that stress is the factor that influences the most consumer behavior (Palumbo et al, 2020).

A study made by (Loxton, 2020), A study made by (Loxton, 2020), mentions that Maslow's hierarchy of needs can be a guideline for one to predict a country's consumer behavior in terms of herd mentality, changing of discretionary spending, and consumer panic buying.

1.1.5 Consumer behavior during the pandemic in Sweden

In Sweden, the consumer behavior changed after a few months since the pandemic started, when the Government declared to the public to sanitize their hands more often than usual and also to keep a distance from each other, especially in crowded places (Howe, 2022). However, Sweden has a history of trusting the authorities, the government, and institutions, so during the pandemic, the trust in authorities played a big role thus the way it was perceived by the population (Josefsson, 2020).

The population satisfaction of how the Government handled the Covid-19 pandemic shows a lower satisfaction level from Sweden population, we believe that this disbelief in the authorities is because of the highest rate of deceased during the pandemic, compared with Denmark where the population had the highest satisfaction rate. (Appendix 1)

In March 2020, a behavioral change among the population in Sweden was registered due to the present pandemic. At the end of March, Sweden reported that many people started to wash their hands more often than at the beginning of the month. The percentage difference was 11% different. This situation was not only reported for washing hands but also the use of hand sanitizer and food shopping online had an increase at the end of the month. (Appendix 2)In the following months, a significant change in online shopping has been registered. Based on Figure 2 we can observe an increased percentage in shopping online, especially in June, the percentage showed 32% of people choosing online shopping. Instead of choosing physical activity during the pandemic, almost 50% of the population shopped less in person, choosing the alternative of delivery services (Chevalier, 2021).; (Appendix 3) Regardless of the uncertainty and fear that has been in the seen in the masses of Sweden, the Government of Sweden set out to ensure the safety of its inhabitants by commissioning the National Board of Health and Welfare to assist in coordinating purchases from the national level and to be able to secure easy access to personal protective equipment and other supplies to different regions and municipalities (Wigzell, 2020) The Board was also commissioned to help with the redistribution of supplies and equipment to these different regions.(Wigzell, 2020)

1.2 Problem Analysis

1.2.1 The Problem in Sweden

The start of the pandemic in Sweden was't taken so seriously by the government even though there were a few cases with coughing and a bad respiratory system where people were being hospitalized in a short amount of time (BMJ, 2020). Even though many people in Sweden presented the symptoms of the virus the government didn't establish any lockdown, as many countries in Europe did. However, a survey made last year in June 2020 indicated that a large group of consumers still believed that the negative impact of the pandemic on their routines would still continue to last for a long period, and thus they expected to continue cutting back on spending across all categories except non-food child products. Consumers also stated that their spending had declined and more so for in-store shopping than online.(Melnyk, 2020) However, in the summer of 2020, the Swedish Government implied masks in stores and public transport to prevent more spreading among the public.

At that time when this restriction was applied, consumer behavior changed among people, many people avoided using public transportation, deciding to walk to the store to do grocery shopping so as to avoid crowded spaces. In this situation, the consumer behavior changed in regards to shopping where the distancing was presented among people to slow down the virus (Rifkin, 2020).

Additionally, Rifkin (2020), explains that during this time recommendations from recognized experts like medical personnel or scientific employees concluded that persuading people to obey the restriction, campaigns or advertising in regards to COVID 19 was the most effective thing to do. Unlike other countries, Sweden did not put a lockdown and hence leaving its economy open. It was reported that the government of Sweden noticed an increase in the spread of the virus, which meant that the economy would become much weaker (Rolander, 2020). A study made by Lars Calmfors (2020) states that during the first months of 2020, the economy of Sweden was hit hard economically; this was seen through the gross domestic product that had fallen by 8.5 percent.

However, the fact that Sweden neglected a lockdown, the Public Health Agency of Sweden on March 10, 2020 stated that there was a high risk of the virus spreading domestically with evidence showing that consumers in Sweden had dramatically increased their grocery purchases as well bought products in bulk especially in the city of Stockholm (Rosengren, n.d). Thus, this leads us to analyze the actual problem of this paper.

With such a crisis, it can lead to skyrocketing prices of food and this can contribute to low standards of living for the people hence causing a distortion in the consumer behavior of people. The pandemic can cause a social panic in the aftermath of the pandemic. *Someone may ask how?* This is so because consumers will adopt a typical behavior of hoarding food since they are scared and not certain about the future and this will lead to limitations of food available on the market. Furthermore, this will lead to an inflation of food prices on the market hence causing more panic and stress to the population. (Kotova, 2021)

With the coronavirus still being a threat to the livelihood of people, some researchers have simultaneously made studies on how the virus has impacted the consumer behavior pattern of Sweden. In order to understand the pattern of consumer behavior in situations like this, researchers need to not only consider scientific literature based on the economic deteriorations a country is facing but rather examine scientific literature based on how the consumers have gone ahead to react to such calamities. Based on a consumer behavior study about Sweden, it reveals that during times of a crisis, people were more prone to experience certain feelings such as anxiety and insecurities which made the majority of them purchase more basic needs in bulk as compared to other consumer goods like luxurious products such as tv sets, phones, etc (Rosengren, 2020). The literature further states that, some consumers, especially at the bottom half of the income ladder, were more inclined to become impulsive as well compulsive too when purchasing products during such times of uncertainty.(Rosengren, 2020)

A study made by (Loxton, 2020) mentions how the continuous uncertainty hinders consumption patterns and consumer decision makings that have been worsened by periods of governments advice to self isolate individuals who might have contracted the virus as well advised restrictions such as social distancing that have made people solely remain in their household, hence hindering their movement to purchase products.

He further states that consumer behavior began to change in a capacity more than the typical geographic presentation of purchases to affect the timing, breadth, and volume of purchases. (Loxton, 2020).

We found gaps in our research study that are to be analyzed. The COVID-19 pandemic increased the habit of "social distancing" (Fonseca, 2021) to maintain the virus to not be spread, this new way of living affected consumer behavior because in Sweden it was implemented with a distancing measurement in order to avoid getting contact with other people, 1 meter distancing was implemented in stores and transportation. Another restriction was for restaurants, no more than 50 people were allowed inside and gatherings were allowed only with 500 people.(Ministry of Health and Social Affairs, 2021). Changes in their regular behavior is another gap found as many people changed their usual grocery shopping schedule in order to avoid crowded places (Sung, 2020). Change of food consumption is another gap found as many people changed their diet during the pandemic in order to eat more healthily.(Janssen, 2021)

1.3 Purpose

The goal of this paper is to examine how consumer behavior related to food changed during the pandemic in Sweden. The nature of the topic relates to an explanatory purpose because it will help the authors understand how and why consumer behavior in terms of food has changed. An explanatory purpose is an approach that helps a researcher to discover details for why something occurs (“Indeed Editorial Team”, 2021). Therefore, in this paper, we will analyze the research question with the help of models and theories that describe our purpose.
Our research will focus on the changes that occurred to consumer behavior in relation to food during the pandemic in Sweden since many people have enjoyed cooking at home than going out, this factor has a direct impact on consumer behavior as people had to restrain themselves to go outside (Saskia, 2020). A study made by Saskia during the Covid-19 pandemic showed how people changed their behavior when going to stores to avoid the pitch hours when the stores are crowded. Also, in the same study, Saskia presents how people choose healthy products instead of junk food like vegetables, fruits, frozen meat, etc. The Decision-Making Process model, and Maslow’s Hierarchy of Needs theory help us analyze how consumer behavior in relation to food changed during the Covid-19 pandemic as it is more detailed in the literature review.

1.4 Research Question

To conduct a conductive research that adequately fulfills its purpose, a research question has been developed so as to guide this paper and be able to achieve the research goal. This study asks the following research question:

RQ: How has consumer behavior related to food changed during the pandemic in Sweden?

2. Literature review

This chapter presents a detailed background of the existing research question and explains the theories and models used in this paper. The chapter will start with presenting the literature search that we used to get our data, after which it continues with the Decision-Making Process model, then factors that influence food choices, eventually the Maslow's Hierarchy of Needs theory, and lastly addresses different buying behavior theories such as panic buying, herd mentality, compulsive and impulsive behaviors.

2.1 Literature search

At the start of this paper, a literature review has been carried through reviewing academic articles, journals, websites and books so as to be able to collect the appropriate secondary data. The significance for carrying out this review was to create a foundation or overview of the problem and hence create an understanding of the analyzed problem in order to develop a theoretical framework that has concepts, models and theories that correlate to the research problem. An already existing literature related to the research question was analyzed to generate a deeper insight of our topic. Additionally, a literature review helps to identify and appraise the contribution to knowledge made by others and comments on any weaknesses (Hussey, 2014).

Due to the unexpectedness of the whole COVID-19 crisis, the available research has been limited. This is because the problem analysis of this research involves numerous different aspects hence creating a complex problem.

Nonetheless, the paper has addressed some theories and perspectives so as to provide a wider foundation and deeper insights about it for future research. The literature review has been conducted using Jönkoping University library as the main source as well as its databases that have been used in accessing the relevant academic articles such as ProQuest, Google scholar.

The key search words that were used when searching for the literature on the university's databases were COVID-19, food consumption, consumer behavior, products and lifestyle, Covid-19. The fact that authors also used problem search engines because of the nature of the study paper, we can call this an unconventional method even though it was necessary to search for this information. For clarification, an unconventional method is one that gives researchers new lenses and perspectives on topics as well as opening up fresh lines of inquiry. (Buchanan, 2018)

2.2 Decision-making Process Model

It can be seen that many of the elements of the model are similar to those presented in the Theory of Buyer Behaviour (Sheth, 1969), however, the structure of presentation and relationship between the variables differs somewhat. The model is structured around a seven-point decision process: need recognition followed by a search of information both internally and externally, the evaluation of alternatives, purchase, post-purchase reflection, and finally, divestment (Karimi, 2013). These decisions are influenced by two main factors. Firstly stimuli are received and processed by the consumer in conjunction with memories of previous experiences, and secondly, external variables in the form of either environmental influences or individuals. (Skidelsky, 2020)

Decision-making is defined as the cognitive process that results in the selection of a belief or course of action from a set of alternative options (Simon, 1997). It might be rational or irrational. The decision-making method is a reasoning process that relies on the decision assumptions that the individuals made about attributes, desires, and beliefs. Every decision-making process results in a final decision, which may or may not result in action (Simon, 1997). Decision-making is barely made within three courses of action: identifying situations in which to make a decision, identifying available options, and selecting an option. These three components have defined the decision-making process as said by Herbert Alexander Simon in " The new science of management decision". (Simon, 1997)

The decision-making process is formed by 7 steps as explained by UMass Dortmund in their article" 7 Steps to Effective Decision Making"

Step 1: Identify the decision

To make a decision, one must first identify the problem or question that needs to be addressed. Immediately define the decision clearly. One needs to achieve a specific goal as a result of their decision, make it quantifiable and time-bound so that they can know with certainty that they met the target at the end of the process.

Step 2: Gather relevant information

Before making a decision, it is best to gather some relevant information: like what is required, the best sources of data, and how to obtain relevant information. Some information is internal, and a consumer will seek it through self-evaluation. Other information is obtained from outside sources, such as the internet, books, other people, and other sources.

Step 3: Identify the alternatives

As the consumer gathers information, they will most likely identify several potential courses of action or alternatives. They can also create new options by using their own creativeness and extra data found. In this step, one will compile a list of all viable and desirable alternatives.

Step 4: Weigh the evidence

They should use their knowledge and thoughts and feelings to assume what it would be like if they carried out each of the alternative options all the way to the end. Then they should be able to determine whether the need defined in the first step would be met or settled by using each solution. Afterward, they will start to prefer specific alternatives for instance those which appear to have a higher success rate. Eventually, they will have to prioritize the alternative solutions depending on their personal system of values.

Step 5: Choose among alternatives

When the consumers have balanced all of the findings, They are ready to choose the option that appears to be the best fit for them.

Step 6: Take action

In this step, the consumer is ready to take effective action by using the alternative that they selected in Step 5.

Step 7: Review your decision and its consequences

In the end, they consider the outcome of their decision and assess whether or not it has met the need that they had identified in Step 1. If the decision did not meet the outlined need, they may want to go through the process again to make a new decision.

2.2.1 Decision process amidst the pandemic

The pandemic is a problem in disaster management since it is a long-term disaster that alters people's life more than other disasters such as tsunamis, earthquakes, and volcanic eruptions (Bull, 2021). In times of a disaster like Covid-19 pandemic, the decision making-process is slightly changed for some of the steps identified above (Bull, 2021). The only steps that have changed are Steps 2,3 and 4 which are the ones that gather and analyze the choices people made when buying a product or service. In times of a pandemic, people's choices presented a change in their decision making process. One of the important changes is in buying products since many people avoid buying unhealthy food products that can't help to immunize the system.(Bull, 2021)

We observed that the decision-making process clearly defines consumer behavior actions. ("What Is Consumer Behaviour?" 2021) The individuals are using the decision-making process as part of the consumer behavior since it clearly defines the process of purchase, pre-purchase, and disposal of the product or service (Simon, 1997). The amount of time people spend on this phase is usually determined by the consumer's previous purchasing experience, the risk incurred, and the amount of involvement (Ha, 2006). According to (Atika, 2020) product quality is considered when a consumer's user needs are satisfied through a variety of features that enhance product performance. In other words, when consumers are about to make any purchase decisions they take into consideration the worthiness of the product so as to be content and happy with their purchase. Also, we can define quality perception as a consumer's assessment of product superiority. (Atika, 2020)

The process of looking for information is a crucial time for consumers. Marketers must notice it and respond with a suitable product description, promotions, and so forth. In addition, suggestions from friends and family, as well as feedback from other customers, will be considered (Obrenovic et. al, 2017). As our brains can catalog actions " in a blink of an eye", the whole process is about 13 milliseconds in taking a decision and choosing the best alternatives found (Trafton, 2014). As discussed above the consumer decision process making model it is important to understand that this process commences with the identification or recognition of a need, therefore underlying the importance of considering the hierarchy of needs theory by Maslow (University of Pretoria, n.d). This brings us to our interpretation of what Maslow's Hierarchy of needs theory is about.

2.3 Factors That Influence Our Food Choices

There is a growing need for a better understanding of the factors that influence food choice due to the importance of population dietary change (Janssen, 2021). Four major food choices can influence people's choices.

2.3.1 Biological factors of food choice

2.3.2 Hunger and satiety

One of the biological factors is Hunger. The need to eat helps us to know when to eat in order to keep our bodies alive ("Generation Genius", 2021). Hunger reminds us when our stomach is empty, our body will announce to the brain that some of the nutrients needed are missing and doing so the hunger sensation appears (Martin, 2017).

According to Martin,the only part of the body that can control this feeling of hunger is the brain, which means that it controls our desires of eating a specific food.Satiety is another biological factor. This factor is defined as the feeling of fullness after eating. Satiety can limit the body on how much food and drink is consumed on one occasion (Booth, 2003). According to Booth, satiety is a part of the ingestion system that helps us digest food.

The main factors of food choice are our physiological demands. Humans require energy and nutrients to thrive and will respond to hunger and satiety cues (satisfaction of appetite, state of no hunger between two eating occasions). The central nervous system regulates the balance of hunger, appetite stimulation, and food intake.(Stubbs, 1996)The macronutrients, which include carbs, proteins, and fats, produce varying degrees of satiety. According to the research, fat has the least satiating capacity, carbs have an intermediate impact, and protein has been determined to be the most satiating. (Stubbs, 1996)

According to Stubbs, dietary energy density has been demonstrated to have a powerful influence on satiety; low energy density diets produce more satiety than high energy density diets. The high energy density of high-fat and/or high-sugar meals can also contribute to 'passive overconsumption,' which occurs when more energy is consumed accidentally and without the consumption of additional mass. (Stubbs, 1996) The amount of food or portion size ingested may be a key satiety indicator. Many people are oblivious to what constitutes acceptable portion sizes, and as a result, they accidentally eat too much energy. (Benton, 2015)

2.3.3 Palatability

Palatability is the pleasure one feels when eating a specific meal (Densing, 2013). According to (Densing, 2013), a certain food with a high level of palatability provides an intense sensation of pleasure, this feeling activates the pleasure system of the brain.

This is the reason why we desire to eat certain food that offers us enjoyable pleasure. Palatability may differ from person to person as some people might find pleasure when eating sweets, others when eating spicy products (Densing, 2013).

The sensory qualities of the meal is determined by taste, smell, texture, and appearance. Foods that are sweet and heavy in fat have an indisputable sensory attraction. It is not surprising, however, that food is typically consumed for the enjoyment value it provides rather than as a source of sustenance(Sorensen, 2003). Several studies have been conducted to study the effect of palatability on appetite and food consumption in humans.

Food intake rises as palatability rises, although the effect of palatability on appetite in the post-consumption period is unknown. Increasing dietary diversity can increase food and energy consumption, as well as change energy balance in the short term. However, the long-term impacts on energy regulation remain unclear. (Sorensen, 2003)

2.3.4 Sensory aspects

Sensory aspects are the most important aspect when it comes to food. Rather than taste, sensory aspects implies smell, sound, appearance and texture that are important when we choose what to eat. The texture that we feel in the mouth, the looks and the smell of it are part of the social aspect but in terms of food. (Hartman, 2016)

'Taste' is generally cited as a crucial effect on eating habits. In actuality, 'taste' refers to the total of all sensory stimulation caused by the consumption of food. This encompasses not just the flavor of the meal but also its fragrance, look, and texture. These sensory factors are hypothesized to impact spontaneous meal choice. (Clarke , 1998)

Taste and familiarity impact dietary behavior from an early age. A preference for sweetness and an aversion for bitterness is considered intrinsic human characteristics that are present from birth. Taste preferences and food aversions are formed because of experiences and are impacted by our attitudes, beliefs, and expectations. (Steiner, 1977)

2.4 Economic and physical factors of food choice

2.4.1 Cost and accessibility

There is no debate that the cost of food is a major influence on food choice. The subject of whether the cost is excessive is largely determined by a person's income and socioeconomic standing. Poor-income people are more likely to have an imbalanced diet, with low intakes of fruits and vegetables in particular (Estevez, 2000). However, having more money does not inherently imply having a healthier diet, but the variety of items from which to pick should expand.

Another major physical aspect impacting food choice is access to stores, which is based on resources such as transportation and geographical location. When compared to stores in the suburbs, healthy food tends to be more costly in towns and cities (Donkin, 2000). However, just increasing access does not result in increased purchases of new fruits and vegetables, which are still considered excessively expensive. (Dibsdall , 2003)

2.5 Social aspects of food choice

2.5.1 Cultural influences

Cultural influences cause differences in the regular intake of particular foods and in food preparation customs, and in certain circumstances can lead to dietary limitations such as the exclusion of meat and milk (Reddy, 2015). Cultural influences, on the other hand, are adaptable.

All cultures have different influences in regard to food, in some cultures beef and pork is inedible, in other cultures specific food is edible once a year at a specific holiday. (Reddy, 2015)

2.5.2 Social setting

Social setting is defined as the social aspect while having a meal. Being around people at school or work and sharing a lunch is described as a common activity. Even though eating together is presented from a long time this aspect can influence the food you eat. Every family has their own taste when it comes to choosing the food. This results in having different opinions from person to person (Higgs, 2016)

The majority of the food is consumed at home, a rising amount is consumed away from home, such as at schools, at work, and in restaurants. The environment in which food is consumed can influence food selection, particularly in terms of what foods are available (Faugier, 2001). However, access to nutritious food alternatives is limited in many workplaces and schools. This is especially true for people who work irregular hours or have special requirements, such as vegetarianism. (Faugier, 2001) With the majority of adult men and women working, the impact of work on health behaviors such as dietary choices is an important topic of research.(Devine, 2003)

2.6 Psychological factors

2.6.1 Stress

Psychological stress is a frequent element of contemporary living and can influence health-related behaviors such as physical activity, smoking, and diet selection (Schultchen 2019). The impact of stress on food selection is complicated, not least because of the numerous forms of stress that might occur. The impact of stress on food consumption is determined by the individual, the stressor, and the circumstances. When under stress, some people eat more and others eat less than usual. (Wardle, 1999)

Motivational differences (weight control), physiological (reduced hunger produced by stress-related processes), and practical changes in eating opportunities, food availability, and meal preparation are reasons for stress-induced eating and food choice.According to different studies, if the job becomes stressful and continuous or frequent, harmful dietary changes may occur, raising the potential of weight gain and, as a result, cardiovascular risk.(Wardle , 2000) mentions that Maslow's hierarchy of needs can be a guideline for one to predict a country's consumer behavior in terms of herd mentality, changing of discretionary spending, and consumer panic buying.

2.7 The Five Levels of Maslow's Hierarchy of needs

2.7.1 History

Maslow's hierarchy of needs is a theory of motivation and personality that was developed by the psychologist Abraham Maslow (1908-1970). He explains that the theory he introduced defines human behavior in terms of basic requirements for survival and growth (Schmutte, 2002). This theory was first introduced on a paper he had written in 1943 called *" A Theory of Human Motivation."* In 1954, he later refined his theory with his book called *"Motivation and Personality"* From that time forward, this theory has been recognized as a popular subject in sociology, management training, and psychological classes. (Corporate Finance Institute, 2020)

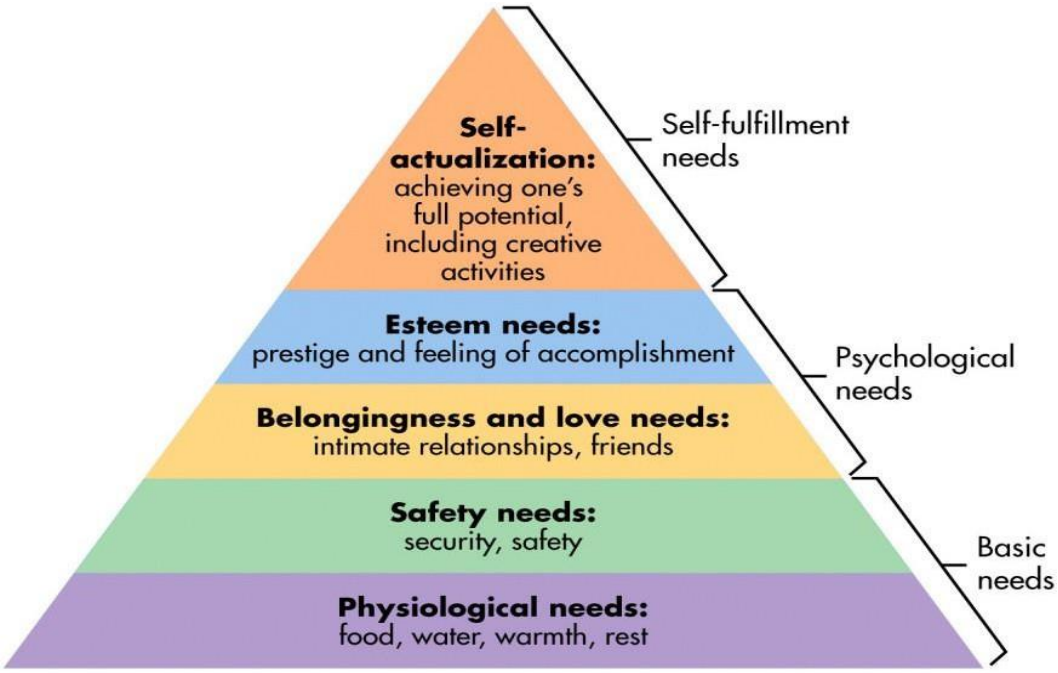


Figure 1: Maslow's Hierarchy of Needs Pyramid (Cools, 2021)

Maslow's hierarchy of needs is a theory of motivation which states that five categories of human needs dictate an individual's behavior (Schmutte, 2002). In our own words, we can define this theory as one that motivates or encourages people to behave the way they behave. Alternatively, we believe that if there is a crisis or when people are in a deficiency of these needs they are motivated into acquiring them. According to (Lin, 2020), Maslow posited a pyramid shape hierarchy of needs for the five different levels which include physiological needs, safety needs, belongingness needs, esteem needs, and lastly self-actualization needs.
A study made by (Loxton, 2020), mentions that Maslow's hierarchy of needs can be a guideline for one to predict a country's consumer behavior in terms of herd mentality, changing of discretionary spending and consumer panic buying.

2.7.2 Levels of Hierarchy

These needs that were introduced by Abraham are organized according to their importance for survival and their power to motivate an individual (Schmutte, 2002).The needs begin from the most basic needs to the most up-to-date needs. This is so because Maslow originally believed that a person needed to completely satisfy one level to begin further levels.(Corporate Finance Institute, 2020)

1. Physiological needs

According to Maslow, these are needs that have to be satisfied for the continuation of an individual's biological structures for instance breathing in oxygen, eating food, having a shelter to sleep in, etc. (Uysal et al., 2017) Basically, these are the most important needs and are required to sustain a human being's life are put at the beginning of the motivation theory. The human body cannot function optimally if these needs are not satisfied. As stated by Maslow, he considered these needs the most important because all the other needs become secondary until these needs are met (Mcleod, 2020) .One needs to understand that these needs are very compulsory to one's living.

1.1 Physiological needs amidst the pandemic

According to (Quinn, 2020) they mentioned that due to the pandemic, many people were motivated to purchase more basic needs than they had before this crisis. They continued to say that the fact that there had been low employment levels and also some people losing their jobs. It forced people to put more emphasis on acquiring these basic needs which was not the case before the pandemic happened. Furthermore, the fact that many people resorted to staying at home because of fear of contracting the virus, it was hard for them to stay physiologically healthy like for example exercising at the gym (Quinn, 2020).) People were encouraged to find more creative ways that did not involve them socializing with people so as to keep healthy as stated by Quinn, (2020)

What people were encouraged to do

They were encouraged to prioritize achieving their basic needs first.

What people were discouraged from doing

They were discouraged from engaging in activities that were unhealthy for the mind and body.

2. Safety needs

This is the second level of the hierarchy after the physiological needs have been satisfied (Corporate Finance Institute, 2020). Generally, human beings become more aware and concerned about their physical safety. These needs include order, certainty and control over one's environment and their own life ("University of Pretoria",n.d). Abraham mentioned that the inadequate fulfillment of these needs could explain neurotic behavior as well as other emotional behaviors in some people.

These needs can be provided by the police whose duty is to keep law and order in a society. The family and society should also be able to fulfill these needs for example emotional and financial security that can come from employment welfare. Society should provide social stability, property, health, and safety against any accidents and injury. (Mcleod, 2020)

2.1 *Safety needs amidst the pandemic*

Being able not to have to worry about one's physiological needs during a crisis then means one has the urge to be able to achieve their safety needs. Whenever there was an increase in the cases in different locations, it was one's main motivation to ensure their safety and for their families more so if the person was medical personnel or had a member of the family that was medical personnel it was in their best interest to strive for safety for that person and themselves. (Quinn, 2020)

What people were encouraged to do

From this article, people were advised to seek further education about the facts of the virus and what was the rate of infection in their areas.

What people were discouraged to do

They were advised not to put pressure on themselves so as to achieve higher-order needs.

3. Belongingness needs

In this segment, the need for love, commitment, and belongingness emerges (Uysal et al., 2017) . Furthermore, the article states that an individual's needs for belongingness and love represent a variety of needs for example feelings of belonging like clubs, group memberships, churches. It could also be from love like from a spouse, child, or maternal love. Belongingness can be defined as a human emotional need for interpersonal relationships, affiliating, connectedness, and being part of a group. (Mcleod, 2020)

According to (Uysal et al., 2017) this category talks about the need for people to be accepted by others for instance by establishing friendships, being with their relatives so as to be able to exhibit love to people surrounding them and these people expect the same love to be reciprocated and such kind of needs are derived from the instincts of living together to a great extent. A point to note is that in any case, an individual is not able to satisfy these needs; they can become lonely and get depressed.

3.1 Belongingness needs amidst the pandemic

Group therapy says that the fact that people were advised to carry out social distancing during the COVID-19 situation, it was rather challenging for people to connect with one another.(Quinn, 2020)

What people were encouraged to do

People were encouraged to connect with others outside their homes through virtual appliances such as FaceTime, Skype, and other social media outlets.

What people were discouraged to do

- Not to ignore any attempts for connection from members of their families that were healthy.
- Not to assume that any passive involvement on social media with friends or other people was a way of satisfying their social needs.

4. Esteem needs

Being the fourth level of the hierarchy it includes self-worth, accomplishment, and respect. (Mcleod, 2020) Here, the focus is just not about surviving but rather doing well according to meaningful communal standards (Schmutte, 2002).

Maslow classified the needs into two categories: the first one being that one is able to be appreciated and respected by others in relation to one's reputation when it comes to elements like status, recognition, and appreciation. The second need is the desire for self- appreciation and self-esteem for oneself for instance through having self-confidence, independence, success, and talent (Uysal et al., 2017). It was also indicated by Maslow that the need for respect or reputation is more important to children and adolescents and comes before real self-esteem or dignity for them. (Mcleod, 2020)

4.1 Esteem needs amidst the pandemic

According to the group therapy article, people were supposed to be able to achieve success and make others recognize their achievements. Due to the pandemic, these needs seemed to be a challenge to be met because people were more focused on achieving more of their basic needs than the esteem needs. For those that remained working must have still had their esteem needs met by their supervisors or peers and those that remained home still had their efforts of accepting to be quarantined encouraged by their family members. (Quinn, 2020)

What people were encouraged to do

- People had to be encouraging and supportive to their family members and other peers in their current efforts at surviving the pandemic.
- People were encouraged to consider doing an act of altruism where they were to give back to others in need so as to have a better life adjustment. More so giving back basic needs to those that were finding it challenging to acquire them.
-

What people were discouraged to do

Not to meet their esteem needs through other people's achievements most especially for their children. Just as it was mentioned by Maslow, a human can only meet these high order needs through their own accomplishments. Continuing further from group therapy as they mentioned that if one based their happiness on how their children were doing then it was most likely to put more pressure on them.

5. Self-actualization needs

These are needs where one has the desire to fulfill their potential hence becoming everything that they are capable of becoming ("University of Pretoria", n.d). It was further described by Maslow that at this level one has a desire to accomplish everything they can do so as to become the best that they can be (Mcleod, 2020). We can say that at this level one is able to work toward achieving their maximum creativity since one is able to realize their full potential. Examples of the need for self-actualization can be seen in many different ways such as obtaining skills like football, modeling, etc, having a need to continue education like doing a masters program, having a need to develop one's talents such as singing, having a need to pursue one's life dreams, to mention but a few. (Corporate Finance Institute, 2020)

5.1 Self-actualization needs amidst the pandemic

The fact that there was a crisis of covid that was hindering individuals from even accessing their basic needs, it was challenging for them to focus on acquiring these higher-order needs.(Quinn, 2020)

What people were encouraged to do

Individuals were encouraged to become more creative in how they would give to people as well as help those that were struggling.

What people were discouraged to do

People were advised not to make assumptions thinking that everyone would be able to be creative in such a situation hence rather be understanding and patient to one another.

2.8 Buying Behavior Theories

This section addresses the theories on panic buying, herd mentality, impulsive and compulsive buying behaviors.

2.8.1 Panic buying

Buying in excess of goods and household essentials leads to a perfect description to panic buying, this creates negative consequences to the society (Jones et al, 2014). This behavior is recognized by how consumers purchase unusually large amounts of products in anticipation of, during or after a calamity or perceived calamity, or in anticipation of a high increase in product prices or a shortage (Yuen et al., 2020). It is safe to say that for the past two years, panic buying among consumers has been witnessed due to the current COVID-19 situation (Yuen et al., 2020). Panic buying is a behavior that is socially undesirable because of large quantities of basic needs such as medical supplies, food is bought from the markets which eventually leads to stockout situations which situations vulnerable groups like the sick, elderly to be able to access them and yet they are the most people who are in greater need for them.

Due to excessive demand for products, this also poses disruption for supply chains because they are faced with challenges of excessive ordering and distribution and yet this could be impossible because of the travel restrictions that are put in place due to the pandemic. (Yuen et al., 2020) According to (Cooper, 2021) panic buying can be seen as a form of defense or self-protection mechanism. These self- protection mechanisms are behaviors that people use or adopt in order to separate themselves from events, actions or thoughts. A study conducted by (Yuen et al., 2020) mentions the main four factors that are associated with panic buying in response to the COVID-19 outbreak which are; perception, fear of the unknown, social psychology, and lastly coping behavior.

They conclude that when consumers notice that the consequences of the disease are high, they tend to adopt the habit of panic buying. This is so because consumers are scared to have any regrets as to why they didn't purchase a particular well before.(Yuen et al., 2020)
Panic buying affects consumer behavior because customers are always impaired by their emotions since they are uncertain about how the future will look. People perceive products as more valuable when they are scarce, so they are willing to pay a higher price for them.

It can even persuade us to buy things we don't need because we believe they are suddenly more valuable. This could explain why people are scrambling for toilet paper and stealing it from other people's baskets despite having plenty at home (Dodgson, 2020). At the start of the first wave of the virus, every country has recorded a high volume of panic buying of canned food, papers, frozen food, and household products.

Buying in a " bulk" results in a waste of products as not all the goods brought will be used in that time. This situation led to a significant change in consumer behavior due to the fact of fear, stress, and anxiety under the high pressure of the pandemic. (Yuen et al., 2020) Researching the situation in Sweden during the Covid-19 pandemic on panic buying, we observed a big change in what the consumers bought in that period.

An article from ICA, one of the biggest supermarkets in Sweden, identified five clear changes in Sweden's food patterns in the first three months of the pandemic. Anders Svensson, CEO of ICA Sweden had declared that during the pandemic they have seen a lot of changes in customers' eating habits in a very short time compared to previous years (ICA, 2020). During this time, bread recipes had received far more application than sweet pastry recipes in ICA's recipe library. Dry yeast, for example, grew by 143 percent. Other products that had an increase in rank during the pandemic were sausage stroganoff, salmon filet with lemon, potato, and leek soup, flying jacob, baked potatoes, hasselback potatoes, cabbage pudding.

All types of pancake recipes had a 100 percent rise in revenue compared to the same period last year, while potato dish recipes (or dishes with potatoes as the most popular item) saw a 100 percent increase in sales (ICA, 2020). Cooking more at home had increased during the first three months in Sweden on ica.se has seen a rise of 33-102 percent higher visits for the organic recipes, this high percentage has seen through how many onions have people bought during that period.

Meat, fresh chicken, pizza dough, fully prepared sauces, and pizza kits all saw significant increases in use in the kitchen. (ICA, 2020) Sales of long-lasting goods such as hard bread, oatmeal, porridge products, onions, cabbage, mashed potatoes, carrots, root vegetables, rice, dry pasta, pasta sauce, powdered mash, canned vegetables, crushed tomatoes, canned beans, meat preserves increased dramatically during the period.

There was also a considerable rise in frozen items as well as a significant increase in toilet and kitchen paper. The most extensive bunkering occurred at the start of the crisis and then gradually faded over time. (ICA, 2020)

2.9 Causes of Panic Buying

2.9.1 Perception

Under this theme, it explains an individual's perception of any crisis or possible calamities that could trigger panic buying (Yuen et al.,2020). We can assess this theme with two main key dimensions which are perceived threat and perceived scarcity.

2.9.2 Perceived Threat

This can be understood as an individual's cognitive assessment of the likelihood a danger will affect them and how bad it will be if it does so (Thompson, 2014). Usually, the danger or risk that is being perceived by an individual can be measured by both severity and susceptibility of how the crisis or event is (Yuen et al., 2020). These two dimensions originate from the Health Belief Model with perceived susceptibility referring to an individual's subjective perception of the risk of acquiring an illness or disease whereas perceived severity refers to a person's seriousness of contracting an illness or disease (Wayne, 2019). These perceptions refer to what the probability of acquiring the virus will be and the consequences that will be for an individual once they contract the virus respectively. Both of these perceptions postulate that people are rather motivated to take into consideration self-protective behavior inorder to minimize the risk of acquiring the virus.

2.9.3 Fear of the unknown

Fear is one of the factors that can affect food behavior. Everyone is fearing something in life but in times of a pandemic when everything is sold out very fast, " buying in bulk" comes out of fear. Fear of the unknown is influenced by the insufficient knowledge that people have about any crisis (Fai Yuen et al., 2020). Even though the Swedish authorities advised people to be prepared by having enough supply of food so that they do not have to go out and do grocery shopping (The Local, 2020)

It was still hard for some people to not have fear about how they were going to be able to sustain their lives through trying to be in a position where they can still feed well and not have to worry about any the what if questions surrounding their food consumption. In addition, this theme creates uncertainty among people which causes them to contemplate about their future and create multiple scenarios that instill fear in them.

Basically, fear encourages consumers to make purchases because that will allow them to have a sense of security, comfort or rather seek to escape as well relieve their stress. This fear promotes this motivation which is driven by the consumers' actual need to purchase food products but instead it is a way for individuals to cope with their negative emotions. (Yuen et al., 2020)

2.9.4 Coping Behavior

According to (Yuen et al, 2020) the aspect of fear of the unknown is considered to trigger the coping behavior of a consumer. According to this, it shows that panic buying can be viewed as an outlet for an individual to be able to regain control over the crisis (Yuen et al, 2020). A sense of control about an event or crisis contributes to a consumer's stress level for instance a crisis that is perceived as being uncontrollable may result in ones' impaired ability to function (Sneath et al, 2009). Therefore, in a crisis like the C0VID-19 situation, panic buying among consumers is most likely to happen or is accepted due to the circumstances that are surrounding the pandemic.

Circumstances like getting in close contact with people hence fear of being able access grocery stores in order to purchase food. Literature from (Sneath et al, 2009) states that when victims feel deprived of their possessions or former social status, they may adopt behaviors that help them regain a sense of " normalcy" so as to be able to cope with such difficult circumstances. According to (Yuen et al, 2020) control refers to the ability to influence outcomes in one's environment. Most times people always feel the need to control outcomes and this urge of wanting to control allows them to experience mastery over a task or particular domain (Chen et al, 2020). This leads to panic buying in a sense that, when people rush to hoard or make purchases in large quantities they have a sense of feeling they are more smarter and and more secure than the rest (Chen et al, 2020). In general, human beings naturally always develop an urge to be able to control such situations and hence this can be seen as a way or an intent for survival in tough times like these ones.

For a situation like the COVID-19 scenario, it reduces a consumer's perception of control over the environment and this creates discomfort which triggers them to regain control.(Yuen et al, 2020) Looking at the compensatory control theory which means that this is when control-deprived individuals may resort to different strategies so as to restore personal control. (Chen, 2016)This literature further states that consumers have often been found to incorporate the compensatory consumption theory as a way of satisfying their basic needs that are related to control motivation. In addition to this theory, consumers tend to compensate for their loss of control by strategically acquiring products that are typically associated with problem solving. (Chen, 2016)

Therefore, panic buying can be viewed as a compensatory consumption behavior that says that consumers always turn to buying products as a way to restore deficits that are instigated by perceived needs and wants that can only be satisfied indirectly (Yuen et al, 2020).
In this case, a deficit can be seen as a loss of control over the pandemic and therefore consumers can compensate for this through the idea of problem solving hence causing them to indulge into panic buying.

Additionally, people in countries especially those with high density cities and are exposed to fears of the pandemic, become stressed by the potential spread of the virus or begin to panic and hence they start to seek to restore their sense of equilibrium by purchasing utilitarian products (Yap, 2020). By definition, utilitarian consumption of products refers to items that are a priority for meeting certain purposes. (Basso et al, 2019)

2.9.5 Social Psychological Factors

This being the last theme it gives an overview of the factors that contribute to the cause of the spread of panic buying but through social networks.

- **Social Influence**

A society is made up of individuals and therefore each decision that is made by a person can be influenced by their opinions, beliefs and attitudes of a larger group. (Yuen et al, 2020) By definition, social influence refers to the way in which individuals change their ideas and actions to meet the demands of a social group, perceived authority, social role or a minority within a group wielding influence over the minority (Waude, 2017). With this definition it brings us to explain some types of social influence that can explain panic buying.

The first type of social influence is observational learning. This type of influence is directly connected to the concept of information cascade that is derived from behavioural economics and network theory (Harrison, 2020). It explains a phenomenon where individuals generally make the same decision during such times and in a sequential manner and hence resulting in herd behavior. As consumers are involved in making their decisions in a sequential manner, they are often welcomed with the opportunity of being able to observe the choices and decisions made by other people who they might have seen that had acted earlier before them (Yuen et al, 2020).In most cases, these individuals only observe and make these purchase decisions without knowing the outside information that can be on news, or any media.

Therefore, having insufficient or reliable information may influence the individuals' behaviour by imitating other people that they see who might be panic buying or avoiding purchases of food products or rather increasing their demand on some food products (Yuen et al, 2020). This imitation causes the consumers to override their purchase and consumption decisions since they could be believing that the people that they have seen could be having a better assessment and judgement of the crisis and hence results into panic buying. (Yuen et al, 2020)

2.10 Impulsive buying

During a crisis like the pandemic situation, people tend to make unplanned purchases which can be referred to as impulsive buying (Harahap et al, 2021). This study continues to say that under conditions of sudden anxiety or uncertainty, there is an emphasis on seeking security and establishing controls hence causing such behaviors like impulsive buying. By definition, impulsive buying refers to the sudden desire to purchase something without planning in advance and such decisions are triggered by one's emotions and feelings (The Economic Times, 2021). A theory that got its name from the proposer Hawkins Stern claimed that consumers involve themselves in impulsive purchase buying behaviors because they could be under the influence of external forces. (Agarwal, 2021)

2.11 Compulsive buying

These are behaviors identified as those that cannot be controlled, are excessive, time consuming and patterned in nature (Sneath, 2008). What makes it different from an impulsive buying behavior is that it involves a persons' inability to control the urge to purchase a product and hence leading to negative circumstances. (Sneath, 2008)

2.12 Herd mentality

This is defined as an alignment of thoughts or behaviors of individuals in a group through local interactions among individuals rather than through some purposeful coordination by central authority in the group (Kameda, 2015). Basically, herd behavior is when a person makes their decision based on others, that is to say a crowd.The fact that the pandemic brings stress and shock to the consumers, the ideology of herd mentality can be seen in different key areas for example consumer purchase behaviors, stock prices and collective societal anxiety. However, the herd mentality aspect raises a major problem that allows misallocation of assets which in turn increases the prices hence making consumers to make rational decisions of purchasing products whose supply cannot be increased.(Dang et al., 2016)

3. Methodology

3.1 Research setting

This paper is in the form of conductive research where we are to analyze the consumer behavior related to food that has changed during the pandemic in Sweden. A conductive research refers to an inquiry-based process that involves identifying a research question, evaluating and analyzing the evidence obtained from the question and finally drawing conclusions. (“Conducting Research - Teach with Tech” n.d.) Knowledge gaps are presented in this paper analyzed by conductive research. To interpret all the information, a research plan is needed hence creating our methodology process. Based on a conductive research plan which involves a change in food consumption behavior due to the COVID-19 pandemic in Sweden through multiple steps. First of all, the COVID-19 epidemic is affecting how we work, travel, communicate, and buy, among other things. Secondly, food consumption has begun to change consumer behavior due to the fact of this pandemic. Thirdly, the food consumption process has drastically changed during the last few years impacting directly the consumer's daily habits. Personal, economic, psychological, and social factors can affect changes in food consumption and consumer behavior.(Crosta 2021)

3.2 Research design

The objective of this research is to investigate how food consumption behavior has changed during the C0VID-19 crisis in Sweden. Therefore a quantitative research strategy has been selected with a motive of gaining a deeper understanding and greater knowledge of the pandemic situation in Sweden in regards to food consumption behavior. With this strategy, the authors have been able to observe the current crisis and see how it has affected the inhabitants of Sweden. To understand the definition of quantitative research, this can be understood as a systematic investigation of phenomena by gathering quantifiable data and performing statistical, mathematical, or computational techniques (Fleetwood, 2021). In this case, the authors applied a descriptive research design that describes a population, situation or phenomenon that is being studied.(Lavery, 2020)

It focuses on answering the how, what , when and where questions of a research problem rather than the why (Lavery, 2020). This kind of research enabled us to formulate a survey so as to collect information about our varying sample. A survey is a method of collecting information from a sample of people with an intention of generalizing the results to a larger population (Qualitics, 2021). Due to the current nature of the world, the survey we created was an online one which helped us to get faster insights about our respondents. The cost of having the survey online was extremely minimal. The responses that are usually collected from online surveys are thought to be highly accurate (Fleetwood 2021). In order to have an easy and readable survey, the authors sought to have a survey design that was cross-sectional.

A cross-sectional survey can be defined as one that collects data to make inferences about a population of interest (universe) at one point in time (Lavakras, 2008). It helped us to understand the prevalence and determinants of food consumption during these hard times among the people in Sweden.

3.3 Research process

This investigation was divided into the following stages. To begin with, the problem of the research was identified. The research scope was established as the changes in food consumption in regards to consumer behavior in Sweden during the pandemic which led to the research question. Secondly, a literature review was conducted with theories and models that were developed into a theoretical framework to research the question found.

Thirdly a quantitative questionnaire for people in Sweden was conducted to help with the empirical data of the paper. Finally, the results from the questionnaire were transformed into an empirical analysis and discussed further using graphs and statistical data which resulted in our conclusion. The writers collaborated throughout the process, and notes taken during working hours were documented in a diary.

3.4 Data collection

Usually, the data that is always collected can be divided into types i.e secondary data and primary data. Primary data is the one that can be obtained from the servers whereas the secondary data is the one that is collected from database search engines as well the internet. This research was conducted before the surveys were sent out so that the authors could be able to identify the gaps that were existing in the literature.

3.4.1 Primary data

This is a kind of data that has been collected by researchers directly from main sources for example through surveys, experiments, interviews, etc. ("Formplus", 2020) We acquired our primary data from surveys/questionnaires.

- ***Questionnaire***

According to Collis in his Business Research book, it is a method for collecting primary data in which a sample of respondents are asked a list of carefully structured questions chosen after considerable testing, with a view to eliciting reliable responses. (Collis, 2014)

The purpose of creating this survey was to help us understand how the sample feels and thinks in accordance with our proposed research question. Since this is a quantitative study, the questionnaire was aligned with a research strategy that was quantitative so as to gain a deeper perspective of the respondent's feelings and thoughts in order to help the authors generate rich and detailed answers (Bryman, 2011).

The survey that was created was semi-structured since it included both open and closed questions. The open questions were the ones where respondents were only given a choice of answering with a very brief factual answer that should have been accompanied with a longer developed answer.

Whereas the closed questions were the ones where respondents had only two choices of either yes or no and when it came to other questions that did not offer the yes or no options, respondents had to therefore choose from a list of answers that were predetermined. (Appendix, Figure 5) In addition to why we used both types of questions was because closed questions are more convenient and are very easy to analyze since the range of questions is always limited (Hussey, 2014). Alternatively, open questions offer the advantage that the respondents are able to give their own opinions as briefly as possible in their own words (Hussey, 2014). Once the survey had been created, we made sure to create questions that would answer the research question as well as reorder the questions so that the questions would have a reasonable flow when the respondents were to answer them.

The questionnaire was limited to only people that are living in Sweden at the moment and we received 110 responses. From our sample size, we opted to do convenience sampling so that the responses that we got were unbiased. Choosing a convenience sample helped us to see that the responses that we had gotten were to be taken as the whole population therefore meaning that the responses acquired from the sample are generalizable to the population as a whole (Hussey, 2014). The authors used the following measurements when creating the questionnaire. First, the participant was anonymous as no name or any contact was needed to answer the questions, the questions didn't have any personal data that can connect to the participant.

The questionnaire is sent to people in Sweden through groups, friends, and families that responded to the questions. We chose to send the questionnaire to some Facebook groups like " Lagenheter I Jonkoping", " Raslatt People" and also to close friends and families that live in Sweden. They selected the afferent link that opened another tab with the questionnaire. In the beginning, the authors have added a short resume that explains what this questionnaire is for. Then, the participants have to answer 25 questions regarding different topics like food consumption, Covid-19, consumer behavior. Before the survey was sent out, we accompanied it with a simple introduction so that the respondents could have a clear understanding of what they should answer. After designing the survey, the authors tested it with a smaller sample so that they could make room for any necessary changes. Given the current situation of the pandemic, it was better to form an online survey from a web based tool, Google forms, and later send the link out to the potential respondents.

Generally, using a web based tool is faster and quicker to analyze than having to opt for other distribution methods like face to face which can be more time consuming.The results from the participants is analyzed directly by google forms, the platform is automatically adding the numbers in graphs or charts in order to be easily analyzed by the authors. The survey was formed in the English language since the authors of this study can neither speak Swedish nor write it. However, it should be noted that regardless of the fact that Swedish people don't have English as their official language, everyone in Sweden excels at speaking it and in 2017 they ranked second out of 80 countries in the English Proficiency Index.(Andres, 2021)

3.4.2 Convenience sample for questionnaire.

In order to be capable of analyzing the situation in Sweden, a questionnaire was created to get the results. The authors used the following measurements when creating the questionnaire. First, the participant's were anonymous as no name or any contact was needed to answer the questions, the multiple questions didn't have any personal data that can connect to the participant's. The questionnaire is sent to people in Sweden through groups, friends, and families that responded to the questions. The results from the participants are analyzed directly by google forms, the platform is automatically adding the numbers in graphs or charts in order to be easily analyzed by the authors. They selected the afferent link that opened another tab with the questionnaire. In the beginning, the authors have added a short resume that explains what this questionnaire is for. Then, the participants have to answer 25 questions regarding different topics like food consumption, Covid-19, consumer behavior. The questionnaire was completed by more than 110 participants that offered their opinions about the pandemic outbreak situation.

3.5 Data analysis

A questionnaire is a research tool that consists of a series of questions designed to elicit information from respondents. Questionnaires can be viewed as a type of written interview. They can be carried out in person, over the phone, on a computer, or by mail. (Mcleod, 2018). Questionnaires can be a more cost-effective and time-efficient way of evaluating the behavior, attitudes, preferences, views, and intentions of a reasonably large number of individuals than other approaches (Mcleod, 2018).

During these hard times, we choose an online questionnaire created on Google forms, which is a free online tool that allows you to build surveys, quizzes, and other interactive forms.

3.5.1 Selection of questions and answer quotes

The questions that emerged about their purchasing behavior were as follows; What product decisions they considered first when purchasing a product? What food products they avoided buying during the pandemic?

If the respondents preferred to purchase products from local farms or buy from grocery stores? Lastly, if they bought any products in bulk for fear of getting finished quickly. The responses that have been received have been very informative and are able to help us understand buying behavior of the consumers who have been affected during the crisis. With these questions we have been able to obtain specific quotes or answers from the respondents so as to give a clear answer and overview to our research question. These specific answers have been selected because they give an insight to the research question posed for this paper.

It is part of Google's web-based applications package, which also includes Google Docs, Google Sheets, Google Slides, and other tools (Demarest, 2021). The Google Forms feature ensures that the recipient's personal data are not registered while completing the questionnaire. This feature allows you to create from scratch a questionnaire, it lets you choose from multiple features like MCQs, one answer allowed, add a photo, write down your answers,videos etc (Demarest, 2021). On the respective page, we had the option of receiving the results from people after they had answered the questionnaire.

The feature automatically creates graphs and tables from the responses in order to be capable of being directly analyzed, it can also be downloaded in Excel forms. We were able to create as many questions we needed and to organize them in any order we desired. The Forms allows you to invite as many people you want to edit or change the questionnaire before sending it out. After receiving the responses from the questionnaire, the authors spent time discussing their reflections and analyzing the responses obtained from the results.

3.6 Research quality

The research quality of our study is evaluated based on two concepts that are reliability and validity. These two basic concepts can be used when measuring the quality of data received. A researcher must aim to produce high quality data and therefore the research that can be obtained should be both reliable and valid.

3.6.1 Validity

It refers to the extent to which a test measures what the researcher wants it to measure and the results reflect the phenomena under study. In a simpler form the validity aims to show that the research that has been gathered represents a picture true to the concept (Hussey, 2014). Both internal and external validity have been used to collect the data. With regards to internal validity, this is the approximate truth about inferences related to the cause-effect or casual relationships. In this case, we made sure to structure our survey in a way that followed our research question posed for our thesis (Trochim, 2001). Also, the questions that were written for the survey were well grounded enough for us to gather valid information so as to answer our research question.

In regards to external validity, this refers to how well the outcome of a study can be expected to apply to other settings. In other words, the researcher has a possibility of generalizing the findings that they have obtained outside the case study (Cunciuc, 2021). Although a literature review has been carried out, the authors admit that completing a single in-depth review may not have been sufficient to confirm that the results gathered are broadly applicable. The authors made a comparison with other previous research related to food consumption issues amidst the pandemic to the case study results so as to see how they correspond. Therefore, we can say that the results from this paper are applicable in other countries that have experienced a change in their food consumption amidst the pandemic.

3.6.2 Reliability

This refers to the accuracy and precision of the measurement and absence of differences in the results if the research were repeated (Hussey, 2014). The concept of reliability helps authors to check out any sources of errors that could affect the results of the study.

Whilst designing the survey, the statements that we asked the respondents when rating the questions came from the context of our research question since we were able to formulate a number of indicators for all dimensions. Another point to put into consideration is that our data is reliable because the sample we opted to choose was random. To confirm the reliability of the empirical data that has been gathered , the data collection method of triangulation was used in order to assess the methodological errors associated when gathering data.

By definition, triangulation in research is the use of more than one approach to researching a question. Furthermore, the (Heale, 2013) says that the objective is to increase confidence in the findings through the confirmation of a proposition using two or more independent measures. The authors incorporated several methods in collecting information about the research topic such as a questionnaire and literature review (Heale, 2013). The fact that the sample was chosen at random helped to acquire broad data and information that came with different thoughts and opinions hence reducing any bias.Therefore, from the above mentioned reasons, the authors agree that the results of this paper are reliable.

3.7 Ethical considerations

This study research is being conducted whilst taking into consideration the research ethical principles that have been presented by the Swedish Research Council (2017). While creating in the survey, we made sure to avoid asking sensitive questions so as not to reduce the response rate (Grigoryan, 2021). We kept the questions specific and gave our respondents choices so that they would be able to be comfortable while answering.In order to keep the confidentiality of our potential respondents, we excluded questions such as asking for names and home locations because we figured that some people would not feel comfortable about their information being known and discussed by third parties.

We also put emphasis on the order randomization of the choices on closed questions. This is ethical because choice order can create a bias in the results since respondents tend to choose the first choice that they are likely to agree with (Lavery, 2021). Also, while sending the link of the questionnaire we made sure to include our names at the end of the message so that people would not fear to click on it thinking that it could be a virus or a scam hence ensuring trust building among our respondents.

4. Findings and Analysis

This chapter begins with an explanation of our findings and continues with explaining the questionnaire. After this section, the most important topics are subtracted from the questionnaire and analyzed as follows: Impact on buying behavior ,Impact of panic buying, the different themes of panic buying, impact of the pandemic on product consumption,the impact on consumers and lastly social aspect.

4.1 Impact on buying behavior

From our method of collecting data , we managed to ask respondents about how their buying behavior has been throughout the whole pandemic situation. Based on the data that we collected from our survey, we had 110 responses from people that considered quality when making a decision when it comes to purchasing any kind of product. Naturally, consumers before making any purchase decisions of any product, they consider different aspects such as brand influence in terms of how the product has been engaged in the public. Other purchase decisions that were considered in the survey were variety, how attractive the product is and the design of the product. Out of all these decisions 76 people who were the majority opted for the purchase decision of quality.

Respondents were asked about what food products they avoided to buy during the pandemic and summarizing the list of foods we could say that out of the seventy three responses from this question majority ignored purchasing products that were unpacked for instance candy because they feared that were unhygienic because everyone had access to them. For example these were some statements that had been written by the respondents,

"Pastries and candy(lösgodis).Mostly because they are opened and people could sneeze, cough and etc on them which is not sanitary especially during a pandemic."
says respondent 7
"*Loose" Candy - don't want people to touch my candy*"-***says respondent 21***
*"Candy that's not in bags, mostly because it's hard to keep hygienic."-**says respondent 28***

The above responses clearly indicate that the buying behavior for people in Sweden was somewhat affected by the pandemic because they feared to get sick and hence reduced their consumption of products that were not packaged since they had considered them exposed for anyone to touch them. Relating to Maslow's Hierarchy of Needs Pyramid we can correlate this behavior to the second tier which is the safety needs. According to (Safety: Maslow's Hierarchy of Needs, 2020) products purchased under the reason of their safety to a human being are those that must not only be sold to consumers with strong indications that they are able to protect them from potential threats but rather these products must have clear evidence that they show protection or health to someone's life.

Looking at the pattern of responses of how people feared to consume unpackaged products this clearly shows that the products that were sold appeared to be of a higher negative risk in them contacting the virus hence the theory emphasizes that consumers only purchase products that they are sure of will not cause damage to their lives. (*Safety: Maslow's Hierarchy of Needs*, 2020)

Seventy nine people did not consider buying food products from local farms and 30 considered buying in stores. This clearly shows how people in Sweden felt more relaxed when buying from the grocery stores than having to purchase food products from local farms. Research made by (Ouasim, 2021) showed that grocery purchasing was a simpler way of replacing meals which were previously school or work lunches or meals that were being consumed for a purpose of leisure or by necessity because of people being outside of their homes for other leisure reasons.

4.2 Impact of panic buying

Another aspect that contributed to the impact of how the consumers behaved in their consumption and purchase decisions was the theme of panic buying. Over 59 respondents said they consumed and purchased more hot drinks like tea and coffee. A follow up question was added asking them why they preferred to consume more hot products. Out of the possible answers that had been listed, 40 said that they wanted to boost their immunity whereas 34 said that they wanted to prevent themselves from getting sick. Due to the cause of panic buying, different factors have been encapsulated from the responses obtained and hence some factors gotten from our literature review have been supported by statements that were written by the respondents from the survey.

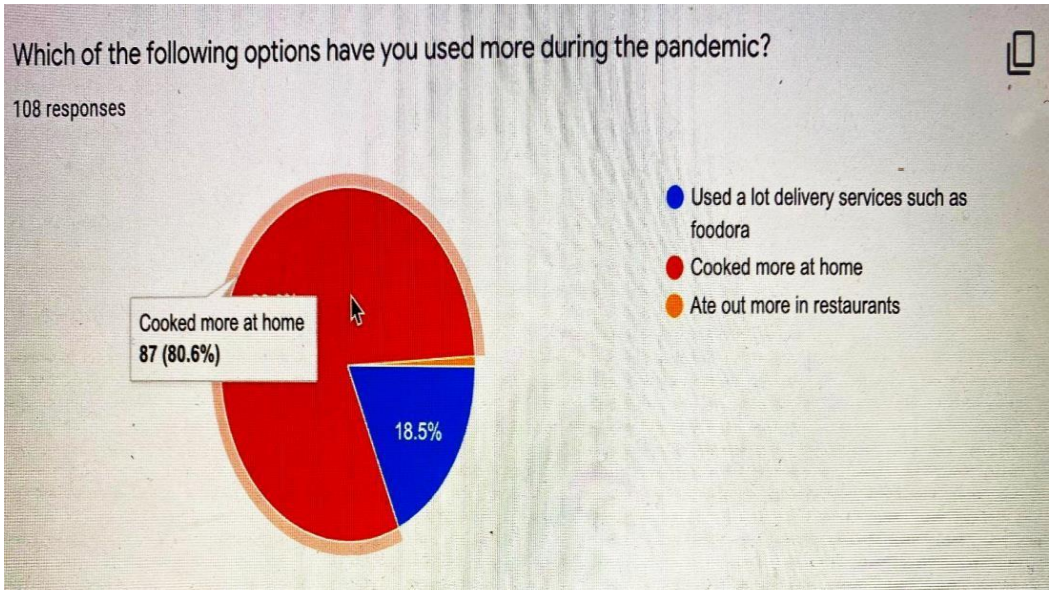
4.2.1 Perceived Threat

According to the responses we got, we analyzed that to some people there had been reduced visits to food stores or restaurants because of fear of getting infected with the virus.

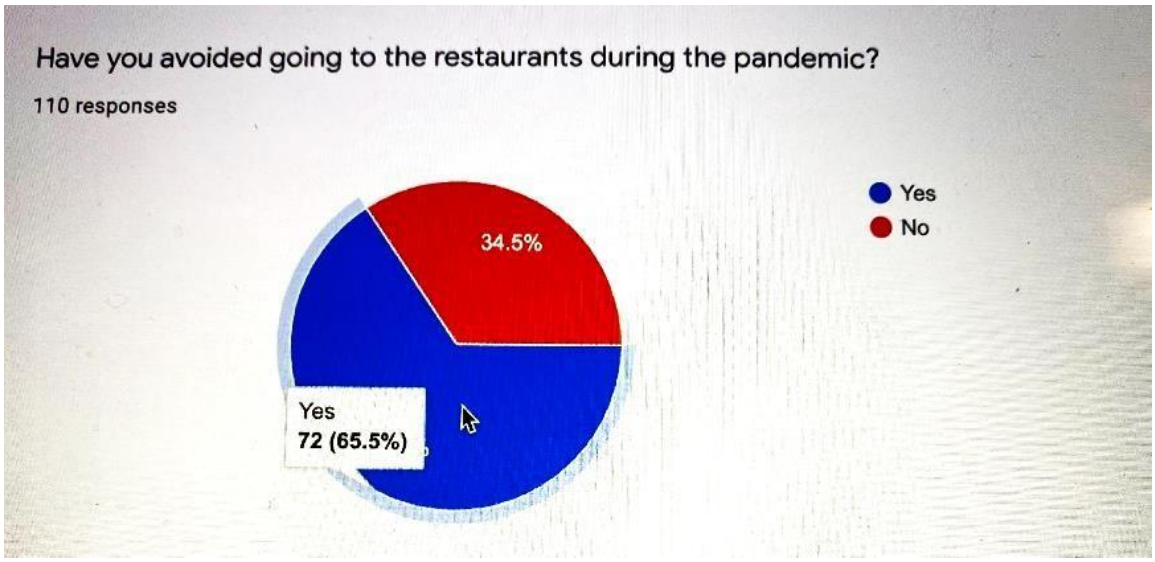
As quoted from one of the respondents they said *"Eating fast foods from restaurants and buying food from stores due to the fact that it was so crowded there and I was scared of being infected."* The respondent was answering a question of why they avoided buying food products from stores during the pandemic. While carrying out our research we posed two other questions that relate to the perceived threat of how consumers behaved during this crisis. Also we can attribute this to a perceived threat of not being able to fulfill their physiological needs of being able to get food easily without any fear. Just like the theory of maslow is stated from our literature review, these needs are mandatory to one's life and hence they cannot function properly without them.

Question in (figure 2) below shows what respondents preferred to do according to the listed possible answers that were suggested by the researchers. The majority of the people said they preferred to cook at home and out of the 108 responses they were 87 people who could affirm to that as clearly seen in the picture. Individuals that preferred to use delivery services were 20 in total and we could see that only one individual considered the idea of buying food from restaurants or rather eating from them.

In addition, the question in figure 3 shows that a majority of 72 people avoided going to buy food from restaurants and only 38 people still visited them considering the fact that Sweden did not enforce any closure of any restaurants but rather advised people to stay at home if they felt any symptoms and in any case they happen to be outside, they were advised to socially distance from one another. (*"*Covid-19 in Sweden*",* 2021)



(figure 2)



(figure 3)

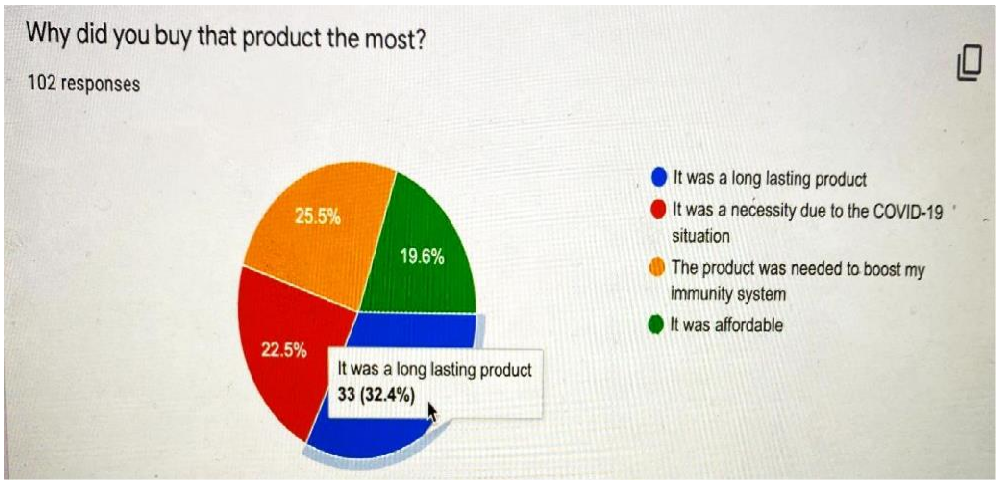
According to the above findings, it is safe to say that in times of crisis like the COVID-19 situation the perceived rate of one acquiring the disease is high and therefore the authors find that it is believable that consumers are more likely to apply the aspect of panic buying so as to minimize the risk of acquiring the virus.

As seen from our literature framework, often people engage in panic buying as a self-protection mechanism in order to satisfy their safety needs and in this case the majority of people opted to purchase hot drinks as mentioned earlier as a way of boosting their immunity (Yuen et al.,2020).

These self- protection mechanisms also have created a habit of hoarding where some people opted to buy goods in bulk and a total of 30 individuals responded yes. Others opted to purchase products that were durable and ignored purchasing products that had a near expiry date. These were some of the responses when individuals were asked which food they avoided purchasing during the crisis and their reasons why.

"Canned food and some frozen meat because I wasn't sure of their freshness considering the supply chain was affected" - ***said by respondent 54***
"Foods that have a closer Expiry date or foods that get bad in a short period of time because of uncertainty" - ***said by respondent 3***
"Fresh tomatoes because the don't last longer" - ***said by respondent 32***

Observing the graph below in (figure 4) a total of 33 respondents who were the majority opted to purchase food products because they were long lasting whereas 20 bought products in this crisis because they thought were affordable, 26 people opted for the reason of the food product being able to boost their immunity and lastly the remaining 23 people preferred to buy these food products because they felt that they were a necessity due to the COVID-19 situation.

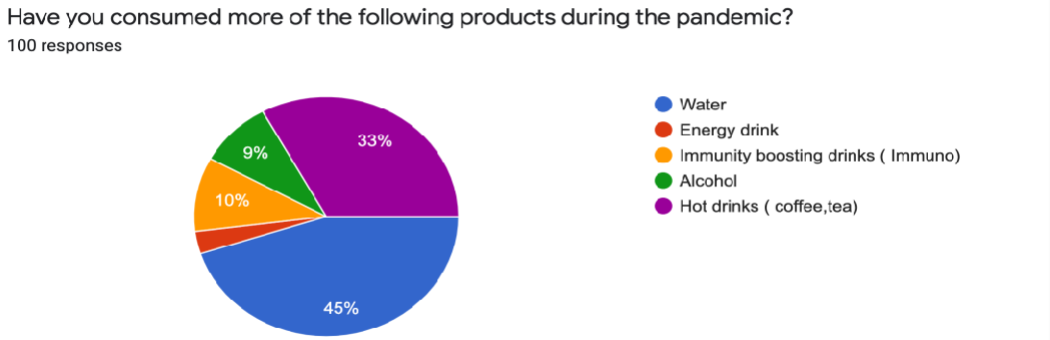


(figure 4)

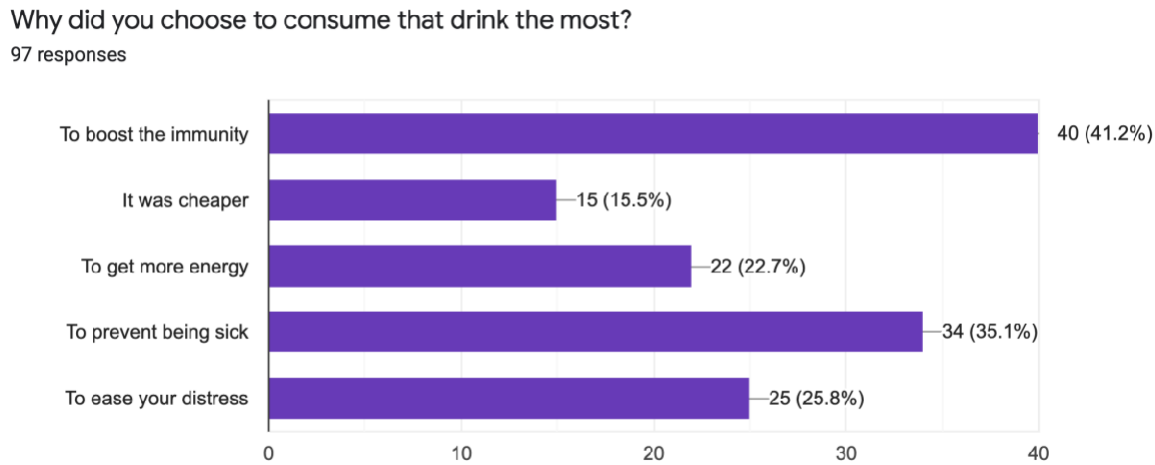
4.2.2 Fear of the unknown

From our analysis of the results one of the respondents who quoted as to why he avoided to consume some products and this is what his fear was "*Fizzy drinks , bakery items (try to avoid it as much as possible because of hygiene and avoid fizzy drinks because not good for good immune system)"*

This clearly indicates their fear and use it as way of a protective mechanism that is supposed to help them to potentially remove themselves from a dangerous situation which could be exposing themselves to the virus hence them ignoring the purchase of the *"fizzy"* drinks. Also, according to (Leech, 2019) sodas are not good for health as they don't contain any nutrients essential for the immunity system. These products have a lot of sugar that in the long term can affect the liver and body weight. Another respondent mentioned that they avoided frozen meat and this is why "*because I wasn't sure of their freshness considering the supply chain was affected"* We still feel like there is fear in this statement because they are uncertain about the quality of meat as well not at what point in future that the supply chain will be restored again.



(figure 5)



(figure 6)

Looking at figures above 5 and 6 they best describe the aspect of fear during the pandemic that affected the purchase decisions and buying behavior of the consumers. For instance, the majority who were 45 took more water and the best part is that in Sweden water is for free and safe for drinking ("Drinking Water", 2021), 33 people consumed more hot drinks such as tea and coffee, 9 bought more alcohol, 10 people increased their purchases on immunity boosting drinks such as immuno and only 3 people opted for energy drinks during these tough times.

Following to figure 6, all those reasons listed are examples of self- protective mechanisms that the respondents felt that could help with the fear and uncertainty that they had been overwhelmed with. 40 respondents who were the majority felt that they consumed more of these products so as to boost their immunity, 15 people felt that they products had reduced in their cost, 22 people consumed these products so as to get energy, 34 people didn't want want to get sick hence increased on their product consumption and the remaining 25 felt that consuming these products was a way for them to ease their stress.

4.2.3 Coping Behavior

Looking at our findings from the the individuals, as a way of being in control and having a sense of feeling to solve their problem of consumption amidst the pandemic, majority of the individuals avoided to consume particular products when asked about what kind of products they neglected to consume; such as food products that had no packaging since they considered them to be physically exposed to everyone hence easy access to to contraction of the virus. This clearly reflects as to how consumers exert control over situations or in crisis such as the current pandemic.

For some they have preferred to increase their purchases on certain food products such as vegetables and fruits with a total of 52 respondents whereas others have neglected consuming and purchasing some food products as listed above in the text. From a closer analysis made by the authors of this paper, we suggest that this preference is due to the fact that the food products being consumed are associated with problem solving. This also shows that consumers have engaged in an act of problem solving as a way of reinforcing their belief of being able to regain control over the COVID-19 situation.

According to this literature, (Yuen et al, 2020) states that there are two requirements that must be met for a consumer to be able to perform problem saving. The first one being that the action must be executable by the consumer and considering our findings, consumers have been able to make their own decision in terms of avoiding consuming some food products with an aim of avoiding getting infected with the virus. Looking at the decision making process model, the first is always for one to identify and make a decision so as to address their problem and in this case, respondents still managed to fulfill the process model by making decisions of avoiding certain products so as to fix the problem of contracting the virus.

Secondly, the action made by the consumers must be believed to attain a positive result that is in a more desirable state. For instance, when consumers were asked why they increased their purchase some of these food products, out of possible answers or alternatives for the question, 97 people managed to answer this question with the majority being 40 said it was because they wanted to boost their immunity, 34 people increased their purchases on these food products because they wanted to prevent themselves from getting sick, 25 respondents wanted to ease their distress, 22 individuals wanted to acquire more energy and the last 15 respondents consumed these products because they thought they were cheaper. According to these numbers, we can relate these answers to the factors that influence consumers' food choices, for instance the cost as some mentioned it was cheaper for them. To others they fulfilled the factor of satiety where one's body is filled with energy once they consume certain food products.

Therefore, we see that during the pandemic, consumers have been able to compensate for their loss of perceived control by purchasing useful or essential food products designed to satisfy their basic needs. From (Yap, 2020) suggests that when consumers keep purchasing these products it helps them to keep calm and also gives them a sense of feeling that they still have control over their lives regardless of the situation surrounding the pandemic.

4.2.4 Social Influence

From the social influence point of view from our findings, we find that some respondents avoided consuming and purchasing products that did not have a packaging for example candy, vegetables like tomatoes because they saw how they were being touched by everyone that would want to buy them and felt that it was unhygienic and could be a direct way for someone to contract the virus.

"*Unpacked fruits because of low hygiene, dozens of people select units by touching"* said by one of the respondents when asked why they did not purchase some products.

According to the (" Food Standards Australia New Zealand", 2021) the World Health Organisation (WHO) advised individuals that there was no current evidence of people contracting the virus from food or food packaging and hence it is not a foodborne disease. The organisations further mentions that there is no evidence that shows that one could get infected by swallowing the virus in or if the virus is on the food or drink. However they recommended that those that buy the fruits and vegetables, they are advised to wash them under running water before eating but not with soap or any disinfectants.With how some of these individuals feel or think towards the above assessment, they lack information on whether the virus can be transmitted by touching one's food which is not the case.

4.3 The impact of the pandemic on product consumption

This subject matter is about the impact of the pandemic on product consumption. People's consumption of consumer goods is determined by their income and financial security (Piotrowska, 2017). When the globe or a country has a crisis, individuals are inevitably impacted. During pandemics, people's spending and consumption are mostly determined by their income level as well as the present scenario (Piotrowska, 2017). For the last two years, Sweden, together with the rest of the world, is facing a continuous state of alert due to the Covid-19 pandemic. (Sharrieff, 2019)

Due to the pandemic, consumers have begun to be more careful when buying a product, where they are buying it, and if the product is important for them as observed from responses obtained from the survey. In a crisis like this, people's choices differ when purchasing a product, some of them are choosing the products that are cheaper because of the financial status that could have occurred to them, others look at the quality, design, or brand influence as also this can be observed from the presented literature review on the aspect of cost and accessibility factors that influence food choices.

Analyzing the data from the questionnaire, the authors have observed that quality is the most common answer with 76 participants, followed by design and attractiveness with 11 participants and ending with variety with 8 participants , brand influence being the lowest with 3 participants.

Since the pandemic started the authors observed that when asking if they changed the preferences of purchasing due to the virus, 92 participants had answered with "YES" and only 17 participants had answered with "NO", not changing their preferences. Every consumer's choice in regards to buying a product has a unique approach being different from person to person. These were some of the responses consumers had affected their consumer and purchase decisions in terms of food since they some considered quality, hygiene, to mention but a few.

"Processed food so I make sure that I cook everything from scratch to make sure I'm staying healthy. Fruits and veggies that don't have a peel or plastic around them".- ***says responded 35***

"Bread and candy that it's not in a bag "- ***says responded 42***

"Fries and pastries.because they were not guaranteed of quality production and quality preservation before sales "- ***says responded 26***

In terms of food products or food consumption , it is best to be known from the respondents that the products they chose to consume during the pandemic were to maintain their health. Some mentioned how they avoided buying some food products that had been packaged in plastic bags and since it is a sensitive time they did not consider them to be safe. Therefore, avoiding such products was the first choice to stay safe. Additionally, some opted to increase their purchases of fresh vegetables and meat in order to get all the nutrients to stay healthy.
Relating the feedback received from the questions with " Decision making process model" where the 7 steps are now skipped due to the pandemic situation.

This model shows the 7 steps when taking a decision in buying a product or services according to (Simon, 1997). During these hard times, a rushed decision is not a good choice, it is best first to "take a break" and analyze the surroundings and the next step especially during panic times like the Covid-19 pandemic. Quality was the main choice when buying a food product for the respondents as being healthy and safe was the most important matter for them.(Alexander et al., 2021)

4.4 Impact on consumers

Starting with the impact on consumers during the Covid-19 pandemic. We will analyze how consumer behavior changed during the pandemic and which new behaviors consumers adopted during those hard times. The impact on the consumer behavior is one of the most important aspects in regards to a consumer and it can be impacted by the tough changes in life like pandemics, natural catastrophes that can modify the behavior of consumers.

One of the questions from the questionnaire is about if one of the following behaviors like: Steaming your face regularly, Wearing of masks on a daily basis and Using sanitizers regularly have the respondents adopted during the pandemic. Analyzing the results we can observe that 78 participants responded "Using sanitizers regularly" followed by 26 participants responding "Wearing masks on a daily basis" and only 3 participants responded " Steaming your face regularly".

Going in and out in places like grocery shops or restaurants people had to use “hand sanitizers' ' in order to avoid getting or spreading the virus, as we all are aware that in some grocery shops a hand disinfectant was placed at the entrance and exit due to the fact that the Covid-19 virus is spreading through touching the same food products considered to be a safety need to be used by everyone. According to *“The Five Levels of Maslow's Hierarchy of needs",* we can refer to to the second part of the pyramid which is “Safety”, everyone needs to feel safe, secure in the daily basis, especially during a incertain time like a pandemic where everything is in a bad situation and prevention needs to be the first priority in people minds. (Sarikas, 2021)

A question on whether they changed their hours of grocery shopping was asked and this is focusing on general stores like ICCA or WILLYS, the respondents had to answer if they avoided the peak hours when everyone is leaving work and usually get to stores, here the results are as follows the highest percentage are" YES" and "NO", both being equally with 39 participants agreeing, then "Sometimes" is the lowest with 32 participants that occasionally avoided high hours.

4.5 Social aspect

Socialization is one of the important factors that have been the most impacted by the Covid-19 pandemic since everyone must be separated by the loved one in order to keep them safe. The hard part during this time is to avoid any contact with your family members and friends. Due to this fact food consumption was affected as well since many products were avoided to be bought due to unnecessary or being unhealthy during a pandemic. Individuals were asked about how satisfied they were with Sweden's approach to the crisis. Checking the results from the question we observed that most of the people in Sweden were satisfied with how the government took the decisions with a total of 71 participants.

Analyzing the results we can observe that Very Satisfied and Unsatisfied have equal participants 18. In the end, the last result is Very Unsatisfied where the total is the lowest with only 2 participants. It is clear that people in Sweden agreed with the approach of their government in regards to the pandemic.

When it comes to crowded places, most of the people avoided attending an event where a lot of people meet and the total of people choosing "YES" 55 participants confirmed**,** then the next higher result is "Sometimes" with a percentage of 45 participants, ending with "NO" where the percentage is 10 participants. As we all know in most of the countries many restaurants were closed to avoid gathering people in one place, in Sweden they were open all the time, because of that we considered to ask people if they avoided going in the restaurants in order to protect themselves, the higher percentage is " YES" 72 participants confirmed and only 38 participants have accepted to go at the restaurants during the pandemic as stated by one of the respondents below.

*"Eating fast foods from stores due to the fact that it was so crowded there and I was scared of being infected"***- says responded 56**

In regards to socializing, the number of the respondents was 20 which shows exactly the extent to which social distancing was practiced during that period since gatherings or parties weren't held anymore. Therefore, products like snacks or sweets weren't bought in large quantities since meetings with friends or family members were reduced during that period as clearly stated by one of the respondents below.

"Unnecessary things, like lots of snacks. Due to the pandemic people did not want to meet up at home. This resulted in reduced costs as they were deemed unnecessary and unhealthy to begin with." ***- says responded 20***

Analyzing the results received from the questionnaire we can imply that Maslow's Hierarchy of Needs can help understanding the social factor through " Belongingness and love". The need to belong and be loved by a person exists in everyone's life, the feeling of absence and loneliness is connected with love and belongingness as we need to feel the appreciation of somebody (Reed, 2019). During the pandemic as noticed from our responses, some people had to avoid meeting or having parties as presented by responded 20 this can lead to separation anxiety and depression.According to (Reed, 2019) the need to belong is part of our human behavior. Still referring to this response, this shows that some people reduced the amount of purchases of some food products since they were no longer involved with their friends and family.

5. Discussion

The main objective of this research has been because of the author's urge to map changes in consumer behavior with its relation to food amidst the pandemic in Sweden. Broadly speaking, the inhabitants of Sweden observed an overall reduction in the consumption of products that are not packaged for example candy, sweets, fruits and vegetables. However, to some extent there was an increased demand for products that have a longer life expectancy for instance frozen foods like meat and canned foods like beans. Regardless of the consumption changes, it is worth noting that at least majority of all food consumers in Sweden have been affected by the pandemic and this can be seen through their different behavioral patterns overall, for example there have been changes among some people who preferred to do grocery shopping online, others that adapted a behavior of ignoring their visits to restaurants, for some they increased the quantity of some food hence panic buying, for some they some they consumed these products so as to boost their immunity and not get sick. There were so many changes as mentioned in the analysis part and as stated in the questionnaire (appendix 5). Overall, the authors find this interesting because they have been able to notice and analyse behavioral changes in the consumers related to their consumption of food during the COVID-19 crisis.

It is interesting to observe the significant shifts and analyze the different factors that influence food choices of the individuals. Turning points like the COVID-19 situation usually affect the choices people make when it comes to food and hence altering their consumer behavior as well. From our findings, the authors suggest that the pandemic and the restrictions that were put in place because of it, has impacted on the consumers' food behavioral patterns at least with shifts in their food choices. This finding is interesting because it suggests that the coronavirus epidemic potentially had large effects on consumer behavior in relation to food.

6. Limitations

The authors have researched many articles and journals and have created a questionnaire to analyze consumers feedback however the research still presents some limitations. For instance the paper does not answer questions on how the consumers tend to live even after the crisis i.e the post pandemic effects. This is so because of how the data was collected.

Data collection was done through a survey hence limiting the authors to make interviews where it would have been easier for the authors to observe and ask as many questions so as to get a clear insight on the attitudes and feelings of the consumers.

7. Conclusion

To sum up, the Covid-19 pandemic had a big impact on everyone in the world socially, mentally and economically especially on consumer behavior habits that needed to change during those hard times.

The authors wanted to understand if this crisis is affecting the consumers behavior in regards to food in Sweden since the restrictions were lower than in other countries and so the topic was very interesting to research. Literature review was first reviewed with the help of some models like Decision-making Process Model and The Five Levels of Maslow's Hierarchy of needs, then more theories were researched in order to check how food and consumers were affected during the pandemic. Theories like herd mentality, panic buying, factors that affect food help us to discover in which way the consumers are affected due to the Covid-19 pandemic socially and mentally too.

In Sweden we observed that people's behavior have changed due to the pandemic, especially for food consumption where people had avoided buying unhealthy products, focusing more on healthy products that helps them to immunize their system. The questionnaire helped us get more information from the consumers point of view. Some of the people have changed their usual time when going to the grocery stores, others chose to use more online delivery in order to avoid crowded places. After researching the literature review and analyzing the results from the questionnaire we can conclude that Covid-19 pandemic had a big impact on consumers in Sweden by affecting consumers behavior and product preferences.

Lastly, the findings gotten from this research can help future researchers to identify potential avenues that they could explore so as to minimize the possible negative effects of the crisis on consumer behavior in relation to food.

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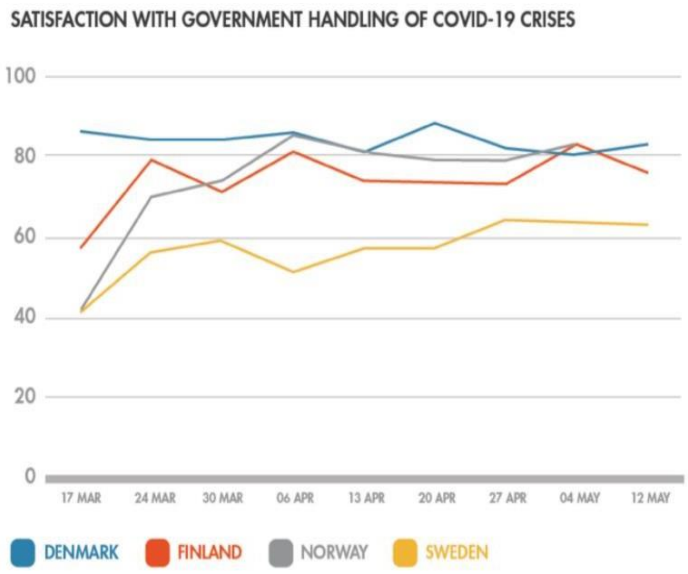
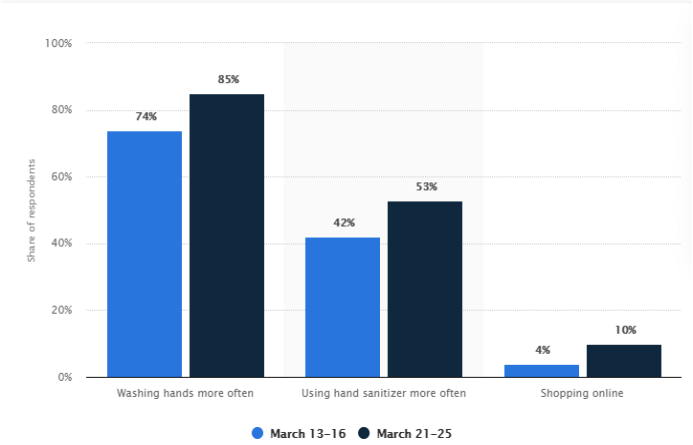
9. Appendix

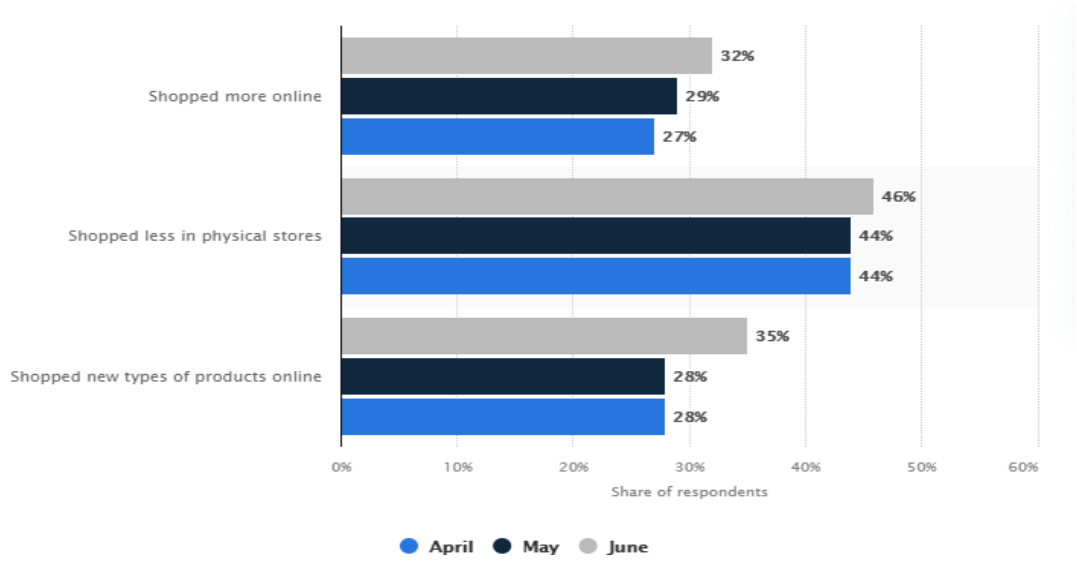
Appendix 1. Satisfaction with Government handling of COVID-19 Crises



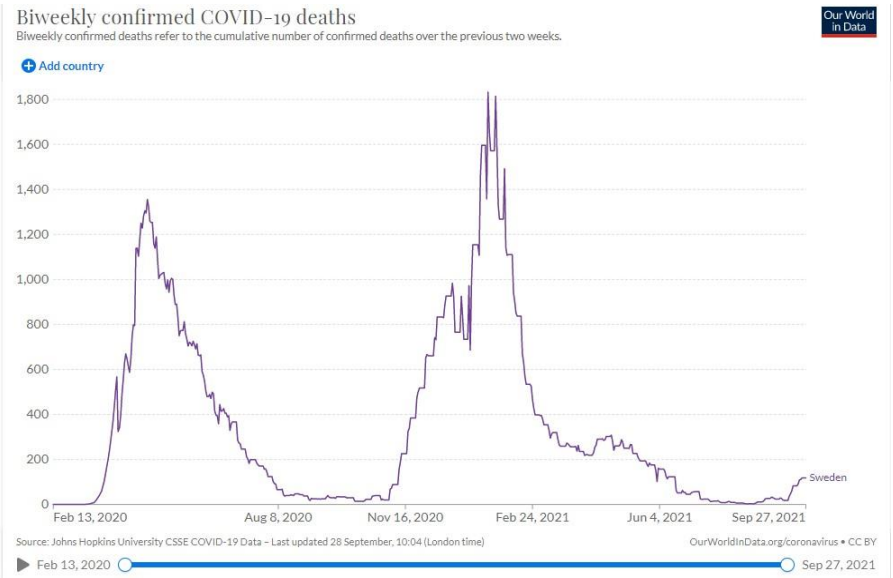
Appendix 2. The change in behavior in Sweden in March 2020.



Appendix 3. Online shopping in Sweden during the pandemic.



Appendix 4. Confirmed deaths in Sweden during COVID-19.



Questionnaire

This questionnaire is about how has consumer behavior related to food changed during the pandemic in Sweden. One of the essential basic needs of life is food and therefore food consumption plays a big role when it comes to such pandemics. The consumption of food is usually challenged in such a humanitarian crisis. Hence, altering consumers behavior. Outbreak of such contagious diseases often contributes to a food crisis.

Questions	Choices	Results
What is your age?	18-25 25-35 35-50 50+	45 participants 48 participants 35 participants 1 participants
What is your gender?	Man Woman	43 participants 67 participants
How satisfied were you with Sweden's approach during the pandemic?	Very Satisfied Satisfied Unsatisfied Very unsatisfied	18 participants 71 participants 18 participants 2 participants
Which of the following behaviours did you have to adopt during the pandemic?	Steaming your face regularly Wearing of masks on a daily basis using sanitizers regularly	3 participants 26 participants 78 participants
What do you consider first when purchasing a product?	Quality The Brand influence Variety Attractiveness Design/ aesthetics	76 participants 3 participants 8 participants 11 participants 11 participants
Due to the Covid-19 situation last year did you still consider your first option above when	Yes No	92 participants 17 participants

purchasing a product?		
Have you avoided crowded places during the pandemic?	Yes No Sometimes	55 participants 10 participants 45 participants
During the pandemic did you choose grocery/food shopping more in stores or Online?	Online In stores Both online and in stores	13 participants 70 participants 27 participants
Did you change your usual grocery/food shopping time in order to avoid crowded places?	Yes No Sometimes	39 participants 39 participants 32 participants
Do you think that Covid-19 has encouraged you to increase your food purchases online?	Yes No	36 participants 74 participants
Which of the following options have you used more during the pandemic?	Used a lot delivery services such as foodora Cooked more at home Ate out more in restaurants	20 participants 87 participants 1 participants
Have you avoided going to the restaurants during the pandemic?	Yes No	72 participants 38 participants
Was it because of the pandemic that you began to use the following products?	**Yes** Disinfectants Gloves Masks Hand Spray Vitamins **No**	**Yes** 70 participants 44 participants 89 participants 51 participants 11 participants **No**

	Disinfectants Gloves Masks Hand Spray Vitamins	34 participants 49 participants 13 participants 34 participants 46 participants
0r had been using them before the pandemic?	**Yes** Disinfectants Gloves Masks Hand Spray Vitamins **No** Disinfectants Gloves Masks Hand Spray Vitamins	**Yes** 60 participants 27 participants 5 participants 27 participants 38 participants **No** 41 participants 64 participants 86 participants 52 participants 19 participants
Which of the following products have you bought the most during the pandemic? Choose one option.	Frozen foods(chicken, beef) Canned products(beans, tomato paste) Hygiene products (toilet paper, soap) Flour product (flour, corn, pasta) Vegetables and fruits	48 participants 21 participants 42 participants 23 participants 52 participants
Why did you buy that product the most?	It was a long lasting product It was a necessity due to the COVID-19 situation The product was needed to boost my immunity system It was affordable	33 participants 23 participants 26 participants 20 participants
Did you feel the need to buy	Yes	30 participants

those food products in large quantities?	No Not really	48 participants 31 participants
What are the food products that you avoided buying during the pandemic? Please write at least 2.	Give a reason why.	
Did you consider buying food products from local farms rather than in stores?	Yes No	39 participants 79 participants

Did you order food more online than before the Covid-19 pandemic?	Yes No Not so much Very much	18 participants 61 participants 30 participants 1 participants
If yes, which of the following products did you buy in bulk?	Hygiene products (toilet paper, soap) Frozen foods (chicken, beef) Flour product (flour, corn, pasta) Canned products(beans, tomato paste) Vegetables and fruits Neither	17 participants 9 participants 8 participants 5 participants 9 participants 49 participants
Which of the following drinks have you consumed the most during the	Water Energy drink Immunity boosting drinks (	92 participants 10 participants 20 participants

pandemic?	Immuno) Alcohol Hot drinks (coffee,tea)	 11 participants 59 participants
Have you consumed more of the following products during the pandemic?	Water Energy drink Immunity boosting drinks (Immuno) Alcohol Hot drinks (coffee,tea)	45 participants 3 participants 10 participants 9 participants 33 participants
Why did you choose to consume that drink the most?	To boost the immunity It was cheaper To get more energy To prevent being sick To ease your distress	40 participants 15 participants 22 participants 34 participants 25 participants

Link to the Questionnaire and results:

https://docs.google.com/forms/d/1sh6oQrx5HElAksFKrqGhZO0Rs4DGm4nrlWzPjLWhgxY/edit

https://docs.google.com/forms/d/1sh6oQrx5HElAksFKrqGhZO0Rs4DGm4nrlWzPjLWhgxY/edit#responses