



# Masteroppgave

**BØK950 Økonomi og administrasjon**

**Motivators for Willingness to Pay for Local Food in a Norwegian Chain Restaurant: A Study of Consumer Perceptions and Preferences**

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Totalt antall sider inkludert forsiden: 82

Molde, 14.05.23



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## Foreword

This master's thesis concludes the Master of Science in Business Administration course at Molde University College. The process of completing this thesis has been both academically rewarding and demanding. Getting insights into my chosen research area, local food, and willingness to pay, has been very interesting.

The completion of this thesis has not been possible without the help and support I received. Firstly, I appreciate the good help, support, and discussions from my thesis supervisor, Heidi Hogset. I would also like to thank Sykkylven and Molde municipalities, for participating in the survey. Lastly, I am grateful for my family and friends who have given valuable support and encouragement throughout my thesis.

Molde, Norway

May 2023

Nils Markus Hofseth Rye

## Abstract

The purpose of this study was to replicate a study done in the U.S. (Frash, DiPietro, and Smith 2015), in regards to consumers' perceptions of local food and willingness to pay in a chain restaurant setting, in the context of Møre and Romsdal County, Norway. Through a literature review, the most important local food attributes were found, namely freshness, taste, community support, social responsibility, nutrition, and environment. A conceptual framework was developed based on these attributes, and willingness to pay.

To investigate the perceptions among consumers in Møre and Romsdal, a survey was created, that found out which local food attributes were most important, and which attributes predicted the increased spending. The results were estimated by exploratory factor analyses and multiple regression. In addition, a segmentation of the sample was done by a cluster analysis, to address differences between groups of consumers. The results show that consumers in Møre and Romsdal were willing to pay on average up to 10% more for local food. The local food attributes that were most important to the consumers were social/community, environment, and fresh/taste/nutrition. The attributes that contributed most to the increased spending were social/community. The cluster analysis formulated three clusters, namely *Price-Conscious Consumers*, *Local-food Enthusiasts*, and *Health-Conscious Consumers*. The clusters were not so different from one another regarding the sociodemographic factors, but rather from a local food attributes perspective.

This research contributes further to the academic literature on local food and willingness to pay. Lastly, managerial implications, limitations, and future research are discussed.

## Sammendrag

Hensikten med denne studien var å gjenskape en studie utført i USA (Frash, DiPietro, and Smith 2015), når det gjelder forbrukernes oppfatninger om lokal mat og betalingsvillighet i en hypotetisk kjederestaurant, i Møre og Romsdal fylke. Gjennom en litteraturgjennomgang ble de viktigste egenskapene til lokal mat funnet, nemlig ferskhet, smak, ernæring, lokalsamfunnsstøtte, sosialt ansvar, og miljø. Et konseptuelt rammeverk ble utviklet basert på disse egenskapene, og betalingsvillighet.

For å undersøke oppfatningene blant forbrukere i Møre og Romsdal, ble det laget en spørreundersøkelse som tok for seg hvilke lokal mategenskaper som var viktigst, og hvilken lokal mategenskaper som predikerte økt betalingsvillighet hos forbrukerne. Resultatene ble estimert ved utforskende faktoranalyser, og multippel regresjon. I tillegg ble det gjort en segmentering av utvalget ved en klyngeanalyse, for å adressere forskjeller mellom grupper av forbrukere. Resultatene viser at forbrukerne i Møre og Romsdal var villige til å betale i gjennomsnitt opptil 10 % mer for lokalmat. De lokale mategenskapene som var viktigst for forbrukerne var sosial/samfunn, miljø og fersk/smak/ernæring. Egenskapene som bidro mest til økt betalingsvillighet var sosialt/samfunn. Klyngeanalysen formulerte tre klynger, nemlig prisbevisste forbrukere, lokalmat entusiaster og helsebevisste forbrukere. Klyngene var ikke så forskjellige fra hverandre med hensyn til sosiodemografiske faktorer, men snarere fra et lokal mategenskap perspektiv.

Denne forskningen bidrar videre til den akademiske litteraturen om lokal mat og betalingsvilje. Til slutt diskuteres implikasjoner, begrensninger og forslag til fremtidig forskning.

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## 1.0 Chapter 1: Introduction

Local foods have been gaining prominence worldwide and Norway is no exception to this trend. The sales of local food in Norway have increased from NOK 2,3 billion in 2010 to NOK 11,5 billion in 2022 (Stiftelsen Norsk Mat 2022; Rønning Birkelund 2013). There are currently 513 local food and beverage producers, according to Lokalmat.no (2022).

The topic of consumers' perceptions and willingness to pay for local food is interesting. Thus, understanding consumers' motivators and the amount they are willing to pay for local food is critical for several reasons. For example, in a restaurant setting, managers must determine how much more consumers are willing to pay for local food, to return a profit to the restaurant. This may be based on consumer's perceptions of the various local food attributes they value most, because of their perceived knowledge about these attributes to be willing to pay more for it. When restaurants add local food items to their menus, it could lead to higher costs for the restaurant and higher menu prices for the consumers (Inwood et al. 2009).

Thus, understanding the price a restaurant can charge a consumer to generate a profit, and at the same time considering their comfort level in spending is crucial. Local food may be more expensive than conventional food because small-scale businesses may not benefit from large-scale production as conventional food producers usually do. On the other hand, local food producers may save some costs on transportation because when producing locally sourced food, the distance is shorter from production to the end user. The price of the local food may then reflect other attributes of the food that makes it less expensive than conventional food.

Furthermore, identifying the local food attributes that are essential to consumers and predicting what attributes are most important regarding their willingness to pay, is equally important for the restaurant's pricing strategies and effective marketing campaigns in a competitive and unpredictable industry.

Several studies have researched local food in the context of consumers and willingness to pay (Feldmann and Hamm 2015; Choi et al. 2021; Contini et al. 2017; Alfnes and Sharma 2010; Ikerd 2011; Kovács, Lendvai, and Beke 2022; Aprile, Caputo, and Nayga 2016; Frash, DiPietro, and Smith 2015). However, at this point, no such studies have been conducted in a Norwegian context, furthermore not in a chain restaurant setting.

Therefore, this thesis aims to replicate as closely as possible the study “*Pay more for McLocal? Examining motivators for willingness to pay for local food in a chain restaurant setting.*” (Frash, DiPietro, and Smith 2015).

The authors tried to determine the willingness to pay among US restaurant customers, and what attributes of local food contributed to that spending in a hypothetical chain restaurant setting in an exploratory manner.

It is essential to address the ongoing replication crisis, which poses a significant challenge to the scientific community. This crisis refers to the difficulty or impossibility of reproducing the results of previous scientific studies, as there are often insufficient details provided on the methodology (Wikipedia Contributors 2022). A different reason scientists fail to produce similar results in social science could be because of the different contexts the studies are researched, making it impossible to get the same results. Furthermore, as much as 40% of economic experiments fail in the replication surveys (Bohannon 2016).

This highlights the importance of a solid methodology section, that clearly states the steps necessary to replicate the results by different scientists. Replication is important, as it ensures the validity of research findings and helps to establish the credibility of exploratory and other research types across various fields such as psychology (Page, Noussair, and Slonim 2021).

To replicate Frash, DiPietro, and Smith (2015) study in a Norwegian context, focusing on these research questions is therefore appropriate:

*RQ1: How much more are consumers willing to pay for local foods in Norwegian chain restaurants?*

*RQ2: What local-food attributes are most important to Norwegian restaurant patrons?*

*RQ3: To what extent do these local-food attributes predict Norwegian chain restaurant patrons' WTP?*

Another dimension is added to the RQ3, which is not apparent in the original study. A sub-research question looking to segment consumers into groups based on their willingness to pay and their preference for the local food attributes:

*SRQ3.1: How do consumer segments differ in their willingness to pay and the preferences for local food attributes in Norwegian chain restaurants?*

By answering these questions with the methodological approach, the study will contribute further to academic research on willingness to pay for local foods. Further, it will help restaurant managers develop marketing and pricing strategies to promote local food in chain restaurants. Moreover, by replicating this study in a different context, it will help to validate the original study so that the results may get more significance. Finally, since there are no such studies conducted before in Norway, this research would help to fill that gap.

The methodological approach in this research consists of the use of primary data collected by a survey. Møre and Romsdal have been chosen as the area of research, and then it is naturally to explain how local food is defined in this thesis. Local food is defined as food produced and delivered within Møre and Romsdal County, to the restaurants. A non-probability sampling method has been used to collect the sample for the analysis. Further, analysis methods such as Exploratory Factor Analysis, multiple regression analysis, and cluster analysis is used as a response to be able to answer the research questions and to get the best validation from the data in the survey.

The thesis has the following chapter structure: Chapter 2 contains a literature review of existing literature on willingness to pay and attributes associated with local food, in addition to some definitions that need explanation. Chapter 3 explains the conceptual framework and the hypotheses. Chapter 4 gives an overview of the methodological approach, where the chosen data and the chosen methods are explained. The estimated results are presented and analyzed in Chapter 5. The results are further discussed in Chapter 6. Chapter 7 brings us to the end of the thesis, where all previously mentioned information gets a conclusion.

## **2.0 Chapter 2: Literature Review**

Following, a literature review will be presented, where literature on the chosen research topic will be discussed. Definitions will be explained, and the most crucial local food attributes that seem to capture the interests of the consumers will also be included. This approach will help to narrow down the research.

### **2.1 Definition of the term local food**

In the previous literature, there has been some arguing on how to define the term “local food”. The literature does not lack definitions to choose from, as the term does not seem to have a consistent and widely used definition (Lang, Stanton, and Qu 2014; Aprile, Caputo, and Nayga 2016; Feldmann and Hamm 2015; Martinez et al. 2010; Inwood et al. 2009; Cappelli et al. 2022).

Inwood et al. (2009) found that “local”, in the context of food, could be in a state, a province, or a country, or in some cases smaller European places. In a Leopold Study, 2/3 of U.S. consumers thought of a 100-mile radius when defining local food (DeWeerd 2009). Cited in the same issue, the authors of *The 100-Mile Diet* (2008), Alisa Smith and J. B. MacKinnon, explained that they chose the 100-mile radius for the experiment, because “a 100-mile radius is large enough to reach beyond a big city and small enough to feel truly local.”

According to Lim and Hu (2016) however, most consumers were indifferent to products labeled “local” and “local: from within 160 km”. In the Feldmann and Hamm (2015) research, the participants also discuss driving hours as an important factor compared to driving distance.

Cappelli et al. (2022) did a scoping literature review and they found three different dimensions of “local food”: geographical, geopolitical, and organic. These results are in line with for example Feldmann and Hamm (2015). Lang, Stanton, and Qu (2014) and Feldmann and Hamm (2015) mentioned that small family businesses, small businesses from the region, and social/emotional factors also impacted the consumer's choices, however Lang, Stanton, and Qu (2014) states that this has nothing to do with the government, where Feldmann and Hamm (2015) mentions the connection between emotional/social factors and political views when making decisions in life. The results on social and political factors of the Feldmann

and Hamm (2015) study were consistent with the Aprile, Caputo, and Nayga (2016) research, that was conducted in an Italian context. They found that only 10% of 50% participating in the study thought of the whole country of Italy as “local” in the speaking of locally produced food. This was considered a political boundary in the study. Nonetheless, political boundaries do not capture a specified enough definition of local food for some consumers. For example, 21.2% of the respondents in the same study defined local food as products purchased directly from the producers.

As the discussion above implies, local food has been defined within a measure of distance, geography, and social and political boundaries in the past literature. This is bound to confuse the consumers, as well as producers. The definition of local food in this thesis is food produced and delivered within Møre and Romsdal County, to the restaurants.

## **2.2 Willingness to pay for local food**

Willingness to pay (WTP) is a measure that is widely used in the literature to measure how much more consumers are willing to pay for local food (Zare Mehrjerdi and Woods 2022; Grebitus, Lusk, and Nayga 2013; Printezis, Grebitus, and Hirsch 2019; Choi et al. 2021; Contini et al. 2017; Scozzafava et al. 2017; Aprile, Caputo, and Nayga 2016; Feldmann and Hamm 2015; Alfnes and Sharma 2010). The abbreviation “WTP” is used further in this thesis.

Choi et al. (2021) did a study on U.S. consumers regarding a new consumer movement theory called “locavorism”. The authors described “locavorism” as an intermediate process that explains various psychosocial factors regarding consumers’ behavioral intentions.

They found that consumers described as “locavores” were willing to pay more for local food menu items at restaurants. In line with Choi et al. (2021), Contini et al. (2017) found that consumers referred to as “locavores” was willing to pay a premium for local food items in a restaurant setting, in the context of German and Italian consumers. Specifically, Contini et al. (2017) found out that “locavores” were willing to pay a premium equal to 10 euros per meal if the ingredients were certified as “locally grown”. In a similar study to Contini et al. (2017), Scozzafava et al. (2017) found that Italian consumers were willing to pay over 11 euros for foods that are locally grown.

Alfnes and Sharma (2010) researched attitudes and perceptions among U.S. consumers, about locally produced food, and their willingness to pay. The setting was a field experiment

on a campus restaurant where they targeted ordinary customers. They found that when a local food dish was not supported by a higher price than an “ordinary” dish, the customers had no increased preference towards the locally produced dish, regarding “quality cue”. However, when the locally produced menu item had a supported higher price, the consumers saw it as a signal of increased quality. They paid the one-dollar (18%) price premium, but not two dollars.

A review of the literature on local food from the consumer’s perspective was conducted by Feldmann and Hamm (2015). They reviewed 73 relevant articles in the period from 2000-2014. They used Alphabet Theory to analyze their findings. One major discovery they found was that consumers did not seem to perceive local food as expensive, but still, they were willing to pay a premium for it.

Adams and Salois (2010) reviewed the literature from 1984 to 2008 on consumer preferences for organic versus local food in the U.S. More specifically the factors that make people buy local and organic food. In most of the studies, the places where the research took place were supermarkets, farmer's markets, and grocery stores. The authors found that consumers would pay a higher amount for local food compared to organic food.

Alfnes and Sharma (2010) found that consumers expected to pay more for local food because of its fresher and tastier appearance. Moreover, the authors found no relationship between local food and health, nutrition, safety, and visual appeal.

Tian et al. (2022) researched Connecticut consumers’ willingness to pay for seafood products locally produced in the state, as well as products produced outside Connecticut. The authors used a discrete choice experiment to measure what effects information about health, environmental and economic benefits have on willingness to pay for seaweed and shellfish aquaculture products. The findings show that consumers from Connecticut were more likely to buy aquaculture products from the state of Connecticut, rather than from another state or country. Furthermore, WTP increased for all seafood products when they were sourced from Connecticut. Moreover, information about the economic contribution of the aquaculture industry had a more consistent and stronger effect on increasing willingness to pay for seafood products, than information about health, safety, and the environment. WTP seems to decrease for the products that had information about health, safety, and the environment for all other locations than Connecticut.



Zare Mehrjerdi and Woods (2022) looked at consumer willingness to pay for local food in alternative restaurant formats, in addition to what kind of people were visiting the types of restaurants. The authors divided restaurants into these formats: fast-casual, casual, and fine dining. Zare Mehrjerdi and Woods (2022) found out that demographics, for example, age, income, and education were important determiners of choice of restaurants that were sourced locally. In the fast-casual category, it was age, income, education, and residency in urban areas that had the most impact. The next category, casual dining customers were younger with a higher level of income and education living in rural areas. Finally, the fine dining category had consumers that were younger with a higher level of income and education and lived in urban areas. The study also showed that a significant share of the participants across all three dining categories were willing to pay more than others for locally sourced food.

## **2.3 Local food attributes**

Consumers associate local foods with several attributes that influence their perception of quality. Consumers often consider these to be positive attributes (Ikerd 2011; Inwood et al. 2009). Namely environment, nutrition, community support, social responsibility, freshness, and taste are those attributes that are widely mentioned in the literature (Aprile, Caputo, and Nayga 2016; Feldmann and Hamm 2015; Ikerd 2011). These attributes are not mutually exclusive, which means that “freshness” can occur simultaneously with “taste”.

### **2.3.1 Environment**

Consumers purchasing local food are concerned about the environment, but the existing literature on the topic regarding the advantages of purchasing local food versus industrial food is very indeterminate (Zepeda and Leviten-Reid 2004; Aprile, Caputo, and Nayga 2016; Choi et al. 2021; Feldmann and Hamm 2015; Edwards-Jones et al. 2008).

In a U.S. focus group study, participants were showing their positive attitudes towards preserving the environment: “...I would still buy local over some other part of the country because it involves less burning of fuel, less transportation costs to get here...” (Zepeda and Leviten-Reid 2004). For example in the research done by Aprile, Caputo, and Nayga (2016), most respondents have positive environmental attitudes, when considering local food. Moreover, 61.5% of the consumers in the survey perceived local products to be more environmentally friendly. The authors conducted a factor analysis in which one of the factors was “impact on the environment”. This factor explained 11.48% of the total variance,

concerning both production methods and transportation. These results explain that local food products are perceived as environmentally friendly by consumers. (Choi et al. 2021; Feldmann and Hamm 2015) is also positive towards reduced environmental impacts on local food.

When we talk about the environment and local food, there has been some discussion about whether “food miles” contribute to a higher level of harmful carbon emissions. Food miles is a term used when talking about the distance food travels from the production site to the consumer (Edwards-Jones et al. 2008). According to Schnell (2013), there is a figure that states that the “average item” of food travels 1500 miles before it reaches the consumer. Because local food is perceived to produce fewer food miles on average, local food is then perceived to produce lower levels of carbon emissions. On the other hand, the previous statement is not conclusive. For example, in a study done by Avetisyan, Hertel, and Sampson (2014) they conclude that the conclusion from “food miles” advocates, that “reducing global shipment of food products will always reduce greenhouse gas (GHG) emissions” is “generally mistaken”. In fact, in most of the cases where local food policy does reduce GHG emissions, then it is caused by the differences in the emissions intensity of production from food supply systems, not reductions in transport-related emissions. Further, in the author's model, under a food miles policy, the dominance of production-related emissions against transportation emissions, is noticeable in every region of their model. Conclusively, “food miles” is a poor indicator of environmental impacts (Edwards-Jones et al. 2008).

### **2.3.2 Nutrition**

The quality of any food, when it comes to nutrition, is about the level of essential nutrients, for example, carbohydrates, amino and fatty acids, in combinations with biologically active connections, for example, vitamins and fibers (Frash, DiPietro, and Smith 2015). The literature on this topic argues both that local food is more nutritious than industrialized food, and vice versa (Edwards-Jones et al. 2008). Some consumers base their perceptions on facts, others listen to authority figures when they say that the food is nutritious. This is not always the case.

On one side, Aprile, Caputo, and Nayga (2016) found evidence that the consumers in their study found nutrition to be an important criterion when they considered food. In fact, 10.4% of the respondents valued nutritional value when they were to choose which food to

purchase. Furthermore, 11.5% of the consumers thought that nutrition was important when they were looking to purchase local food.

However, Alfnes and Sharma (2010) found no relationship between local food and nutrition. To sum up, there are divided opinions on the matter of local food being more nutritious than industrialized food.

### **2.3.3 Community support**

“Community support” in this thesis is about whether consumers are interested in supporting local farmers and buying local food to have their money circulate in the local economy. That helps maintain a healthy link between the farmers and the consumers, which leads to the urge to support the local community and the local farmers to help them develop their agribusiness.

In the restaurant context, there are findings where the consumers are positive toward helping their local community and local farmers. For instance, consumers in the U.S. who have a strong community attachment are more likely to intend to purchase local food at restaurants. Furthermore, community attachment explained that consumers were willing to pay more for local food at restaurants (Choi et al. 2021).

Consistent with Choi et al. (2021), Italian and German consumers are like-minded. 43% of the cluster “locavores” shows a strong association between the origin of where the food comes from and the importance of supporting the local community where they “strongly agree” (Contini et al. 2017).

When we move away from the restaurant context, we still see a willingness to support the local community. Aprile, Caputo, and Nayga (2016) found out that supporting the local community when buying local food was important to the consumers in the Italian city of Naples. In fact, 14.60% of the total variance from the factor analysis showed that the impact of local food on the community was a significant result. Even in Hungary from the scope of young Hungarian consumers, we see similar tendencies. In a study conducted by Kovács, Lendvai, and Beke (2022), results show that the consumers are aware of and have a willingness to contribute to the local community. Furthermore, this segment of young consumers is likely to have increased purchasing power in the years to come. Moreover, Zepeda and Leviten-Reid (2004) study shows that some participants have a strong

connection to the local community: “It means that I’m putting money into the local economy, which is very important to me, and helping Wisconsin farmers and Wisconsin people in general.” (Zepeda and Leviten-Reid 2004). All these results mentioned above are in line with Feldmann and Hamm (2015).

When we move away from an international context, to a more domestic context, there are no differences. Skallerud and Wien (2019) conducted a study in Troms County, Norway. They investigated the theoretical perspective of helping behavior to understand why people buy local food. They found out that “local patriotism” has a strong positive influence on preference for local food.

### **2.3.4 Social responsibility**

The local food attribute “social responsibility” describes consumers that are well aware of their private consumption and takes into account the public consequences of that consumption, or a consumer who attempts to use their purchasing power to make social change (Webster 1975). A sign that consumers are more socially responsible, is when they consider corporate socially responsible practices (CSR).

There has been an increased focus on corporate social responsibility (CSR) in the restaurant industry the recent years (Mohr and Webb 2005; Severt et al. 2022; Lin and Chung 2018). A restaurant is considered to take CSR seriously if it runs green practices (waste management, local and/or organic food on the menu, using renewable energy). Consumers are more likely to choose a restaurant that has responsible conduct towards CSR. For example, Severt et al. (2022) found that restaurants that promote their local food usage have a higher chance to succeed in a very volatile industry by increasing customer satisfaction and loyalty. Furthermore, corporate social responsibility strengthens the restaurant’s perceived quality and perceived price fairness. This could lead to the restaurant collecting some of the increased costs that offering local food may bring.

Lee et al. (2020) researched how well CSR functioned as a customer satisfaction and retention strategy in the chain restaurant sector. They focused on the importance of brand attitude, service quality, satisfaction, and brand love. The results were clear. Economic, ethical, and philanthropic CSR help to contribute towards increased brand attitude and service quality. Furthermore, these relationships increased customer retention in the chain restaurant. Finally, brand love has a noticeable impact on the relationship between brand

attitude and retention, and brand attitude is acting as the most significant factor in determining customer retention.

Kovács, Lendvai, and Beke (2022) studied the young Hungarian population from 18-39 years old, in terms of how important product attributes were, related to local food products, and what motivational factors influenced their purchase decision. Regarding social responsibility, the attribute “environmental protection during production” scored with a mean of 3.83 and a median of 4. This tells us that the young Hungarian respondents care about responsible production methods and caring for the environment. Sustainability in food production is getting more attention now, compared to before. This result confirms that, and it is important to consider the production methods when producing food because it has a big impact on the environment.

It is worth mentioning that the demand for local food has increasingly positive effects such as helping to improve farm production to an environmentally sustainable practice. Further, the demand leads to a reduction in transport, energy consumption, and environmental pollution, in addition to reduced packaging materials, so less waste is generated which is good for the environment.

Parsa et al. (2015) conducted two studies where they investigated customer awareness and response toward socially and environmentally responsible practices in the hospitality industry. These results showed that the consumers were positive towards restaurants that engaged in CSR practices and provided sustainable customer services. But most of the consumers were not aware that the restaurants were engaged in CSR practices. Furthermore, most consumers were willing to pay a higher price for the restaurant’s menu items, following the increased costs to be able to conduct CSR practices. However, the consumers who are actively engaged in CSR practices and initiatives, are the ones who were willing to pay the most. These results support the initiatives that more restaurants in recent years show, to support CSR practices and their own bottom line, but also to be a part of the international work that needs to be done, to take care of the environment.

Further, a study carried out on Italian consumers, looked to investigate how much CSR behaviors of companies, influence consumer purchasing decisions, and the possibility to pay higher prices for good practice products in the ready-made foods segment. The results revealed a positive relationship between the socially responsible initiatives of companies

and the attitudes of consumers towards the companies and their products. On the other hand, only a few respondents had CSR as a purchase criterion, because price is still a factor people consider more over CSR. The study then concluded that respondents in Italy were not willing to pay a higher price for the products despite the CSR initiatives conducted by the firms (Boccia, Malgeri Manzo, and Covino 2019). This is a contradiction to the research by Parsa et al. (2015).

Mohr and Webb (2005) conducted a hypothetical experiment that examined how much influence corporate social responsibility and price had on responses from consumers. They found that when consumers got trustworthy information about a company's social responsibility, it affected how consumers evaluate the firm and their purchase intentions. Moreover, a low price did not justify a low level of social responsibility. These results can indicate that American consumers are willing to pay a higher price for a product from a company that is socially responsible. Further, CSR can also be used as a purchase criterion from the viewpoint of American consumers which is consistent with the findings from Parsa et al. (2015).

### **2.3.5 Freshness and taste**

Freshness and taste are recognized as widely positive attributes when it comes to local food. Consumers are really engaged in these attributes in the context of local food (Curtis and Cowee 2009; Ikerd 2011; Inwood et al. 2009). But freshness without the attribute taste, has no tangible value. A byproduct gives value to freshness. Byproducts in this sense could be greater nutrient density, improved food safety, and superior taste (Frash, DiPietro, and Smith 2015). When food is fresher, there will be less time for nutrients to leach out for example. In the literature, there is very little order when it comes to which byproduct consumers associate with freshness (Edwards-Jones et al. 2008; Ikerd 2011).

Across the literature, consumers and restaurant owners value freshness and taste when purchasing local food (Inwood et al. 2009; Feldmann and Hamm 2015; Contini et al. 2017; Kovács, Lendvai, and Beke 2022). For instance, Aprile, Caputo, and Nayga (2016) found out that 21.4% of the respondents reported taste as one of the most important quality attributes influencing their food choices. Furthermore, 70.3% of the consumers from this sample would prefer local foods. However, not all consumers are one-sided about their perception of the freshness and taste of local food: "Locally produced will often trigger a

thought in my head, this could be fresher and better than something not locally produced. But I know from experience that this is not always true” (Zepeda and Leviten-Reid 2004). Finally, in the study done by Alfnes and Sharma (2010), they found a clear indication about the participants associated locally produced food with tastier and fresher products, in addition to that they wanted to pay more for it. These results are in line with several studies researching this topic (Ikerd 2011; Inwood et al. 2009; Curtis and Cowee 2009; Kovács, Lendvai, and Beke 2022; Aprile, Caputo, and Nayga 2016).

### 3.0 Chapter 3: Theory

A conceptual framework (Figure 1) was developed based on which local food attributes the previous literature has deemed as the most important attributes that explain something about why consumers are willing to pay more for local food in a restaurant setting. The hypotheses will also be presented below.

#### 3.1 Conceptual framework

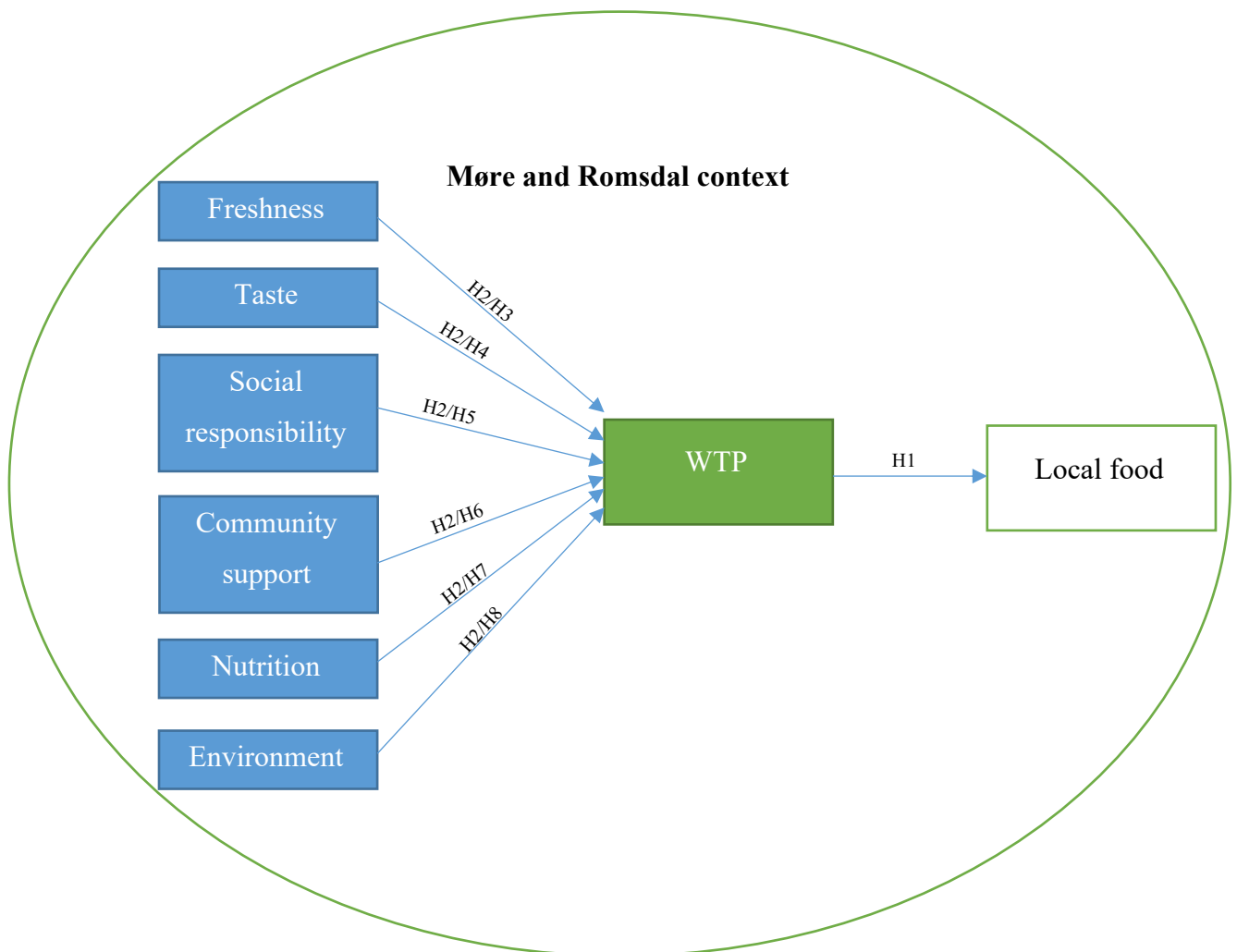


Figure 1: Conceptual framework

Figure 1 represents a visualization of the conceptual framework. It illustrates the relationships between the local food attributes and willingness to pay for local food. It also shows that the research will focus on a local context. The hypotheses are also presented.



In the study, freshness, taste, social responsibility, community support, nutrition, and environment serve as independent variables. Willingness to pay is the dependent variable. In the analysis section, an explanation of how the independent variables are affecting the dependent variable will be presented. In addition, some control variables are included which are derived from the demographical questions, including gender, age, household income, and education. They are used in the subsequent cluster analysis.

Due to the exploratory nature of both this study, and the original one (Frash, DiPietro, and Smith 2015), it is difficult to do a systematic study. As one of the authors from the original study said: “We did not ground our research in any theory”, in addition to: “A systematic study of “local food” may be difficult since the term is an undefined and ambiguous paradigm.” (Dr. Robert Frash Jr., personal communication in e-mail, 9. December 2022). This is why a conceptual framework may be appropriate, trying to explain the relationship among the variables.

The relationship among the variables will be tested with the following hypotheses derived from the results of Frash, DiPietro, and Smith (2015) study.

They found that U.S. consumers were willing to pay more for local food across all the restaurant categories. Thus, I hypothesize:

H1: Norwegian consumers are willing to pay more for local food across all restaurant categories.

Further, the authors found that social responsibility, community support, freshness, taste, nutrition, and the environment was the most important local food attributes for American consumers. Thus, I hypothesize:

H2: Willingness to pay for local foods is associated with perceptions about social responsibility, community support, freshness, taste, nutrition, and the environment.

Frash, DiPietro, and Smith (2015) also found that the local food attributes that predicted the increased expenditure among U.S. consumers were fresh/taste, social/community, and nutrition. Thus, I hypothesize:

H3: The local food attribute freshness increases Norwegian consumers' WTP.

H4: The local food attribute taste increases Norwegian consumers' WTP.

H5: The local food attribute social responsibility increases Norwegian consumers' WTP.

H6: The local food attribute community support increases Norwegian consumers' WTP.

H7: The local food attribute nutrition increases Norwegian consumers' WTP.

H8: The local food attribute environment increases Norwegian consumers' WTP.

## **4.0 Chapter 4: Method**

In this chapter, the methodological framework will be explained. A representation of the data collection process where the target sample and the analyses that are going to be used in the following chapter are dealt with.

### **4.1 Methodological approach**

The aim of this thesis was to replicate the study done by Frash, DiPietro, and Smith (2015) in a Norwegian context. That is in association with willingness to pay for local food in a chain restaurant setting, and what local food attributes consumers values more, to be able to spend the price premium for local food. The literature review found the most important local food attributes for the consumers. To be able to answer the research questions adapted to a Norwegian context, these attributes established in the literature will help accomplish that.

When the research topic had been chosen, reviewing the existing literature gave key insights on what kind of method and type of data it would be wise to work with. The literature review revealed the use of both quantitative, qualitative, and mixed methods. This thesis uses a quantitative approach using survey data. Because of the survey and what it was meant to measure, a quantitative approach was most beneficial to choose. Given the method, it made sense to make a conceptual framework trying to explain the relationship among the various variables and it could be tailored to best answer the research questions.

### **4.2 Type of data**

The survey used primary data collected by means of a survey.

#### **4.2.1 Survey**

The survey was based on the original survey used by Frash, DiPietro, and Smith (2015). Given that the purpose was to reach Norwegian municipality employees, the questions were presented in Norwegian. The survey, including an introduction page, is available in Appendix 1. The introduction page described who the researcher was, what the purpose of the study was, and insurance for the participants that the survey was anonymous and voluntary.

The survey consisted of 3 sections. The first section was used to measure the respondent's willingness to pay for local food at chain restaurants. To measure WTP, a 5-point percentage increase scale was created. The part consisted of 3 questions for each restaurant category (fast-food, casual, and exclusive restaurants), as well as how often the respondent eats at the restaurant. In addition, the questions covered three different food types (produce, seafood, and meat). This was consistent with the original study, to be able to identify potential differences in WTP (Frash, DiPietro, and Smith 2015).

The second section was used to measure what kind of local food attributes restaurant patrons valued most. To measure local-food attributes, a 7-point scale of agreement was created. The participants were asked to think about the different local food attributes when they answered 3 statements about each local food attribute. The attributes included were freshness, taste, community support, social responsibility, environment, and nutrition.

Finally, the third section included some demographic questions about gender, age, household, household income, education, and in what municipality the respondents live in.

## **4.2.2 Data Collection**

### **4.2.2.1 Population and sample**

This research was done in a Norwegian country context, unlike the original study that did their research in the U.S. According to the original study, they used a convenience sampling method to collect data, provided by Qualtrics panel service, which is a marketing company that helps target samples for surveys. That led to the use of a non-probability-based convenience sample. (Dr. Robert Frash Jr., personal communication in e-mail, 9. December 2022) This method is characterized as a method that targets a population that is most convenient to reach for the author (McCombes 2019).

A non-probability-based convenience sampling method was also used in the current study. Because of the Norwegian context, the Norwegian population naturally became the *theoretical population* (Jacobsen 2018). A selection had been made because of the time and economic constraints of the scope of this thesis. The area of research became Møre and Romsdal County, and the target population was Sykkylven and Molde municipalities organization because these were presumably the largest workplaces in Sykkylven and Molde. With this method, there were some limitations though. For instance, unlike

probability-based methods, non-probability methods can result in systematically biased selection, which means that some relevant groups are not included in the selection, resulting in a nongeneralizable sample to population (Jacobsen 2018).

Because of the target population of this thesis, some expectations from the end sample were made. The municipalities organization is female-dominated because of the line of work that is present there. Usual occupations include teachers, healthcare personnel, and some administrative workers. Based on this, the sample reflects middle-class participants with a common education level and an income that is in the “middle”, which resulted in no extreme cases in either direction of the scale. The total number of respondents was 1202. The end sample resulted in 220 participants, which gave a response rate of 18.3%.

#### **4.2.2.2 Validity**

Validity in quantitative research refers to a measure of how well the intended research questions have been answered. In other words, how well do the data and the analyses measure what it is supposed to measure, leading to accurate answers to the research questions (Sürücü and Maslakci 2020).

Since the base template of the survey from Frash, DiPietro, and Smith (2015) and the research questions were borrowed, one might believe that the survey and the analysis will be able to give an answer to the research questions. The necessary adaptations have been done, to both the survey and research questions to work in a Norwegian context. The questions in the survey have closely been checked against the research objective and research questions to ensure that the survey gives answers to what it is supposed to.

#### **4.2.2.3 Reliability**

Reliability is a measure of how reliable the scales that are used in a questionnaire are. Cronbach's alpha is the most common method used to measure reliability (Sürücü and Maslakci 2020). The Cronbach's alpha is a value between 0 – 1. If the value is near 0, there is low or no consistency between the scales. On the other hand, if the value is near 1, there is good consistency between the scales (Solutions 2023). In Chapter 5 the reliability analyses' results will be explained.

#### **4.2.2.4 Ethical considerations**

Ethical aspects of data collection methods are important to consider. To get in touch with the study subjects, an e-mail was sent to the HR manager at Sykkylven and Molde municipality offices, and the HR manager discussed the request together with the municipal director. In the e-mail an explanation of who the researcher was, and what the goal and purpose of the research was. Further, insurance that the survey was secure and completely anonymous was given.

#### **4.2.3 Data Processing**

In SPSS, a WTP index variable was created. This was done by making a scale combining all the nine WTP measures to use in the regression analysis. Furthermore, the creation of a variable for each restaurant category that summated each of the three measurement scale items into one variable was done. These altercations were done to easier interpret the results later.

From the exploratory factor analysis used in RQ2 in the results chapter, factor scores were made using a regression-based method to control for collinearity in the subsequent regression analysis used in RQ3. Factor scores were created for each factor in the factor analysis, so in this case, there were three factor scores variables, named “FAC1\_FTN”, “FAC2\_SC”, and “FAC3\_EN” respectively, to represent each factor.

### **4.3 Descriptive statistics**

The end sample is presented in Appendix 2. Some of the characteristics are worth mentioning though. The sample consists of 27,7 percent males and 72,3 percent females. The sample's gender distribution differs from the Norwegian distribution where 50,57 percent are male and 49,43 percent female (Statistics Times 2021). One reason for the big difference is probably because there are more females than males working at the municipality organizations. The age distribution is represented by all age groups with most respondents between 45-64 years old.

It may be useful and interesting to see how the dependent variable and the independent variables relate to each other. A correlation analysis was been performed, presented in Table 1. Note that the independent variables are presented from the factor analysis, this implies that they are in clusters. A relationship between all the independent variables and the

dependent variable is visible. However, there are no relationships between the independent variables.

**Table 1** *Correlation between the dependent variable, and each factor.*

	WTP	Fresh/Taste/Nutrition	Social/Community	Environment
WTP	1.000			
Fresh/Taste/Nutrition	.182	1.000		
Social/Community	.374	.000	1.000	
Environment	.205	.000	.000	1.000

## 4.4 Data analyses

To analyze the results from the dataset, statistical analyses were used to get a better understanding and interpretation of the data, leading to answering the research questions. The same statistical analyses as Frash, DiPietro, and Smith (2015) used in their study, was used because the aim of this thesis was to replicate their study as closely as possible. The program used to conduct the analyses was SPSS version 29. In this thesis, significance levels are denoted by \*\*\*, \*\*, \*: significance on 1%, 5%, and 10% levels.

An explanation of the methods used will follow in the next paragraphs.

### 4.4.1 Exploratory factor analysis

Exploratory Factor Analysis (EFA) is a statistical technique that is used to find the underlying relationship of a set of observed variables. These underlying relationships are a set of latent variables, also called factors, which are not observable. The analysis will try to explain the relationship among the observable variables, which is maybe caused by the latent variables (Yong and Pearce 2013). Factor analysis can help to better understand relationships between the variables, and to understand the causes of the observed relationships. The latent variables in this case are the local food attributes.

#### 4.4.1.1 Principal component analysis with varimax rotation

Principal Component Analysis (PCA) is a part of EFA, used for data reduction purposes. It is a statistical technique that reduces the size of the dataset. This is done by identifying a smaller number of underlying factors that is related to the observed variables (Abdi and Williams 2010).

Varimax rotation is a method used to rotate the principal components to make factor loadings more interpretable. When doing a principal component analysis, the results are difficult to interpret because the factors are not aligned with the observable variables, using varimax rotation can help prevent this problem.

Scree plots and the Eigenvalue criteria were used to determine how many factors to rotate. For further reference see (Kaiser 1974; Yong and Pearce 2013; Abdi and Williams 2010) for a more in-depth explanation.

Prior to performing the Principal Component Analysis, Kaiser-Meyer-Olkin (KMO) (Kaiser 1974) test and Bartlett's test of sphericity (Bartlett 1954) were run, to check the suitability of the data for the factor analysis. It will be further discussed in the next chapter where the results are presented.

#### **4.4.2 Multiple Regression Analysis**

From the conceptual framework presented in Figure 1, the proposed relationship was visually presented between the dependent and the independent variables in this thesis. Six independent variables and one dependent variable were presented. However, the exploratory factor analysis created three factors, which then will be used for the regression analysis, along with the WTP index variable.

#### **4.4.3 Cluster Analysis**

A cluster analysis (CA) is a statistical method used to group individuals or objects into clusters based on their similarities or differences. The factor analysis found 3 interpretable factors, which then makes it appropriate to have 3 clusters. The number of clusters was confirmed by hierarchical cluster analysis.

The cluster analysis aimed to make consumer segments that relate to sociodemographic characteristics, local food attributes, and WTP variables. The sociodemographic variables were gender, age, household members, household income, and municipality. The variable "Children" which represented if the respondents had children under 18 years, was removed from the analysis due to insignificance. The local food attributes from the EFA were social/community, environment, and fresh/taste/nutrition. Finally, the WTP construct for each of the restaurant categories was also included. The cluster means were based on the means from every measurement item, but for the local food factors, the factor scores were used instead to maximize reliability (Distefano, Zhu, and Mindrila 2008).



## 5.0 Chapter 5: Analysis & Results

This chapter will cover the results obtained from the statistical estimations. The findings will be analyzed considering the research questions, which will serve as a preparation for the discussion and implications that will be discussed in the subsequent chapters.

### 5.1 RQ1: How much more are consumers willing to pay for local foods in Norwegian chain restaurants?

The first research question tried to find out how much more consumers were willing to pay for local food in Norwegian chain restaurants. To answer this, an Exploratory Factor Analysis (EFA), with a Principal Component Analysis (PCA) was conducted. Following are the results from the stated hypothesis, reliability checks, and the analysis.

The hypothesis from the conceptual framework stated that:

H1: Norwegian consumers are willing to pay more for local food across all restaurant categories.

Cronbach's alpha was used to investigate the internal consistency of reliability for all nine WTP measures. The internal consistency estimate was 0.924, which is considered to be very good (Statistics Solutions 2023). This means that the WTP measures were consistent, and there was not any significant variability across all the nine measures.

Exploratory Factor Analysis was then conducted after the reliability analyses (Yong and Pearce 2013). In the following paragraphs are the results presented.

The data was checked if there was a problem with multicollinearity. None of the 9 variables have low correlations ( $r < +/- .30$ ). Furthermore, there are no data which is above  $r = +/- .90$ , which indicates that there is no problem with multicollinearity (Yong and Pearce 2013). The determinant score = 0,001. It is above the threshold of 0,00001. That indicates further that there is no problem with multicollinearity.

**Table 2** Suitability for EFA for WTP measures

KMO and Bartlett's test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.865
Bartlett's Test of Sphericity	Approx. Chi-Square	1583.38
	Df	36
	Sig.	< .001

Table 2 presents some tests that are an important measure of the quality of the data from the factor analysis. The Kaiser-Meyer-Olkin measure of sampling adequacy is a test that tells us if we have enough data to trust the output of the factor analysis. The KMO value = .865 which is considered to be more than sufficient (Kaiser 1974).

Bartlett's Test of Sphericity measures the significance of the factors produced. Table 2 shows significance < .001 which also confirms that there are patterned relationships amongst the variables (Bartlett 1954). When all these requirements are met, it means that distinct and reliable factors can be produced (Yong and Pearce 2013).

**Table 3** Variable descriptions, eigenvalues, and factor loadings for interpretable latent WTP factors

Variables	Factor	
	WTP exclusive/casual	WTP fast food
WTP exclusive fish	<b>.897</b>	
WTP exclusive produce	<b>.861</b>	
WTP exclusive meat	<b>.832</b>	
WTP casual meat	<b>.684</b>	.498
WTP casual fish	<b>.671</b>	.537
WTP casual produce	<b>.614</b>	.552
WTP fast food fish		<b>.873</b>
WTP fast food meat		<b>.849</b>
WTP fast food produce	.414	<b>.764</b>
Eigenvalues	5.65	1.16
% of variance explained	41.93	33.76

*Note: The bold factor loadings represent the factor it correlates with.*

Table 3 represents the summary output from SPSS after the factor analysis. Eigenvalues, factor loadings after the varimax rotation and the percent of variance explained by the factors are represented. An eigenvalue cut-off of 1 was used, resulting in 2 factors from the WTP

measures that were of interest. The cumulative variance explained by the 2 factors was 75.69%. The factor criterion of 0.32 was used, meaning that factor loadings below 0.32 are not visible (Yong and Pearce 2013). The interpretation of what variables correlates with each other led to 2 factors, namely factor 1 “WTP exclusive/casual” and factor 2 “WTP fast food”.

Factor loadings for “WTP exclusive/casual” range between .614 to .897. This can be interpreted as there is a strong correlation between the variables and the factor. “WTP fast food” factor loadings range between .764 to .873. Here is also a strong correlation between the variables that form the factor. “WTP exclusive/casual” and “WTP fast food” consists of 6 and 3 items each reported on a 5-point Likert scale that explained 41,93% and 33,76% of the variance respectively.

The findings from all the different restaurant categories (fast-food, casual, and exclusive) are presented below.

**Table 4** *Summary statistics for WTP measures*

Restaurant category	WTP Fast-food	WTP casual	WTP exclusive
N	220	220	220
Mean	3.19	2.44	2.06
Median	3.00	2.33	1.66
Std. Deviation	1.18	1.14	1.10

Table 4 presents the results from each summated restaurant category. “WTP Fast-Food” represents the 3 scale variables used to measure patrons’ willingness to pay for local food in a fast-food setting, with each food category (produce, fish, meat) combined. From the table, the mean = 3,19, which suggests that the respondents were willing to pay on average up to 10% more for local food at a fast-food chain restaurant. It has a median = 3, and a standard deviation = 1,18.

“WTP casual” consists of the 3 summated scales for the casual category. It has a slight decrease in mean = 2,44, which suggests that the respondents were willing to pay on average 5% to 7% more for local food in a casual restaurant setting. It has a median = 2,33 and a standard deviation = 1,14.

“WTP exclusive” consists of the 3 scales for the exclusive category. The mean = 2,07, suggests that the respondents in the exclusive category were willing to pay approximately 5% more for local food. The median = 1,67 and the standard deviation = 1,11.

**Table 5** *WTP summary statistics for each food category across each restaurant category.*

<b>Summary statistics</b>			
	Mean	Std. Deviation	N
WTP fast food produce ***	2.92	1.35	220
WTP fast food fish ***	3.39	1.33	220
WTP fast food meat ***	3.25	1.32	220
WTP casual produce ***	2.42	1.33	220
WTP casual fish ***	2.56	1.22	220
WTP casual meat ***	2.32	1.21	220
WTP exclusive produce ***	2.03	1.24	220
WTP exclusive fish ***	2.09	1.21	220
WTP exclusive meat ***	2.08	1.17	220

*Note:* \*\*\*, \*\*, \*: significance on 1%, 5%, 10% level.

Table 5 shows the summated scales for each food category across each restaurant category. It represents a decrease in both mean and standard deviation. This would maybe suggest a decrease in willingness to pay when we move from fast-food to exclusive categories. It can also suggest that consumers expect a higher quality of food when eating at an exclusive restaurant compared to a fast-food restaurant. Maybe consumers won't pay a higher premium on exclusive restaurants because they expect the food to be of higher quality, and because the food is already expensive. However, as the results above represent, consumers would pay on average between 5% to 10% more for local food at a Norwegian chain restaurant. Based on these results, hypothesis H1 is supported.

## 5.2 RQ2: What local-food attributes are most important to Norwegian restaurant patrons?

The second research question tried to explain what local food attributes are most important for Norwegian restaurant patrons. The Exploratory factor analysis (EFA) was also used here. Below are the results from the stated hypotheses, reliability analyses, and the factor analysis presented.

The hypothesis from the conceptual framework stated that:

H2: Willingness to pay for local foods is associated with perceptions about social responsibility, community support, freshness, taste, nutrition, and the environment.

Cronbach`s alpha value = .935, for all 18 local food attribute items in total. Table 6 represent KMO and Bartlett`s test. KMO value = .894, which is sufficient. Bartlett`s Test of Sphericity significance = < .001, which is also good. This suggests that the data is reliable.

**Table 6** Suitability for EFA for local food attributes.

KMO and Bartlett`s test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.894
Bartlett`s Test of Sphericity	Approx. Chi-Square	2891.75
	Df	153
	Sig.	< .001

For the analysis, an eigenvalue cut-off of 1 was used, meaning that eigenvalues larger than 1 were included as factors. This resulted in three interpretable local-food attribute factors which described 66,411 percent of the variance, presented in Table 7, along with factor loadings after rotation and eigenvalues.

The final three latent attributes were fresh/taste/nutrition, social/community, and environment. Fresh/taste/nutrition consists of 8 items and has factor loadings ranging between .535 to .805. Here is evidence of a strong correlation between the items and the factor. Next, the factor social/community consists of 7 items and has factor loadings ranging between .565 to .820. As for the fresh/taste/nutrition factor, the social/community factor also has a strong correlation between the items and the factor. Finally, the environment factor

consists of 3 items with factor loadings ranging between .746 to .834. A strong correlation is also evident here.

Factor scores were created for further analysis of the three latent local food attributes, namely “FAC1\_FTN”, “FAC2\_SC”, and “FAC3\_EN”. This was based on regression scores computed from the factor analysis. This was done to control for collinearity and to maximize the validity of the results (Frash, DiPietro, and Smith 2015; Distefano, Zhu, and Mindrila 2008).

**Table 7** Item descriptions, eigenvalues, and factor loadings for latent local food attribute factors.

Items	Factor		
	FTN	SC	EN
<b>Freshness/Taste/Nutrition</b>			
Local produce has more nutritional value, so I buy it.	<b>.805</b>		
Local farmers grow more nutritious food.	<b>.798</b>		
I buy vegetables from local farmers because they produce more nutritious products.	<b>.798</b>		
Local eggs make better tasting omelets.	<b>.796</b>		
The closer the food is grown, the better it will taste.	<b>.756</b>		
Seafood caught locally tastes better.	<b>.654</b>		
I buy local food because it is fresher.	<b>.556</b>	.539	
Food purchased locally is ripper.	<b>.535</b>	.413	
<b>Social responsibility/Community support</b>			
When I buy food that is grown locally, I feel more socially responsible.		<b>.820</b>	
Acting socially responsible, I should buy locally produced food.		<b>.779</b>	
Purchasing local food gives more money to the local community.		<b>.750</b>	
I feel like a better person when I purchase local food.		<b>.695</b>	
I purchase local food because it builds community relationships.	.377	<b>.685</b>	
Supporting my local community is the right to do, so I buy local food.		<b>.683</b>	
I buy local foods because they are sold closer to harvest.	.554	<b>.565</b>	
<b>Environment</b>			
Buying locally caught seafood leads to a reduction in water pollution.	.325		<b>.834</b>
Buying local foods helps to ensure the humane treatment of farm animals.			<b>.781</b>
I buy local foods because it helps to reduce companies’ carbon footprint.		.343	<b>.746</b>
Eigenvalues	8.65	1.89	1.42
% of variance explained	27.76	25.06	13.59

*Note:* FTN = freshness/taste/nutrition; SC = social responsibility/community support; EN = environment. The **bold** factor loadings represent the factor it correlates with.

Table 8 presents the means and standard deviations for the summated latent local food attributes. The social/community summated latent factor had the highest mean at 5.00 on the 7-point scale of agreement. The factor consists of items that are about social responsibility and the support of the local community. Next, is the latent factor environment with a mean = 4.65. Finally, the fresh/taste/nutrition latent factor has a mean = 4.54. This factor consists of items related to freshness, taste, and nutrition. The data suggest that all these items are overlapping traits.

**Table 8** Means for the summated latent local-food measures.

Factors	Social/Community ***	Environment ***	Fresh/Taste/Nutrition ***
N	220	220	220
Mean	5.00	4.65	4.54
Std. Deviation	1.21	1.37	1.18

*Note:* \*\*\*, \*\*, \*: significance on 1%, 5%, 10% level.

Ranging from most important to least important local food attributes; Social/Community, Environment, and Fresh/Taste/Nutrition.

Based on the above results hypothesis H2 is supported.

### 5.3 RQ3: To what extent do these local-food attributes predict Norwegian chain restaurant patrons' WTP?

The last research question was looking at how strongly these local food attributes found in RQ2, predict Norwegian chain restaurant patrons' willingness to pay. To get an answer to this question, a multiple regression analysis was conducted. Following are the presentation of the stated hypothesis, and the results from the regression analysis.

The stated hypotheses from the conceptual framework were:

H3: The local food attribute freshness increases Norwegian consumers' WTP.

H4: The local food attribute taste increases Norwegian consumers' WTP.

H5: The local food attribute social responsibility increases Norwegian consumers' WTP.

H6: The local food attribute community support increases Norwegian consumers' WTP.

H7: The local food attribute nutrition increases Norwegian consumers' WTP.

H8: The local food attribute environment increases Norwegian consumers' WTP.

A multiple regression analysis was run to see if the WTP dependent variable was affected by the local food attributes factors (fresh/taste/nutrition, social/community, environment) as they served as independent variables. A nominal alpha = 0.05 was used.

**Table 9** *Regression results.*

R	.46
R <sup>2</sup>	.215
F score	19.733
Significance	< .001

Table 9 represents the most important results from the regression. The data shows that the local food attributes were significantly related to the dependent WTP variable. Furthermore, the model explained 21.5% of the variance in the sample, from the R<sup>2</sup> measure.

The regression equation was created according to the standardized beta weights:

$$WTP = .18 Z_{Fresh-Taste-Nutrition} + .37 Z_{Social-Community} + .20 Z_{Environment}$$

Table 10 below presents the relative strength of each factor. Between the local-food attributes and the WTP index variable, all beta coefficients were positive. The relative



strength of the coefficients can be seen from their value. It represents the higher the value, the stronger the effect the independent variables have on the dependent variable.

The variables fresh/taste/nutrition, social/community, and environment were all statistically significant, on 1%, 5%, and 10% levels denoted with \*\*\*, \*\*, \*, respectively. According to the data, social/community had the strongest relationship with the WTP index. Finally, the environment and fresh/taste/nutrition attributes had the weakest relationship. The data suggested that the social/community attributes had the strongest prediction on why consumers in this sample were willing to pay more for local food. Nonetheless, fresh/taste/nutrition, and environment will also be discussed further in the next chapter, due to the exploratory nature of this study.

**Table 10** *Standardized beta coefficients, t-scores, significance, and correlations for the factors with willingness to pay dependent variable.*

Factors	Social/Community ***	Environment ***	Fresh/Taste/Nutrition **
Standardized beta coefficients	.374	.205	.182
t scores	6.212	3.394	3.015
Significance	< .001	< .001	.003
Correlation between each factor and WTP	.374	.205	.182
Correlation between each factor and WTP, holding all other factors constant	.389	.225	.201

*Note:* \*\*\*, \*\*, \*: significance on 1%, 5%, 10% level.

Based on the results above, hypotheses H3-H8 are all supported, but H3, H4, H7, and H8 are to a less extent than the others.

## 5.4 SRQ3.1: How do consumer segments differ in their willingness to pay and the preferences for local food attributes in Norwegian chain restaurants?

A hierarchical cluster analysis was performed to determine how many segments (k) it would be advisable to work with, to use for the subsequent k-means cluster analysis. The results could be interpreted as to make 3 clusters.

Following this, a K-means cluster analysis was conducted to make customer segments from the sample. The demographic variable “Children” was removed due to insignificance. Which resulted in 215 responses that became the starting point for the analysis. The significance of each variable is denoted by \*\*\*, \*\*, \*, representing significance on 1%, 5%, and 10% levels respectively.

In the following paragraphs are the results from the analysis presented.

**Table 11** *Categories of final clusters with the factors and WTP measures.*

	Cluster 1	Cluster 2	Cluster 3
	Price-Conscious Consumers	Local-Food Enthusiasts	Health-Conscious Consumers
WTP Fast Food ***	2.19	3.70	3.82
WTP Casual ***	1.66	2.70	3.07
WTP Exclusive ***	1.43	2.32	2.49
Fresh/Taste/Nutrition **	-0.05	-0.20	0.32
Social/Community ***	-0.50	0.36	0.13
Environment	-0.04	-0.07	0.14

*Note: \*\*\*, \*\*, \*: significance on 1%, 5%, 10% level.*

**Table 12** Sociodemographic characteristics of the clusters.

	Cluster 1	Cluster 2	Cluster 3
	Price-Conscious Consumers	Local-Food Enthusiasts	Health-Conscious Consumers
Gender	Female	Female	Female
Age ***	45 – 54	45 – 54	45 – 54
Household members ***	3	4	2
Household income ***	500K – 800K	1M – 1,2M	500K – 800K
Education ***	Bachelor	Bachelor	Technical/Vocational school
Municipality	Molde	Molde	Molde
N	76	81	58

*Note:* \*\*\*, \*\*, \*: significance on 1%, 5%, 10% level.

Table 11 represents the final clusters in relation to the means of the WTP measures for all the restaurant categories, as well as the factor scores from the local food attributes created from the EFA. Table 12 shows the sociodemographic characteristics of each cluster. All variables in the cluster analysis were significant at 0.05, 0.01 nominal levels, except environment, fresh/taste/nutrition, gender, and municipality.

Cluster 1 labeled *Price-Conscious Consumers* is a consumer segment that is characterized by not placing any specific importance on any of the local food attributes. This cluster has the lowest willingness to pay of all the clusters, suggesting that they may be more price sensitive, and they may be less concerned about these local food attributes when making their decisions. The consumers in this cluster were willing to pay up to approximately 6% more for local food at Norwegian fast-food chain restaurants. Further, up to approximately 3% more in casual chain restaurants, and approximately 2% more in exclusive chain restaurants. The segment consists mostly of females aged between 45 – 54 years old with a household income between 500 000 NOK to 800 000 NOK. Further, the households in this cluster consist for the most part of 3 family members. The majority have a bachelor's degree and live in Molde. The cluster was the second largest with 76 consumers.

Cluster 2 labeled *Local-Food Enthusiasts* consist of a consumer segment that has the most positive perceptions towards the attribute's social responsibility and community support. This may suggest that the consumers value restaurants that support their positive perceptions towards socially responsible practices and the support towards local community. This

segment will pay a higher premium for these attributes than the *Price-Conscious Consumers*. The consumers in this cluster were willing to pay approximately up to 13% more for local food in Norwegian fast-food chain restaurants. Further, up to 8% more in casual chain restaurants and approximately 6% more for local food at exclusive chain restaurants. The segment consists mostly of females aged between 45 – 54 years old with a household income between 1 000 000 NOK – 1 200 000 NOK. Mostly, 4 family members were apparent in this cluster. The majority have a bachelor's degree and live in Molde. This is the largest cluster with 81 consumers.

Finally, cluster 3 labeled *Health-Conscious Consumers* consists of a consumer segment that places the most importance on the local food attributes freshness, taste, and nutrition. These consumers value high-quality, nutritious, and well-flavored local food. The consumers in this cluster are the ones who were willing to pay the most overall for local food in Norwegian chain restaurants. Specifically, approximately 14% more for local food items in Norwegian fast-food chain restaurants. Further, 10% more in casual restaurants and 7-8% more in exclusive restaurants. The consumers in this cluster are represented mostly females aged between 45 – 54 years of age and have an average household income of 500K – 800K NOK. Further, the household consists mostly of 2 family members. The majority in this cluster have an education from a technical or vocational school and are stationary in Molde. This is the smallest cluster with 58 respondents.

The biggest differences between the clusters regarding the willingness to pay and the perceptions regarding the local food attributes are between clusters 1 and 3. Cluster 3 is willing to pay significantly more for high-quality local food in regard to freshness, taste, and nutritional value. In contrast to cluster 1, which is more price sensitive and has no specific preference about any of the local food attributes.

## **6.0 Chapter 6: Discussion**

This chapter presents a discussion of the findings from the previous chapter, comparing it to previous research found in the literature review. The discussion will be divided into parts where the research questions are getting covered. Finally, managerial implications will be discussed, demonstrating real-life use and opportunities of the findings from this study.

A conceptual framework was created during this study, trying to explain the relationships between the local-food attributes and willingness to pay, as well as representing the relationships with hypotheses. The local-food attributes that were most important for the consumers in any context, revealed through the literature review, were freshness, taste, community support, social responsibility, nutrition, and environment.

### **6.1 RQ1: How much more are consumers willing to pay for local foods in Norwegian chain restaurants?**

The first research question quired to answer how much Norwegian consumers were willing to pay for local foods in Norwegian chain restaurants. From Table 3, the factor analysis in this study revealed that there were two latent factors, explaining approximately 75% of the variance of the whole dataset. This result suggests that the shared variance between these two latent factors is being explained by the correlation between the variables that form the factors. It can also be interpreted as the total variance explained is a goodness of fit to the model, in which case, 75% explained variance is good (Yong and Pearce 2013). Comparing against Frash, DiPietro, and Smith (2015), they found one interpretable factor which explained 75% of the variance.

From Tables 4 and 5, the results from this study revealed that there were differences in willingness to pay across all restaurant categories and food types. Specifically, the consumers were willing to pay on average up to 10% more for local food across all food categories (produce, fish, meat) in a fast-food restaurant. Next, in the casual restaurant category, Norwegian consumers were willing to pay on average between 5% to 7% more for local food menu items. Finally, for the exclusive restaurant category, consumers were willing to pay on average 5% more.

These results differ a bit from previous research. For instance, Frash, DiPietro, and Smith (2015) found in their U.S. study, that there was no difference across the restaurant categories

and the food types. Moreover, U.S. consumers were willing to pay on average between 4% to 5% for local food menu items. These differences could suggest that the contexts where the studies have been conducted can have an impact on the results. The relative prices are higher in Norway than in the U.S. Furthermore, according to Nation Master (2023), the local purchasing power is nearly twice as high in the U.S. as in Norway. This could suggest that U.S. consumers do not care about what kind of restaurant they are eating at, as they would pay the same premium even if they are eating at a high-end restaurant. In Norway, as the result of this study suggests, consumers would pay a less premium at a high-end restaurant, because the food may already be at a premium price level, and they expect high-quality food in that regard. On the other hand, the results suggest that Norwegian consumers are willing to pay more on average, across all the restaurant categories. This could suggest that the price sensitivity is lower with Norwegian consumers than with U.S. consumers.

On the other hand, similarities with results from this study are also apparent from previous research. Feldmann and Hamm (2015) found that consumers were willing to pay a premium for local food, even though they did not see the food as expensive. Furthermore, Italian, and German consumers were willing to pay up to 11 euros more for local food in restaurants (Contini et al. 2017; Scozzafava et al. 2017).

## **6.2 RQ2: What local-food attributes are most important to Norwegian restaurant patrons?**

The second research question asked what local-food attributes were most important for Norwegian restaurant consumers. Presented in Table 8, the most important attribute revealed in this study was social/community. This factor described consumers who wish to be socially responsible and support the local community when purchasing local food at a chain restaurant. Next, the results revealed that environment was also an important attribute for Norwegian chain restaurant consumers. This attribute describes environmental awareness among consumers. This attribute centers around production methods, environmental emissions, and transportation emissions. The least important local food attribute according to this study was freshness/taste/nutrition. This factor was a collection of items referring to freshness, taste, and nutrition when it comes to local food.

Regarding past literature, there were some similarities and differences compared with this study. For example, Frash, DiPietro, and Smith (2015) found that the most important local-

food attributes for their sample of U.S. consumers were social/community. This result is consistent with this current study. This result could imply that U.S. consumers and Norwegian consumers are like-minded regarding the social/community attribute. Both samples have positive perceptions towards supporting local farmers and the community, at the same time as the consumers want to be socially responsible. In fact, the definition that Webster (1975) formulated, is consistent with both studies.

What is equally interesting is that the attribute, which was second most important in the study by Frash, DiPietro, and Smith (2015), was freshness/taste. This result deviates from the current study because, in this study, freshness/taste/nutrition was seemingly the least important attribute for Norwegian consumers. This could imply that U.S. consumers would prefer freshness/taste more than Norwegian consumers. The nutrition attribute is somewhat consistent in this study, with Frash, DiPietro, and Smith (2015). This could imply that both groups of consumers expect the food to be nutritious when they buy local food in chain restaurants in Norway and in the U.S., hence the relaxed perceptions of this attribute.

Another difference between these two studies was the environment attribute. The current study suggests that environment was the second most important attribute to the Norwegian consumers, however, among the sample of U.S. consumers, environment was the least important attribute. This result could imply that Norwegian consumers were more environmentally aware and cared more about the impact on the environment, than U.S. consumers in 2015 when the United Nations Sustainability goals were introduced. We could argue that a short food supply chain is more environmentally friendly and makes less of a carbon footprint than a conventional food supply chain, because of the “shorter” distance the food travels from supplier to consumers. Therefore, conventional food is considered less environmentally friendly than local food.

Alfnes and Sharma (2010) found results that also deviated from this current study. The participants in their study had a positive attitude towards paying more for local food because it was perceived tastier and fresher. Furthermore, they found no relationship between local food and health, nutrition, and safety. This current study suggests that Norwegian restaurant patrons were willing to pay a premium for local food most because of the positive attitudes towards supporting the local community and wishing to be socially responsible, and least because of the freshness, taste, and nutrition attributes.

In line with the current study's results were also Aprile, Caputo, and Nayga (2016). Their Italian consumers showed a strong positive relationship towards environmental awareness, suggesting that Italian and Norwegian restaurant patrons are equally invested in making a positive impact towards helping the environment. In addition, nutrition values seemed to be important for Italian restaurant patrons, however, this current study does not suggest that Norwegians are like-minded.

### **6.3 RQ3: To what extent do these local-food attributes predict Norwegian chain restaurant patrons' WTP?**

The final research question asked to what extent the local-food attributes predict Norwegian chain restaurant patrons' willingness to pay. The results represented in Table 10 show that the local-food attributes that predict the strongest WTP was social/community with a clear lead over the other attributes. Next, was environment, and last came fresh/taste/nutrition.

These results were somewhat consistent with the ones found in Frash, DiPietro, and Smith (2015) research. They found that social/community was the strongest predictor, then came fresh/taste, nutrition, and environment.

The social/community attributes imply that Norwegian consumers are caring about the local community and the economy, and they want to be socially responsible consumers. In fact, the results are harmonious with existing literature (Contini et al. 2017; Choi et al. 2021). Aprile, Caputo, and Nayga (2016) found that in their sample, Italian consumers had a positive attitude toward helping the local community. Moreover, young Hungarian consumers also wished to be socially responsible and support the local community when buying local food at restaurants (Kovács, Lendvai, and Beke 2022). Conclusively, consumers are more likely to choose a restaurant that conducts socially responsible practices, and consumers are more often willing to pay a premium for local food menu items in such restaurants (Severt et al. 2022; Scozzafava et al. 2017).

This study revealed that the environment attribute also predicts somewhat the expenditure of willingness to pay among Norwegian restaurant patrons. The environment attribute centers around food production methods, transportation, and harmful emissions such as greenhouse gas (GHG). As stated in the literature review, "food miles" were concluded to be a poor indicator regarding GHG emissions (Edwards-Jones et al. 2008). In fact, according to Amundsen (2020), transportation has a very low impact on overall GHG emissions. There



are other factors that contribute more to emissions than transport. For example, which food type gets produced is the factor with the most impact on emissions. Meat from beef herds has the highest emissions because of the methane the beef herd produces. These emissions are combined from all the specific stages from the food supply chain (land use change, farm, animal feed, transportation, etc.). In Norway, it is likely that many of the cows have been from a dairy herd, which is much better climate-wise. Furthermore, the study mentioned that consumers do not necessarily buy local food because of the good it does for the environment, but because they want to support local producers and the economy. This further supports the thesis findings. Moreover, several studies have also concluded that consumers have a positive attitude toward the environment when considering local food (Choi et al. 2021; Feldmann and Hamm 2015; Aprile, Caputo, and Nayga 2016).

The results from this current study revealed that the factor which had the least influence on willingness to pay was fresh/taste/nutrition. This result deviates from the pilot study in the U.S. (Frash, DiPietro, and Smith 2015). This was a surprising result because previous literature portrays freshness and taste as an important characteristic (Curtis and Cowee 2009; Ikerd 2011; Inwood et al. 2009; Feldmann and Hamm 2015; Contini et al. 2017; Kovács, Lendvai, and Beke 2022).

Aprile, Caputo, and Nayga (2016) found results consistent with the literature from their Italian sample. In addition, Alfnes and Sharma (2010) found credible results supporting the notion that freshness and taste are important quality attributes for consumers. However, they found no relationship between nutrition and local food, supporting this current study's result. The lack of importance for Norwegian restaurant patrons regarding freshness, taste, and nutrition could imply that when Norwegian consumers visit a chain restaurant, they expect the food to be of high quality, with flavor, freshness, and nutritional value to support the price they are paying. Interestingly, from the results regarding the fast-food restaurant category, tendencies support consumers' willingness to pay a higher price for a better local-food product, and that's why the attitude among them is so relaxed.

## **6.4 SRQ3.1: How do consumer segments differ in their willingness to pay and the preferences for local food attributes in Norwegian chain restaurants?**

The sub-research question connected to RQ3 was answered by a cluster analysis. The cluster analysis was conducted to get a better understanding of what characterized each cluster in the context of the local food attributes and willingness to pay.

Preexisting literature has also investigated similar cases, but not so much in the context of restaurants. Nonetheless, it's important to discuss further, because of the value it can give restaurateurs in developing marketing and pricing strategies focusing on specific customer segments. The most distinct differences between the clusters from the current study were significant differences in WTP and the consumers' perceptions regarding the local food attributes.

Contini et al. (2017) aimed to segment consumers in German and Italian contexts based on the importance of local food in restaurant choice. The study identified several interesting segments, including "locavores" and "price-driven" consumers, who were willing to pay a higher price for local food. The clusters may be consistent with the *Local-food enthusiasts* and *Health-conscious Consumers* clusters from this study, as these consumers also value the perceived benefits of local food such as freshness, taste, and nutrition. These clusters may be willing to pay a premium price for local food. Additionally, the study by Contini et al. (2017) found that locavores were highly likely to choose a restaurant that offers local food on their menu, which may also apply to the consumers in the *Local-food enthusiasts* cluster in this study.

Several interesting results were discovered by Aprile, Caputo, and Nayga (2016) researching consumers in relation to local food in an Italian context. Their research found 4 segments of consumers: Ethnocentric consumers, Environmentalists, strictly localists, and Quality labeling oriented.

From a Norwegian perspective, the cluster *Local-food enthusiasts* share similarities with the "ethnocentric consumers". Both clusters have a strong preference for supporting the local community and have similar sociodemographic characteristics, such as a high proportion of females and university-educated individuals. However, it's important to note that there are

also some differences between the two clusters. The Italian cluster is younger and has a lower household income than the Norwegian cluster, suggesting that cultural and economic factors may play a role in shaping consumer preferences and behavior in different contexts.

The similarities between the *Health-Conscious Consumers* in the study conducted in Norway and the "strict localists" cluster from the Italian study suggest that there may be some cross-cultural consistency in consumer attitudes and behaviors toward local food consumption. The fact that both clusters value the perceived quality of local foods, such as freshness and nutrition, highlights the importance of these attributes in consumers' decision-making processes. Additionally, the emphasis on taste by the Italian cluster may indicate a stronger culinary tradition and culture around local food consumption in Italy compared to Norway. The similar sociodemographic variables in both studies, such as age and education, may suggest that these attitudes towards local food consumption are more likely to be influenced by these demographic factors rather than cultural differences.

A study similar to Aprile, Caputo, and Nayga (2016), is Kovács, Lendvai, and Beke (2022) investigating young Hungarian consumers. They developed three groups from their cluster analysis: "The trend-follower", "The distrustful", and "the price-creator". From this current study, *Price-Conscious Consumers* share some similarities with the Hungarian clusters "distrustful" and "value-creator". All three clusters consist mostly of females except "distrustful" which consists mostly of men. One big difference is the age, whereas all clusters from this current study have a higher average age than in the Hungarian study because the Hungarian study focused specifically on young Hungarians. Nonetheless, all clusters share the same opinion, that they do not value the local food attributes as highly as some of the other segments. Moreover, *Price-Conscious consumers* from this thesis had the lowest willingness to pay for local food, which is also consistent with the Hungarian cluster "value-creator". A noticeable difference between these clusters, however, is that the Hungarian cluster emphasizes taste, nutrition, and health, whereas *Price-Conscious Consumers* do not. A segment of consumers who do, however, is *Health-Conscious Consumers*, who in addition have the highest willingness to pay in this study.

Furthermore, cluster 2 *Local-food enthusiasts* from this Norwegian context study strongly emphasize the local food attributes social responsibility, and community support. The cluster shares similarities with the "value-creator" from the Hungarian study. This cluster consists mostly of women aged between 35-39 with a university degree, which the Norwegian cluster

in question also has. Moreover, the Hungarian cluster trusts local products and their origin, like the *Local-food enthusiasts*. They also value a favorable price, also seen from the Norwegian cluster. A big difference though, is that the “value creator” seems to think that the local food products are nutritious and healthy, and the *Local-food enthusiasts* do not value taste, nutrition, and health attributes as highly as the Hungarian cluster.

Moreover, cluster 3 *Health-Conscious Consumers*, value the freshness, taste, and nutrition attributes the most over all the other clusters. In fact, they have positive perceptions towards all the local food attributes. The segment consists mostly of females that are well-educated. The “trend-follower” cluster, however, also consists mostly of women that are younger and slightly less educated. What’s interesting though, is that the participants have positive perceptions of the local food being nutritious and healthy, and they trust the food and the origin, but they are less committed to choosing a local product.

## **6.5 Managerial implications**

The following paragraphs show how the results from this thesis could be translated into real-world usage.

The United Nations Sustainability Goals (SDGs) (United Nations 2023) are highly relevant to this thesis in several respects, particularly SDG 2, which focuses on sustainable agriculture. SDG 2 includes sub-goals such as doubling the revenues and productivity of small-scale producers by 2030 and developing more resilient food systems that can withstand the effects of climate change. The findings from this thesis have the potential to aid producers and other stakeholders in investing in more sustainable production methods and supporting the local economy, as consumers place great importance on local food when dining out. By promoting sustainable agriculture and food systems through the inclusion of local food on restaurant menus, stakeholders can help to realize SDG 12, which pertains to sustainable production and consumption. This would be a win-win situation, as consumers are willing to pay more for local food, and the money generated could be used to maintain and upgrade local producers' agricultural systems, which are vital for sustainable development. Ultimately, these efforts would contribute to slowing down the alarming rate of climate change, an issue of global significance.

Restaurateurs in Norwegian chain restaurants may benefit from knowing how much consumers are willing to pay for local-food menu items. It’s not to say that restaurants should

refresh their menus with just local-food items, but at least they could benefit from incorporating some items. Furthermore, the results from this study revealed how much restaurant patrons were willing to pay not just overall, but for each main restaurant category in Norway. These results would help restaurateurs to develop effective pricing and marketing strategies for their menu offerings. This could further result in an increased customer base, knowing what price range customers comfortably were willing to spend. Moreover, the results suggest that customers are willing to pay some of the additional costs associated with offering local food on the menus.

It is also worth mentioning that the results may help menu development for chain restaurants, emphasizing local food ingredients that are most important to the consumers. Restaurateurs may focus on sustainable environmental practices, socially responsible practices, and their wish to help the local economy and the local producers. Doing so may give the restaurant a competitive advantage, differentiating them from their competitors. It could further help the restaurant to communicate its vision and values, and the restaurant's commitment to offer local and sustainable food.

In Norway, there has been an increased demand for local food over the last few years, visible both in revenue and producers (Stiftelsen Norsk Mat 2022; Lokalmat.no 2022). This could suggest that the food supply chains are ramping up to meet the demand. Then it is important to be able to supply local food in a safe, efficient, and environmentally friendly way to the consumers and to stakeholders, for example, restaurateurs and food producers. Møre and Romsdal county which is where the respondents in this study are based is known for its many local food producers and the county's investment in local foods in general, even though Møre and Romsdal is a small county (Lokalmat.no 2023).

Governmental policies are important in that matter. The local food sector is subsidized through the government for how much they produce, among other things (Adams and Salois 2010; Ministry of Agriculture and Food 2023). Hence, producers and others should be motivated by that, as well as this should help boost production and secure a steady flow of food which chain restaurants need, to be able to offer local food items on their menus. It is also worth mentioning that producers should cooperate to centralize production to further strengthen the supply chain.

This brings us to another issue offering locally produced food may rise, which is seasonally based local food. It is quite common for chain restaurants to offer seasonal menu items in Norway. The issue of obtaining raw materials for the restaurant dishes could be solved by concentric purchasing. This means that the food is purchased locally, and in the off-season, sourced in locations that are far away. Moreover, the results from this study could motivate restaurants to further offer local food. A motivational factor should be that if consumers were willing to pay more for local food, as this study suggests, the restaurants may be willing to consider sustainable sourcing. Restaurants may use consumers' WTP as an incentive to source some of their ingredients locally. Doing so could result in benefits such as positive environmental and social impacts. For instance, supporting local farmers and reducing transportation emissions.

Moreover, the results from this study emphasize which local food attributes that are most important for the consumers eating at a Norwegian chain restaurant. The most important local food attributes according to this study were social/community, and environment, and the least important were fresh/taste/nutrition. From a managerial perspective, restauraners should therefore emphasize using campaigns and promotions that focus on social responsibility, support of the local community, and environmentally friendly practices at the chain restaurants to leverage how much consumers pay for the menu items, and to attract customers that are willing to pay more for local food in regards of the attributes that are most important to them.

Finally, the findings presented from the cluster analysis can also have important managerial implications for chain restaurants and other food venues in Norway. The three distinct consumer segments based on their perceptions and preferences towards local food consumption and willingness to pay, may provide valuable insights for restaurant owners and other stakeholders to market and promote their local food items effectively to those consumers.

For instance, for restaurants that target *price-conscious* consumers, it may be better to focus on promoting the affordability aspects of their local food offerings, rather than emphasize specific attributes such as freshness, taste, or nutrition. It is more likely that these consumers may respond to promotional offers or discounts and may not be as tempted by the perceived quality of local food.

Instead, restaurants that appeal to *Local-Food enthusiasts* should focus their efforts on their socially responsible and community support practices to get the attention of these consumers. They are willing to pay a premium for these local food attributes, so it may be important for the restaurants to communicate this information in a clear manner, by using their marketing and promotional strategies effectively.

To attract *Health-Conscious Consumers*, it may be wise for restaurants to focus on promoting the high quality and nutritional value of their local food menu items. These consumers are willing to pay the most over all the clusters, and they strongly value freshness, taste, and nutritional attributes regarding local food. The restaurants that do effectively communicate these characteristics of their menu offerings, and in their marketing, may appeal to these consumers.

These cluster insights may be useful for restaurants to target and appeal to different consumer segments based on their perceptions and preferences towards local food. Restaurants could differentiate themselves in a competitive market by paying attention to how much consumers are willing to pay in each consumer segment. As a result, they may increase their bottom line and consumer retention rate in addition to loyalty.

## 7.0 Chapter 7: Conclusion

The aim of this thesis was to replicate the study conducted by Frash, DiPietro, and Smith (2015) in a Norwegian context. Therefore, the research questions drawn from the replication study were formulated so that they would work in a Norwegian context. The research questions enquired how much Norwegian consumers were willing to pay for local food in a Norwegian chain restaurant setting. Furthermore, they also investigated what local-food attributes were most important for the consumers and finally, what local food attributes predicted the increased expenditure among the restaurant patrons. In addition, a sub-research question enquired about how consumer segments differ regarding WTP and the local food attributes.

The preexisting literature revealed what local food attributes were most important for the consumers independently of the country context. A conceptual framework was then created and applied, trying to explain the relationship between the local food attributes and willingness to pay for local food in a Norwegian context. Hypotheses were then formulated based on the results from the original study. All hypotheses were supported, but some hypotheses were supported more than others. The results were estimated with the help of Exploratory Factor Analysis (EFA), a multiple regression analysis, and a cluster analysis.

The findings from this study suggest that across the three restaurant categories used, there are differences in WTP. Consumers in fast-food restaurants are willing to pay on average up to 10% more for local food in chain restaurants. Consumers in casual restaurants were willing to pay on average between 5-7% more. Finally, for the exclusive restaurant category, consumers were willing to pay on average up to 5% more for local food items on the menu. These results reflect a Norwegian context because these results differed from the original study done in a U.S. context (Frash, DiPietro, and Smith 2015).

Next, the results from this study revealed the most important local food attributes and which attributes contributed to the increased spending. Results suggested that the most important local food attribute was social/community. That was also the attribute that motivates the most, the increased spending for the chain restaurant consumers. Lastly, the cluster analysis resulted in three clusters, namely *Price-Conscious Consumers*, *Local-food Enthusiasts*, and *Health-Conscious Consumers*. The clusters were not significantly different from one another



regarding the sociodemographic variables, but instead in terms of WTP for the restaurant categories, and the consumer's perceptions towards the local food attributes.

The managerial implications suggested by the findings from this study imply that stakeholders would benefit from making a strategic pricing and marketing strategy to meet the demand and the increased prices local food may bring to the menu in chain restaurants. It is also beneficial to make use of the knowledge of the most important local food attributes so that restaurants would take advantage of a more diversified customer base and start promoting local food through campaigns and promotions that focus on social responsibility, support the local community, and environmentally friendly practices. As a result, it may help increase the market share among Norwegian chain restaurants, and it may give them a competitive advantage in a very volatile and competitive market.

## **7.1 Limitations of results and future research**

This thesis is not without its limitations. Because of the time and economic constraints resulting from being a master's student, the scope of the thesis had to be narrowed down. A geographical boundary had to be chosen. That led to a sample that cannot be generalized to the whole Norwegian population. Future studies could use a broader sample from more areas in Norway, not just Møre and Romsdal, and perhaps a different sampling method such as probability sampling. This relates to the cluster analysis, which may benefit from a larger sample to get more diversified and distinct results.

Due to the exploratory nature of this study, the WTP measure was employed in a hypothetical context. Further research could benefit from exploring an experimental design in an actual restaurant setting. This would be beneficial because consumers would maybe make different choices when actual prices are presented to them. They would maybe not be willing to pay as much as these results in this study suggest, consequently.

It may also be a suggestion to look closely at various theories such as social responsibility theory and social identity theory. Doing so may help restaurants that already have a large portion of local food on their menus to better market their offering to consumers.

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# Appendix 1: Survey

## Spørreskjema om lokal mat og egenskapene ved lokal mat

Mitt navn er Nils-Markus Hofseth Rye. Jeg er en masterstudent på økonomi og administrasjon studiet ved Høgskolen i Molde. I den forbindelse så skal jeg skrive en masteroppgave som dette spørreskjemaet er en del av.

Jeg blir veldig takknemlig om du tar deg tid til å svare på spørreundersøkelsen. Da er du med på å hjelpe meg med å kunne fullføre masteroppgaven. Du er invitert til å delta i denne forskningsundersøkelsen fordi svarene dine vil hjelpe restauranter med å bestemme om de skal inkludere menyelementer laget med lokale matingredienser.

For formålet med denne studien, er lokal mat definert som mat produsert og levert innenfor Møre og Romsdal fylke til restaurantene.

Du må være 18 år eller eldre for å delta. Hensikten med denne forskningen er å finne ut hvilke lokalmategenskaper som er viktigst for restaurantkunder og å måle deres vilje til å betale for lokal mat på restauranter. Jeg forventer at denne undersøkelsen vil ta max 10 minutter å fullføre.

Det er helt frivillig å delta, og du kan trekke deg når som helst. Fullføring av undersøkelsen innebærer ditt samtykke til å delta i denne forskningen. Alle data som innhentes vil være anonyme. Jeg ber om at du ikke oppgir informasjon som kan identifisere deg personlig.

Hvis du har spørsmål før du gjennomfører denne undersøkelsen, vennligst ta kontakt med Nils Markus Hofseth Rye på telefon 40646394, eller e-post: [nils-markus.h.rye@himolde.no](mailto:nils-markus.h.rye@himolde.no).

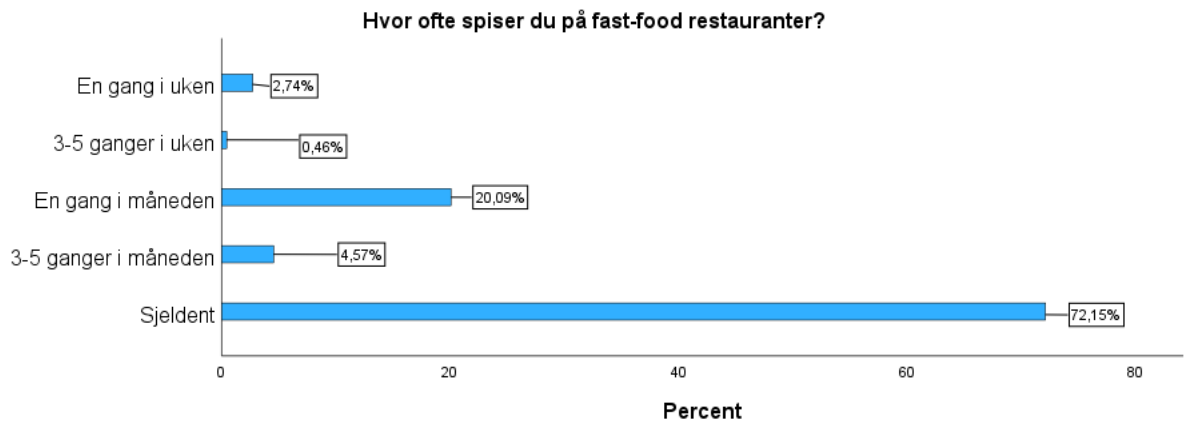
Hvis du ønsker å delta, vennligst gå videre til det elektroniske spørreskjemaet ved å trykke "Neste side". Hvis du ikke ønsker å fullføre denne undersøkelsen, vennligst avslutte nettleseren når som helst.

## Seksjon 1: Betalingsvillighet for lokal mat

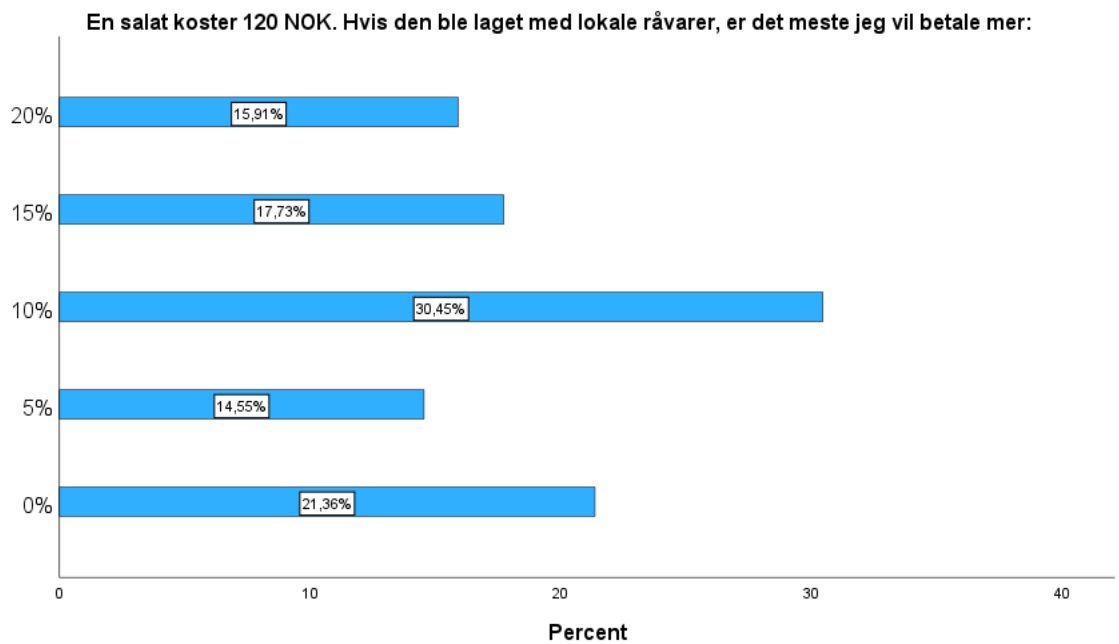
### Spørsmål 1:

Tenk på fast-food restauranter, for eksempel McDonald's, Burger King, Max.

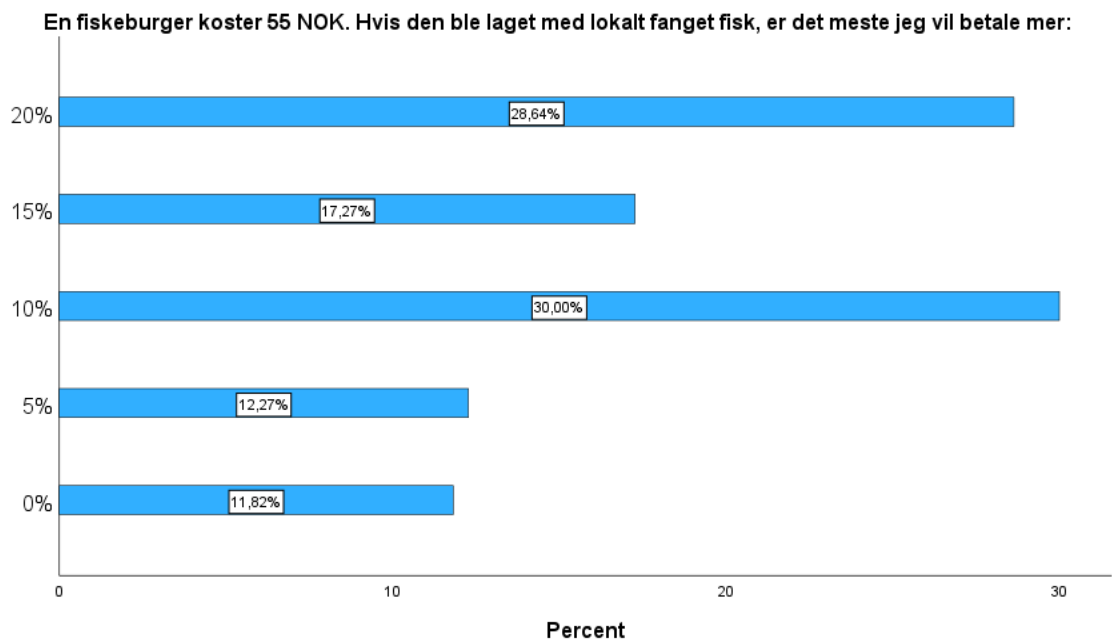
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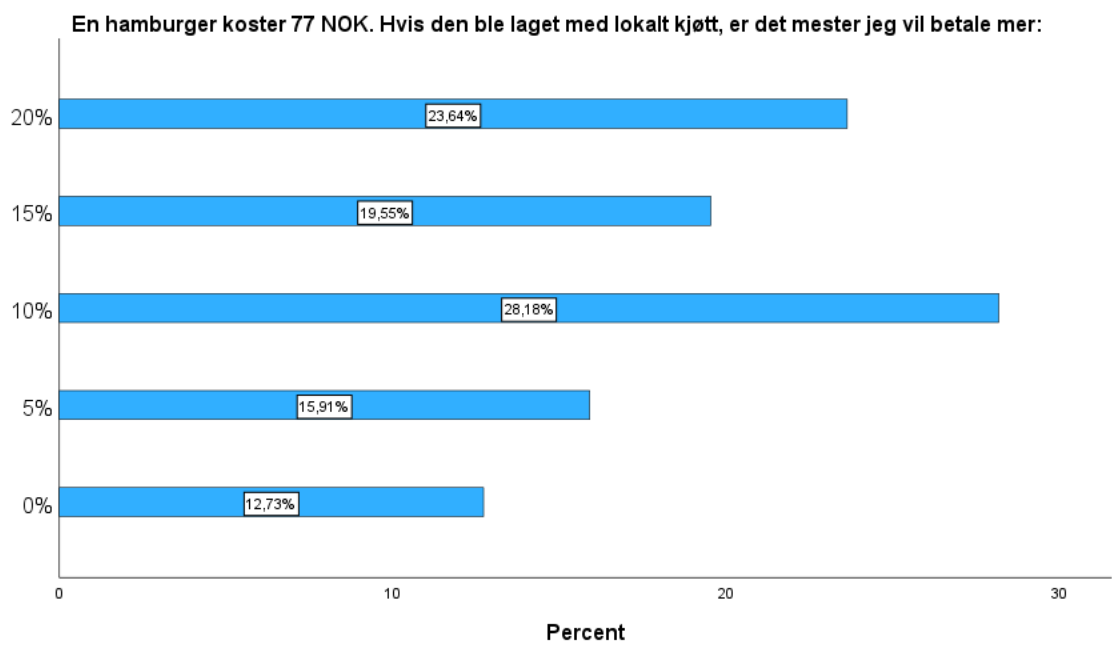
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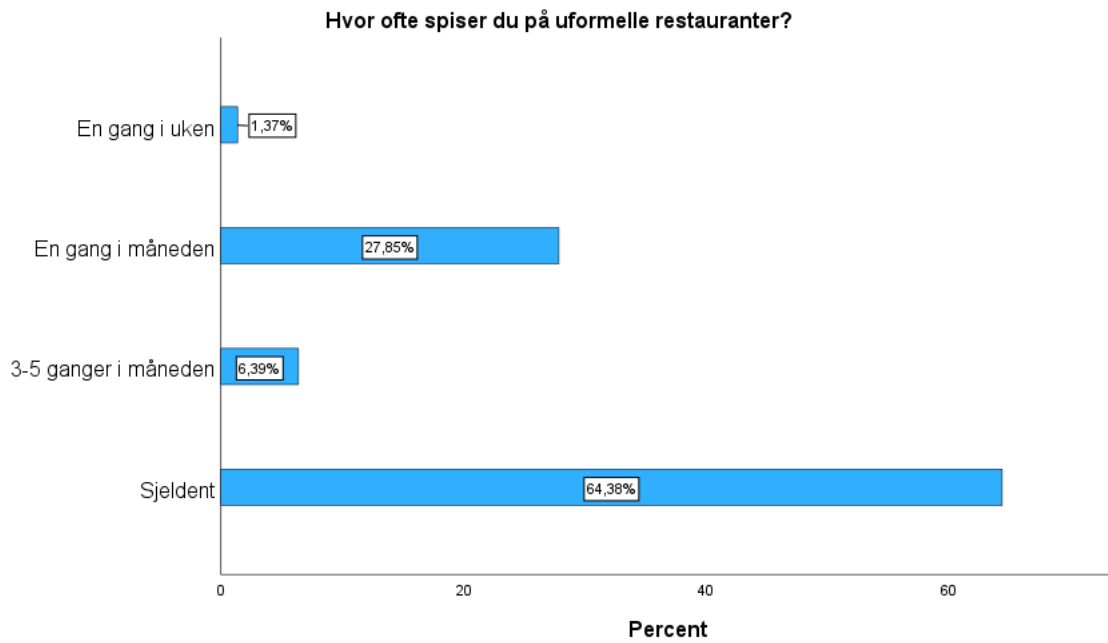
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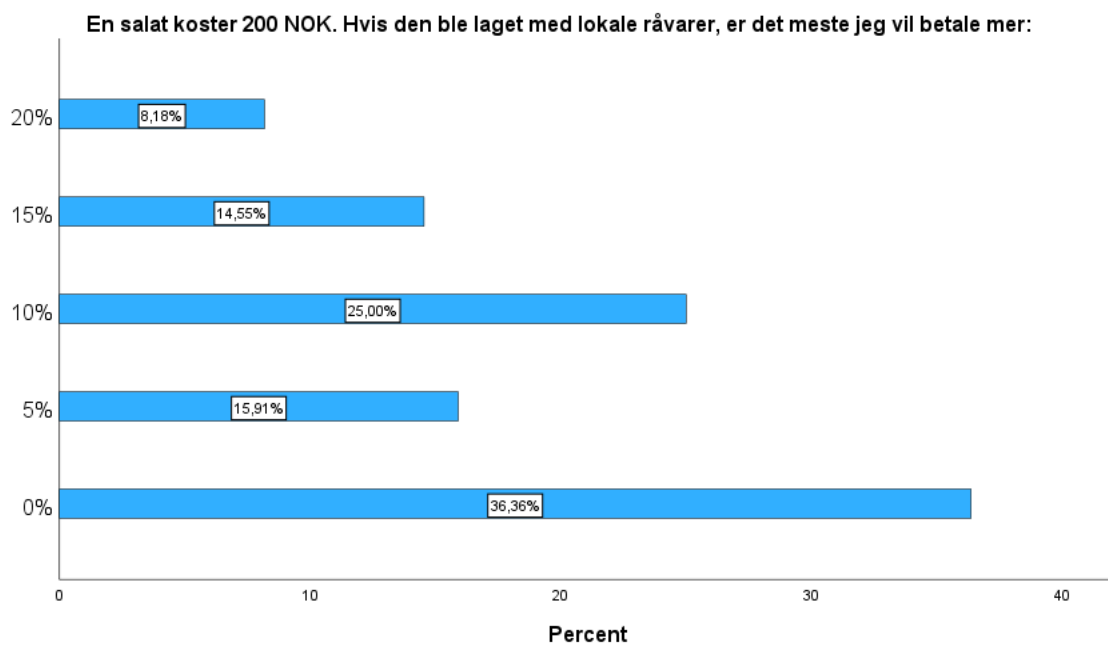
## Spørsmål 2:

Tenk på uformelle restauranter, for eksempel Egon, Jordbærpikene, Peppes Pizza, Anno Restaurant & Bar. Vennligst svar på følgende spørsmål:

Antall svar: 219



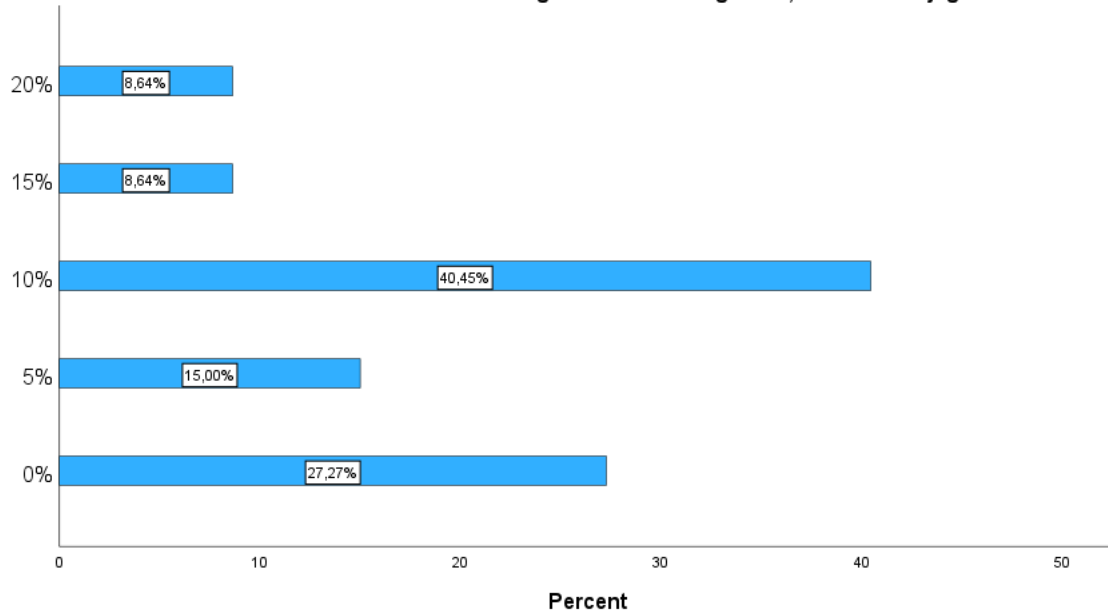
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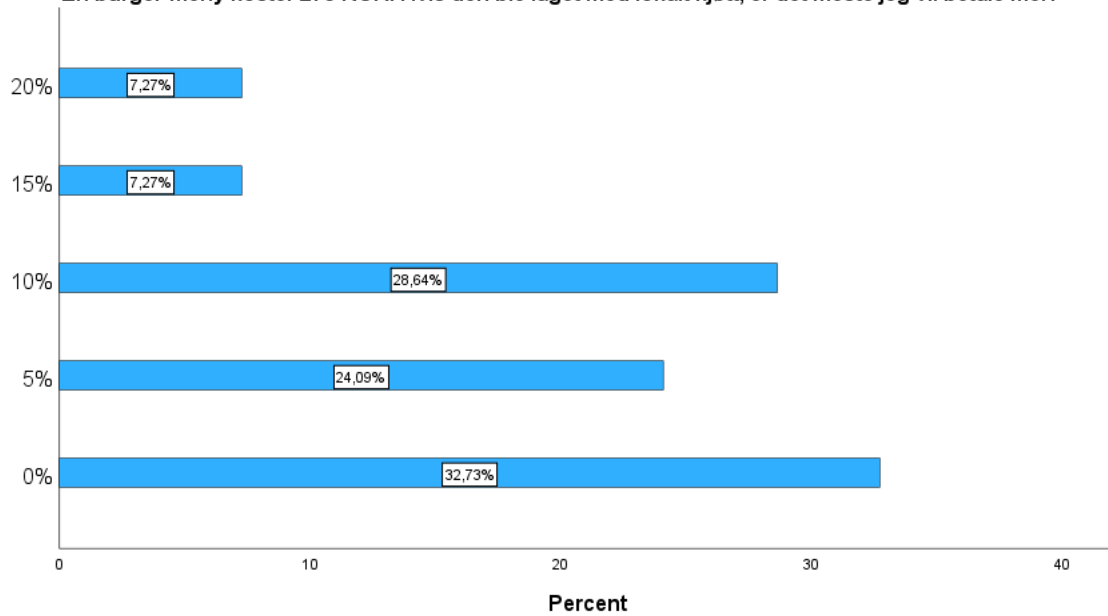
Antall svar: 220

En hovedrett av fisk koster 323 NOK. Hvis den ble laget med lokalt fanget fisk, er det meste jeg vil betale mer:



Antall svar: 220

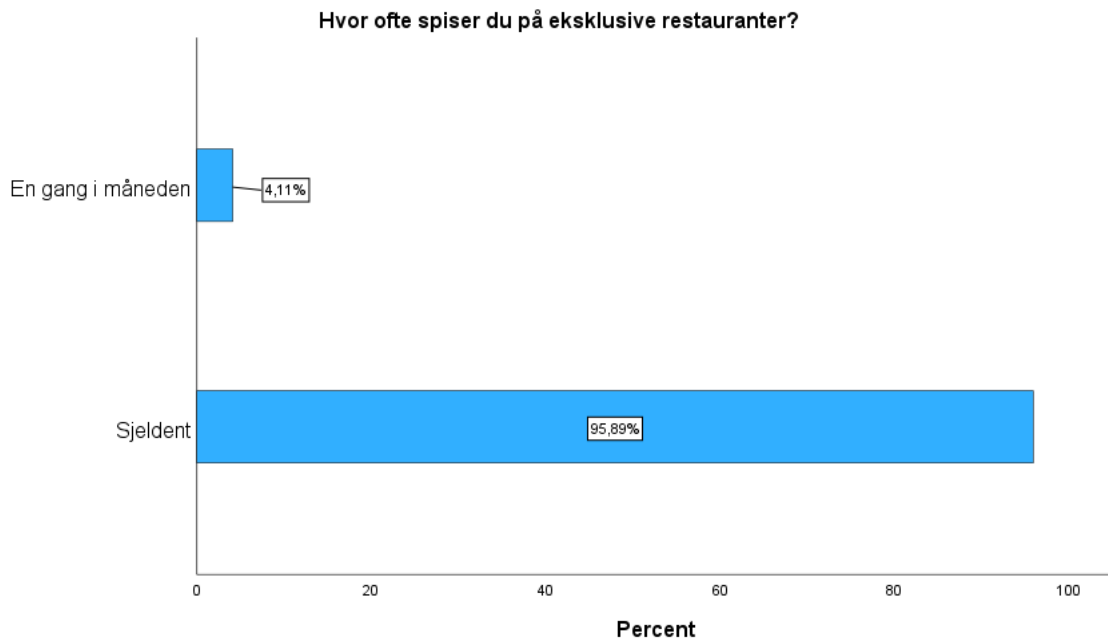
En burger-meny koster 276 NOK. Hvis den ble laget med lokalt kjøtt, er det meste jeg vil betale mer:



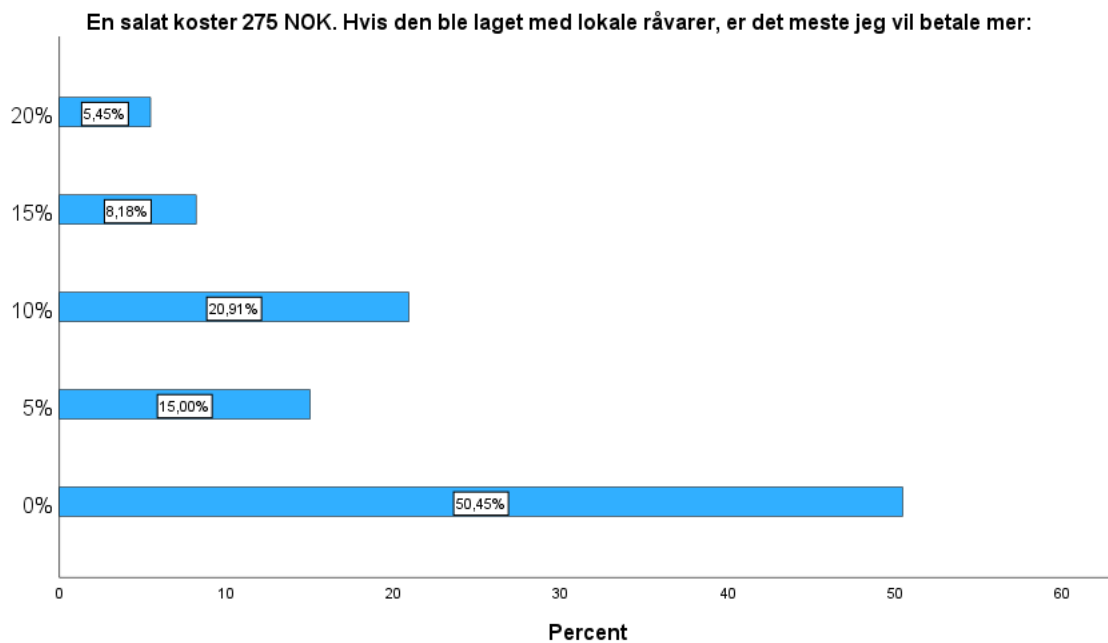
### Spørsmål 3:

Tenk på eksklusive restauranter, for eksempel XL Diner (Sjømat), Trancher Steakhouse (biff), Bro (Norsk mat). Vennligst svar på følgende spørsmål:

Antall svar: 219

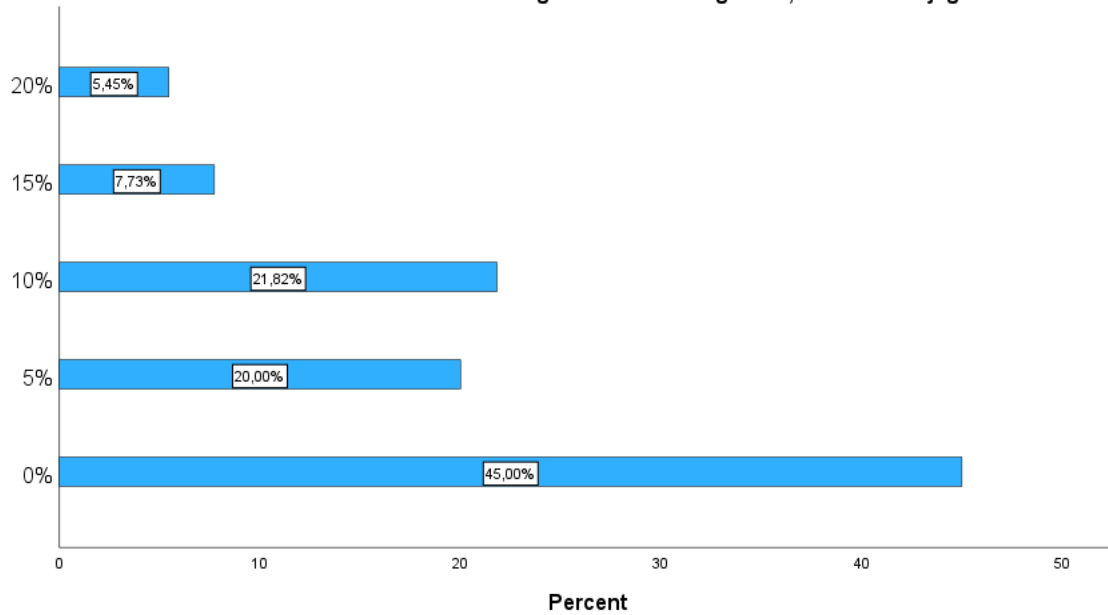


Antall svar: 220



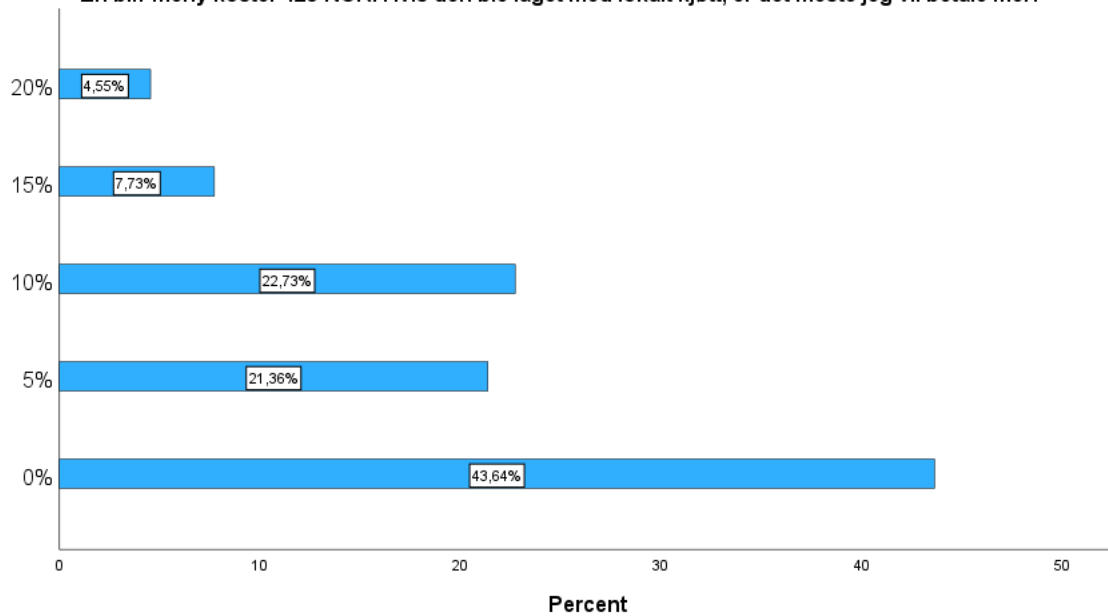
Antall svar: 220

En hovedrett av fisk koster 395 NOK. Hvis den ble laget med lokalt fanget fisk, er det meste jeg vil betale mer:



Antall svar: 220

En biff-meny koster 425 NOK. Hvis den ble laget med lokalt kjøtt, er det meste jeg vil betale mer:

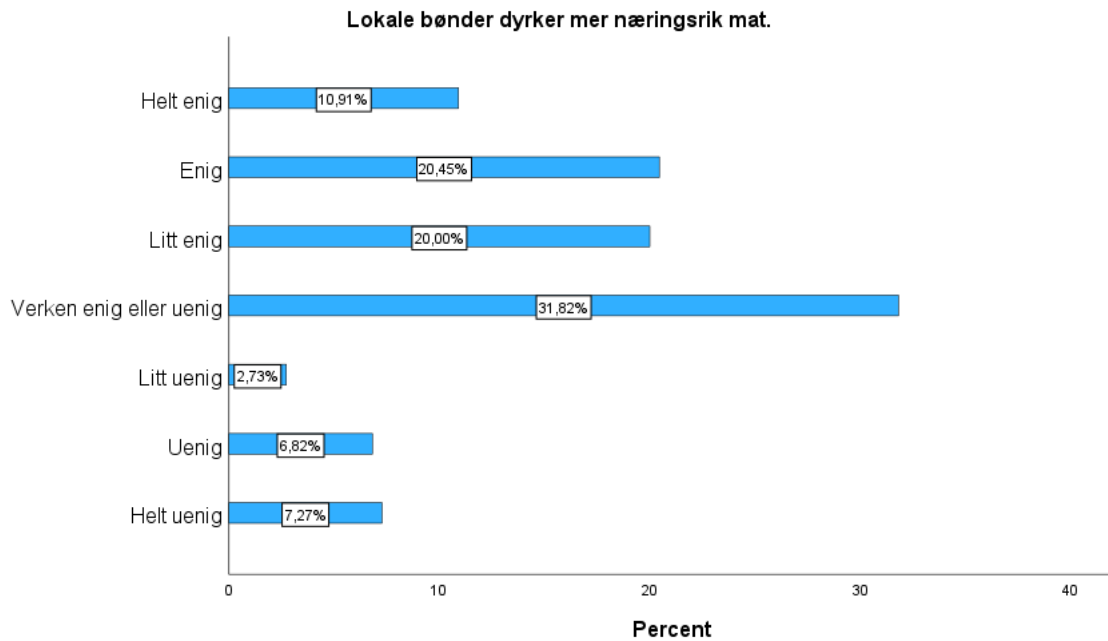


## Seksjon 2: Lokal mat egenskaper

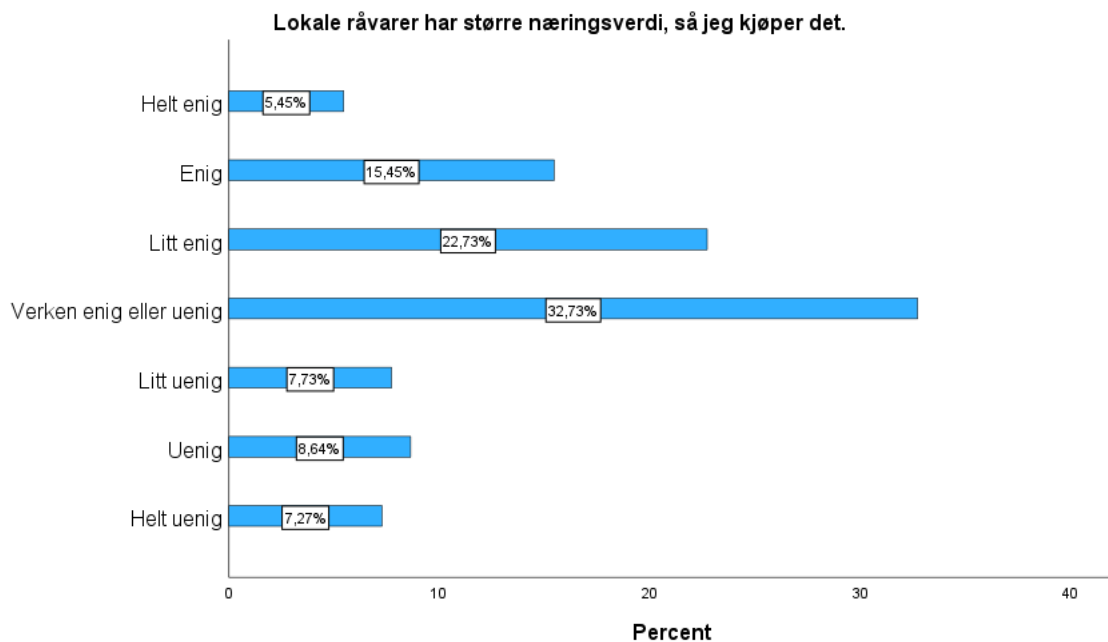
### Spørsmål 4:

Når du tenker på ernæring, vennligst svar på følgende utsagn på en skala av enighet, hvor 1= Helt uenig, 2= Uenig, 3= Litt uenig, 4= Verken enig eller uenig, 5= Litt enig, 6= Enig, 7= Helt enig.

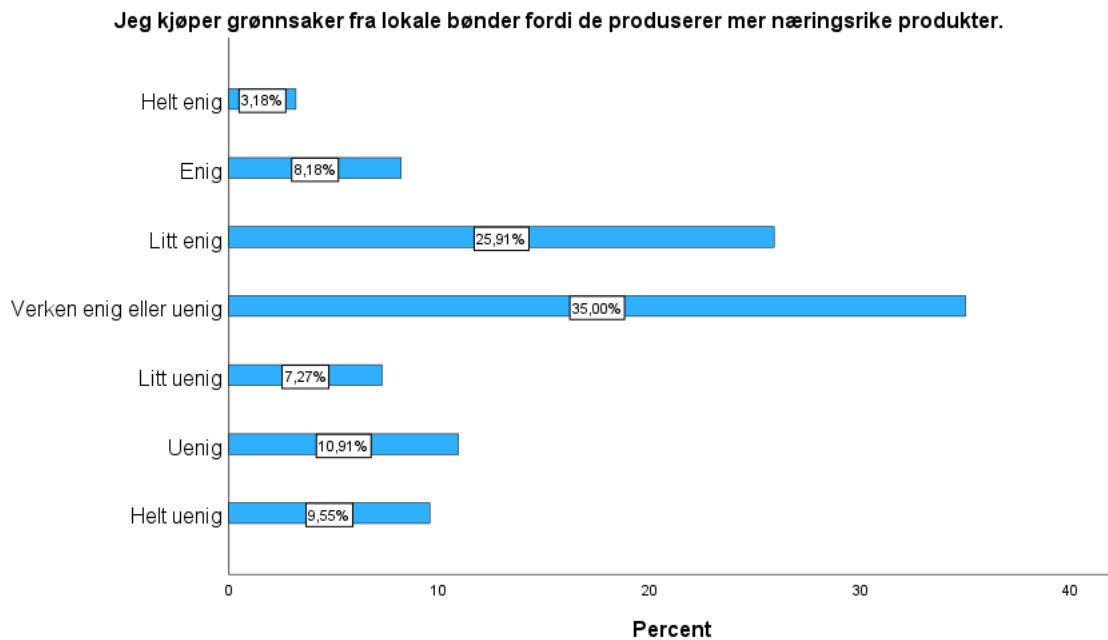
Antall svar: 220      Snitt: 4.55      Median: 5



Antall svar: 220      Snitt: 4.23      Median: 4



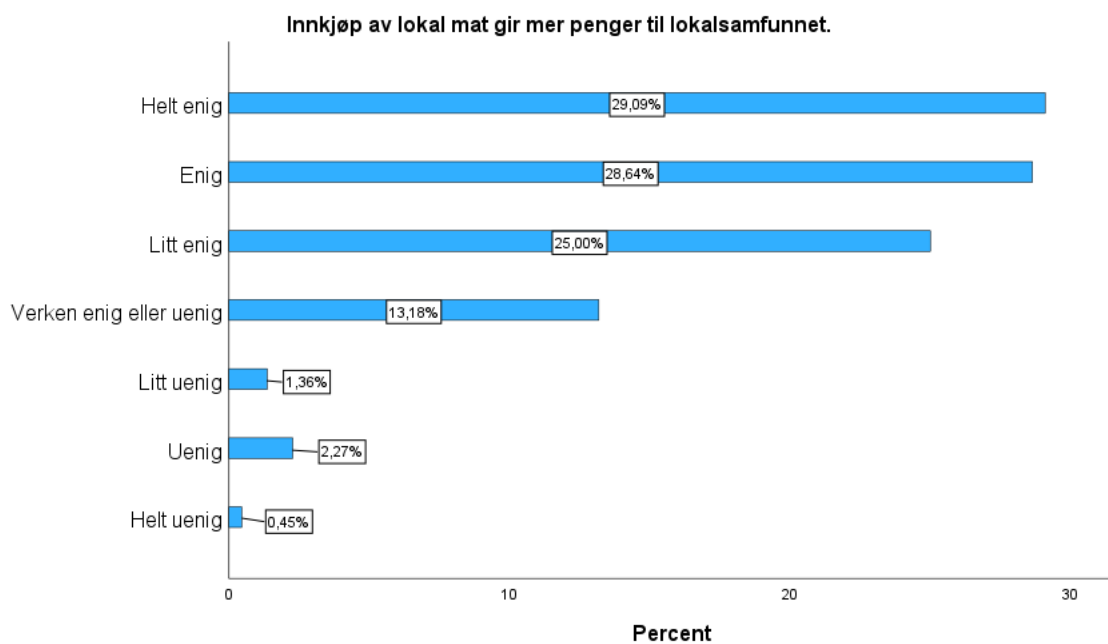
Antall svar: 220      Snitt: 3.94      Median 4



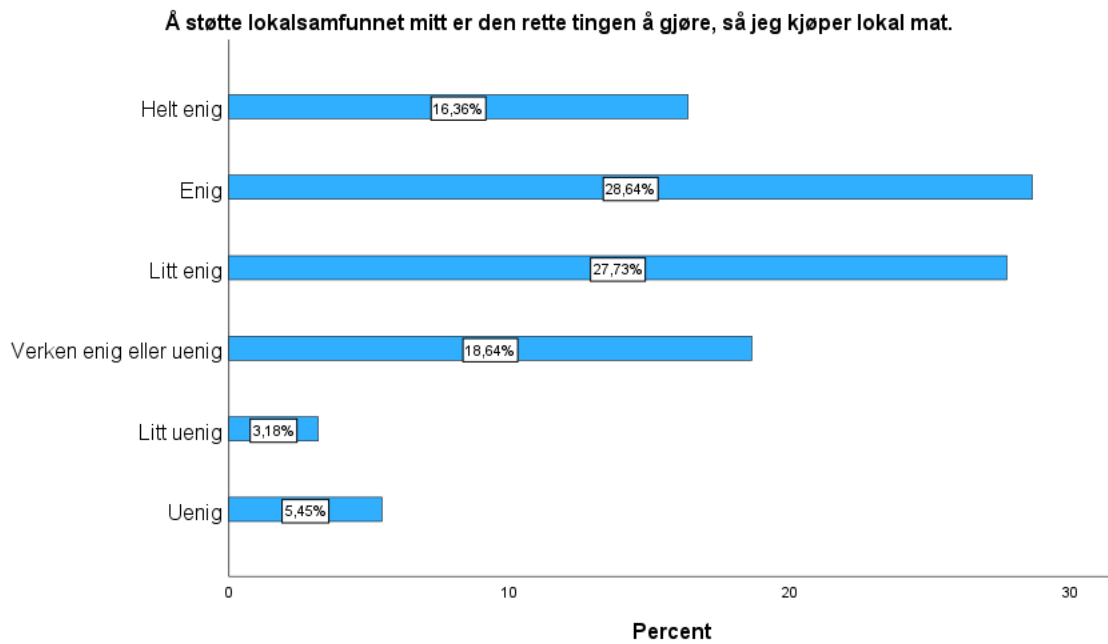
### Spørsmål 5:

Når du tenker på lokalsamfunn, vennligst svar på følgende utsagn på en skala av enighet, hvor 1= Helt uenig, 2= Uenig, 3= Litt uenig, 4= Verken enig eller uenig, 5= Litt enig, 6= Enig, 7= Helt enig.

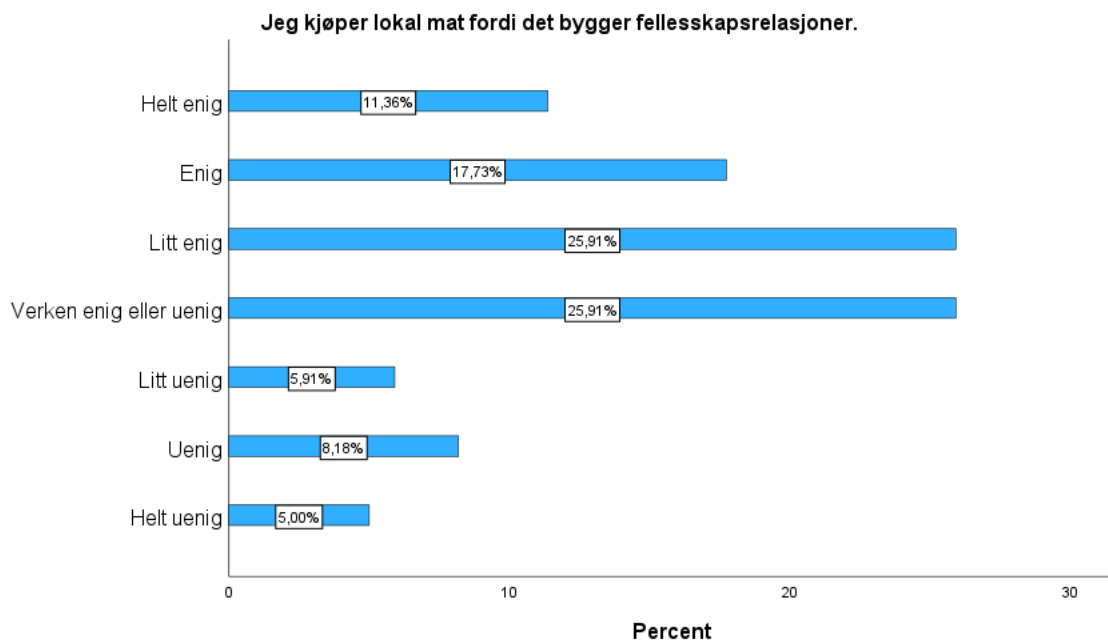
Antall svar: 220      Snitt: 5.62      Median: 6



Antall svar: 220      Snitt: 5.20      Median: 5



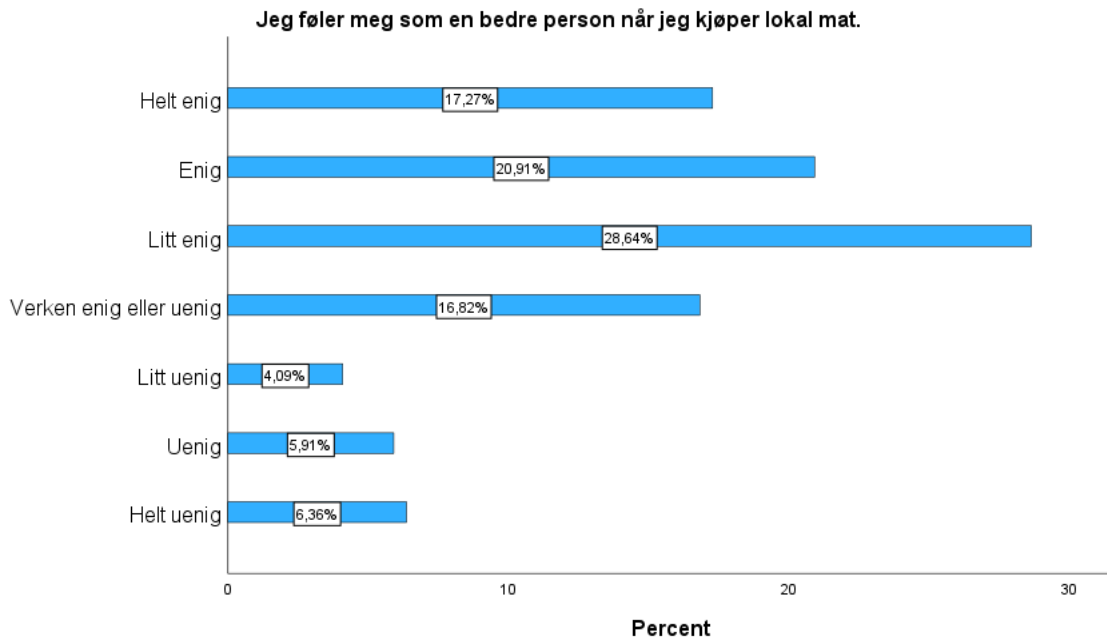
Antall svar: 220      Snitt: 4.58      Median: 5



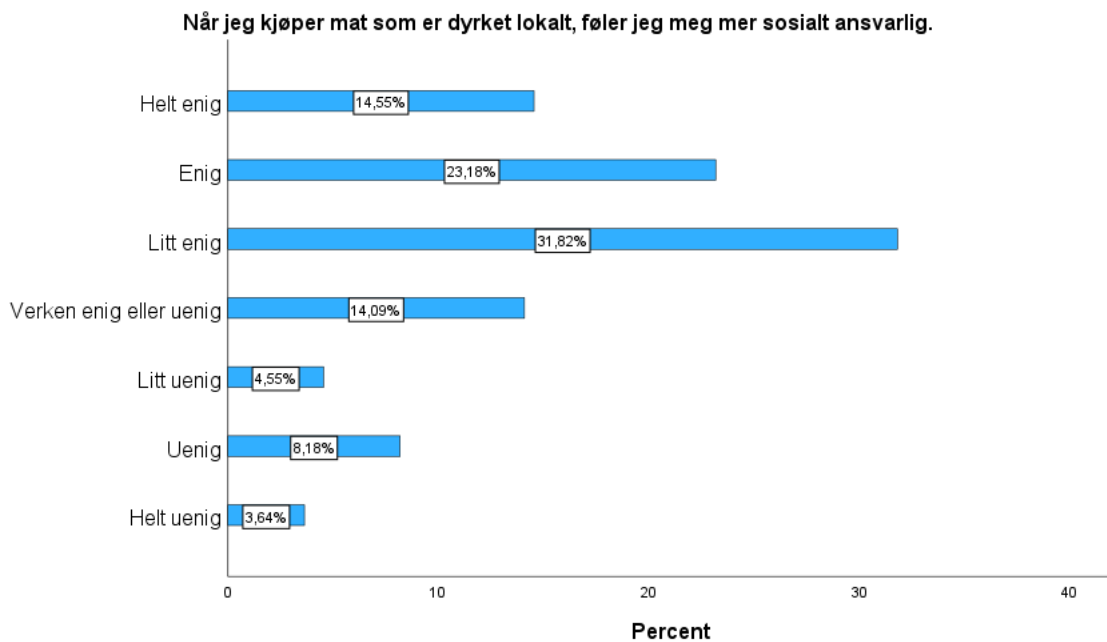
### Spørsmål 6:

Når du tenker på samfunnsansvar, vennligst svar på følgende utsagn på en skala av enighet, hvor 1= Helt uenig, 2= Uenig, 3= Litt uenig, 4= Verken enig eller uenig, 5= Litt enig, 6= Enig, 7= Helt enig.

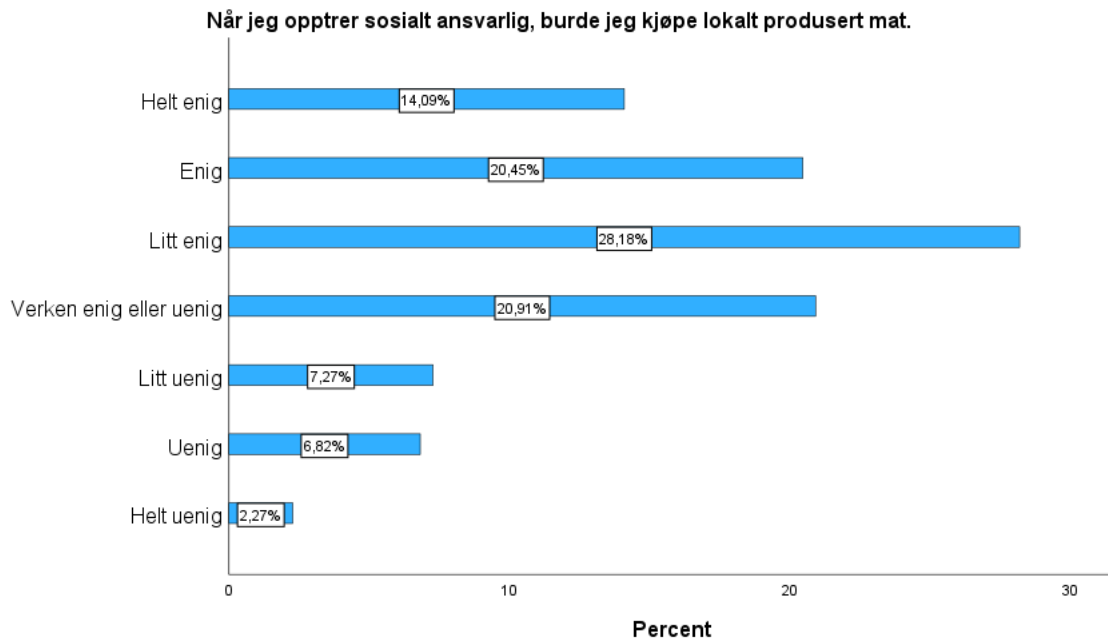
Antall svar: 220      Snitt: 4.87      Median: 5



Antall svar: 220      Snitt: 4.90      Median: 5



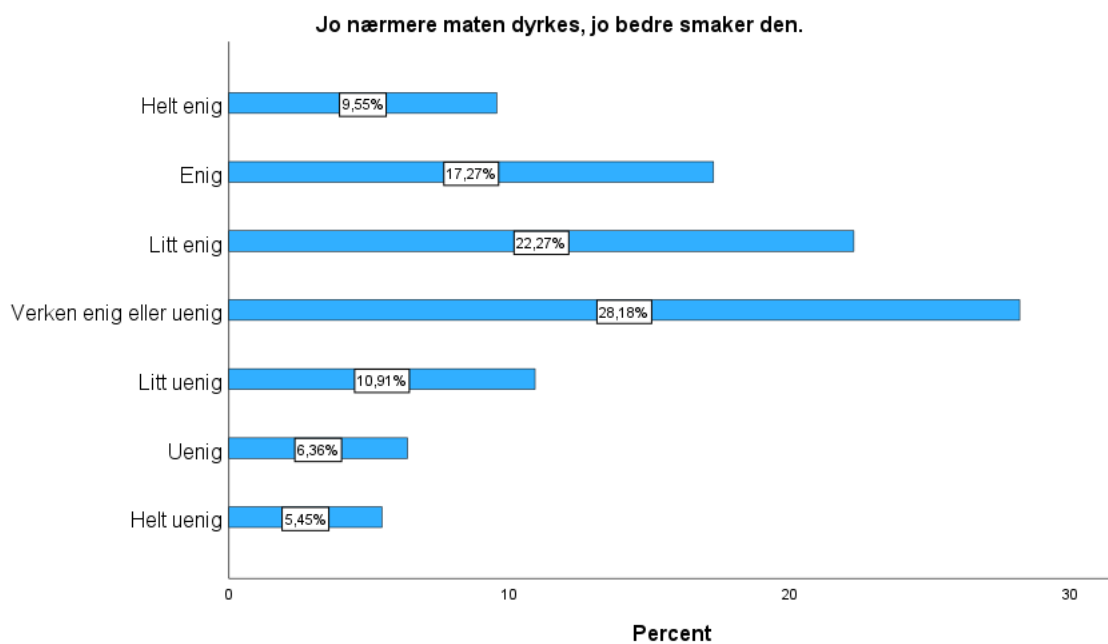
Antall svar: 220      Snitt: 4.84      Median: 5



### Spørsmål 7:

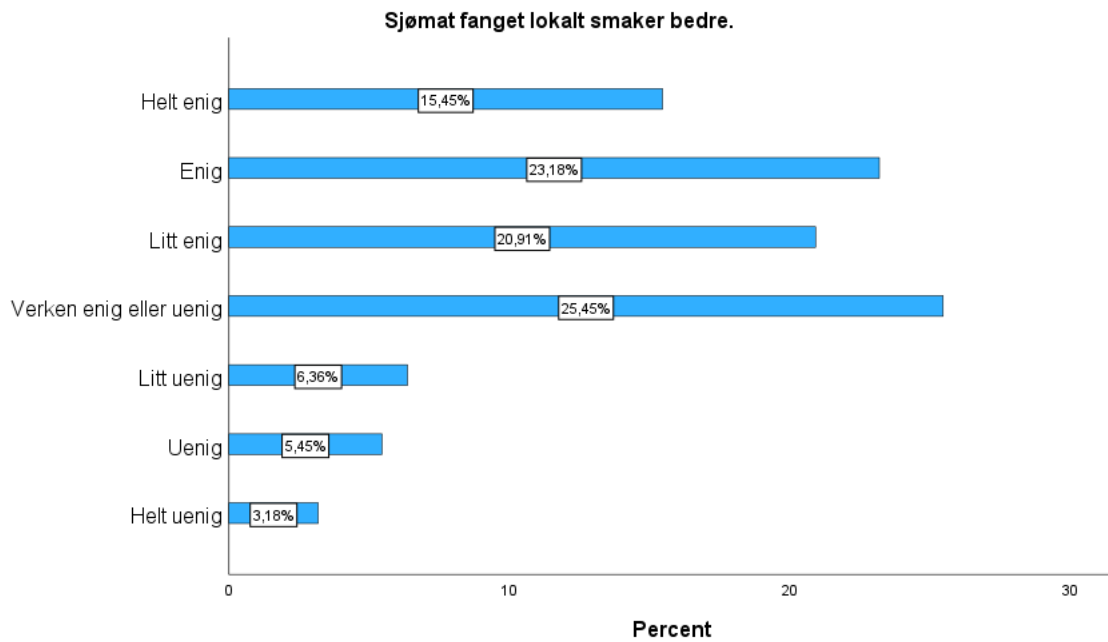
Når du tenker på smak, vennligst svar på følgende utsagn på en skala av enighet, hvor 1= Helt uenig, 2= Uenig, 3= Litt uenig, 4= Verken enig eller uenig, 5= Litt enig, 6= Enig, 7= Helt enig.

Antall svar: 220      Snitt: 4.45      Median 4

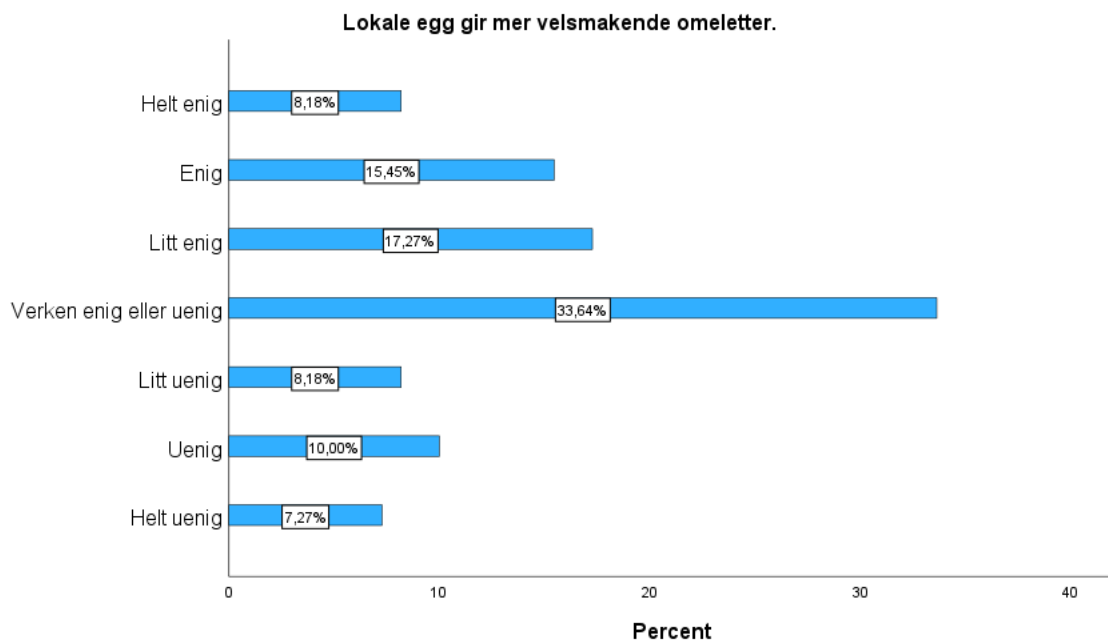




Antall svar: 220    Snitt: 4.87    Median: 5



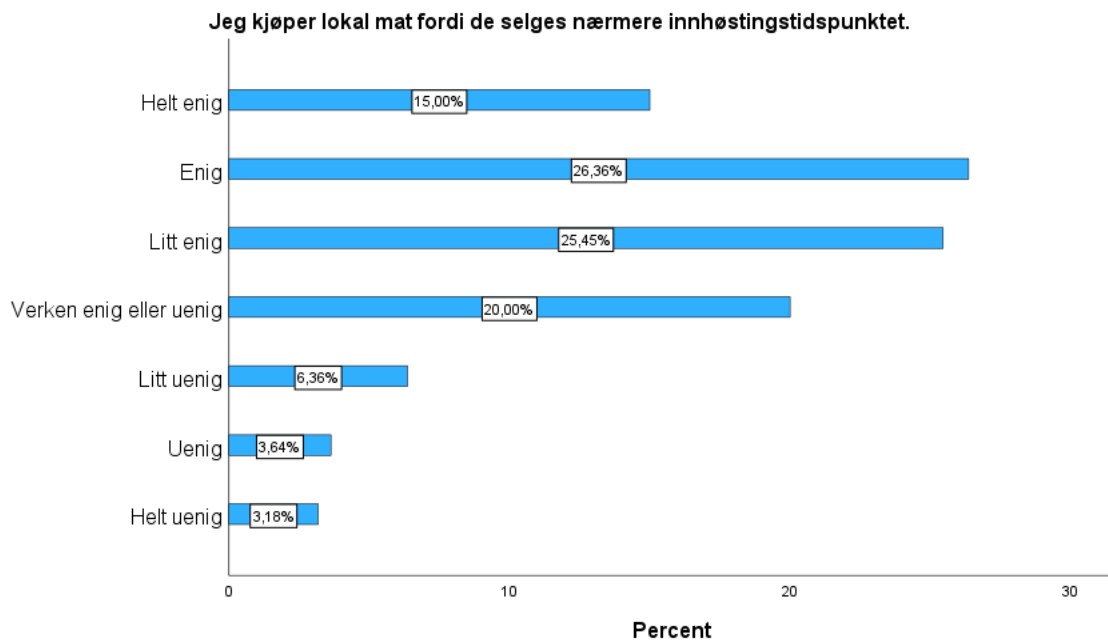
Antall svar: 220    Snitt: 4.23    Median: 4



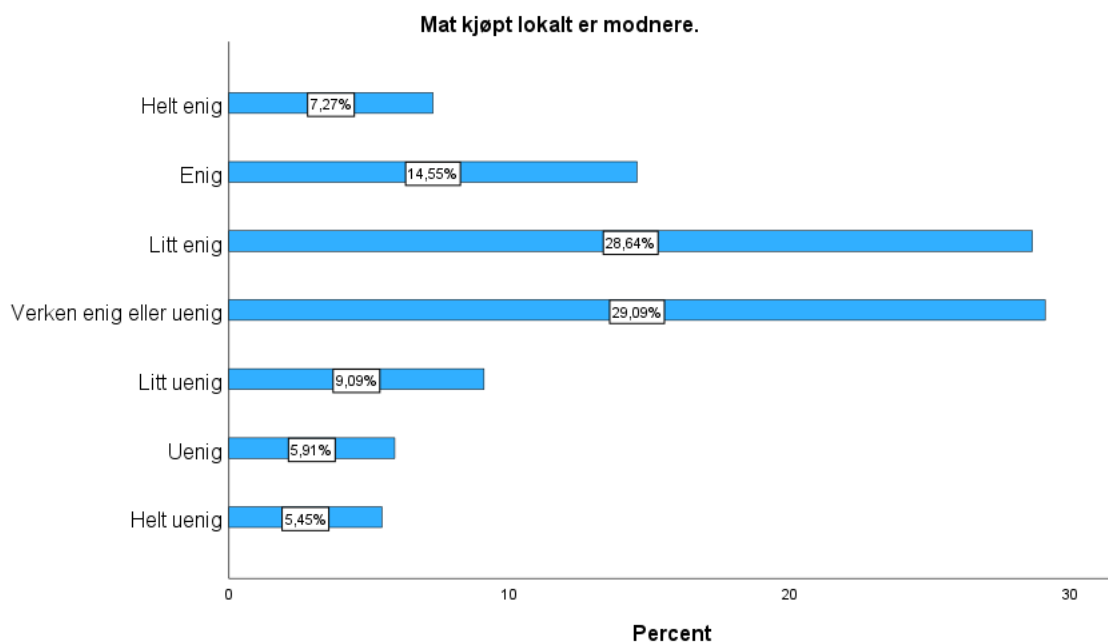
### Spørsmål 8:

Når du tenker på friskhet, vennligst svar på følgende utsagn på en skala av enighet, hvor 1= Helt uenig, 2= Uenig, 3= Litt uenig, 4= Verken enig eller uenig, 5= Litt enig, 6= Enig, 7= Helt enig.

Antall svar: 220      Snitt: 5      Median: 5



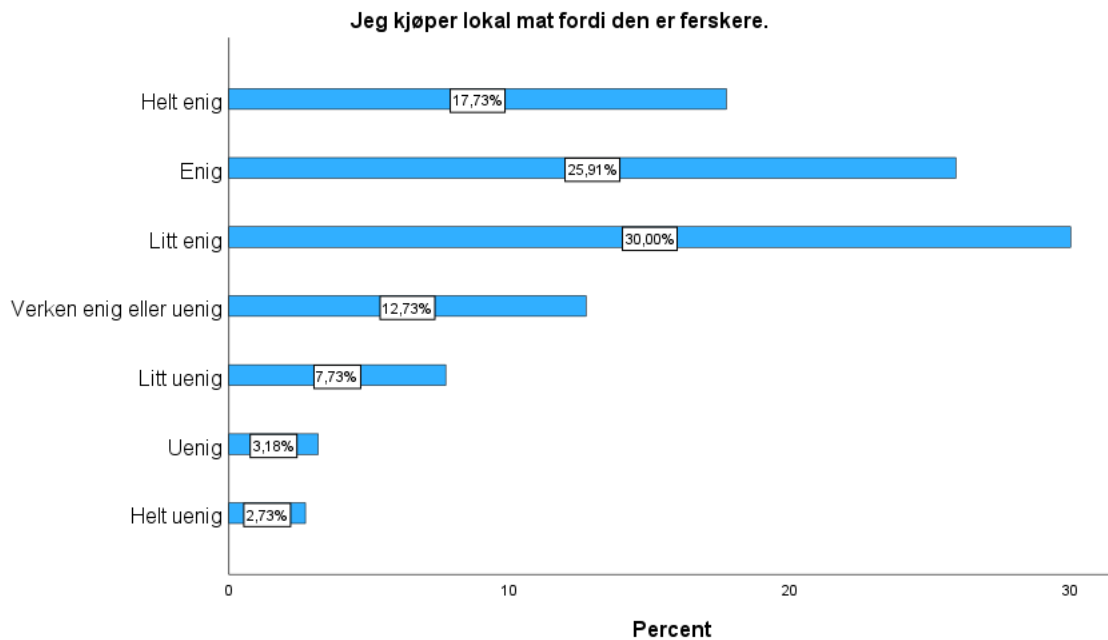
Antall svar: 220      Snitt: 4.42      Median: 5



Antall svar: 220

Snitt: 5.13

Median: 5



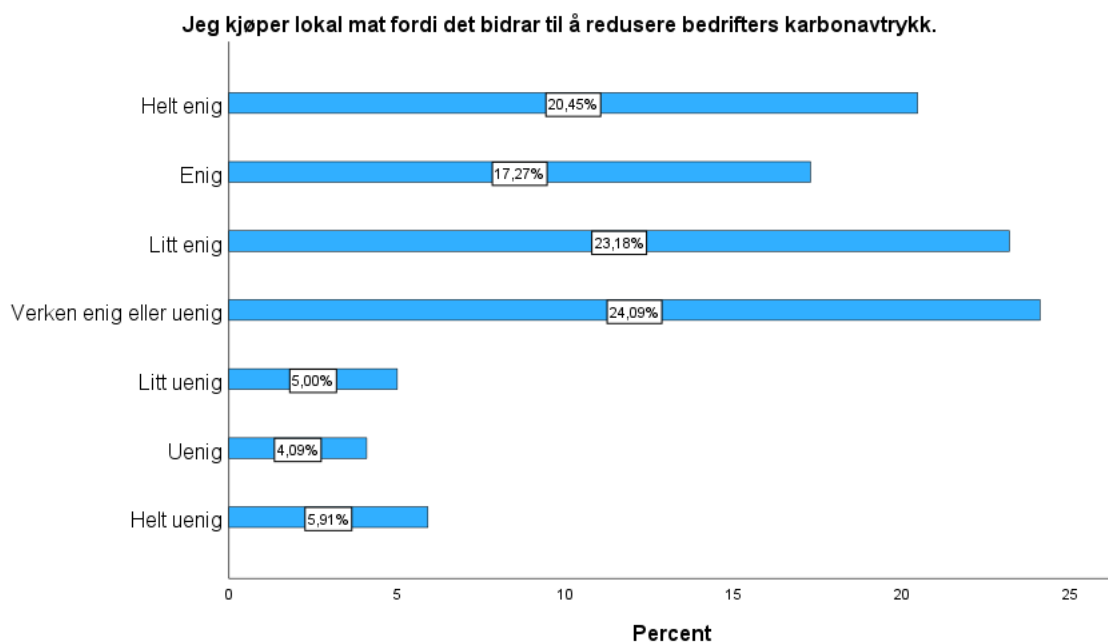
### Spørsmål 9:

Når du tenker på miljø, vennligst svar på følgende utsagn på en skala av enighet, hvor 1= Helt uenig, 2= Uenig, 3= Litt uenig, 4= Verken enig eller uenig, 5= Litt enig, 6= Enig, 7= Helt enig.

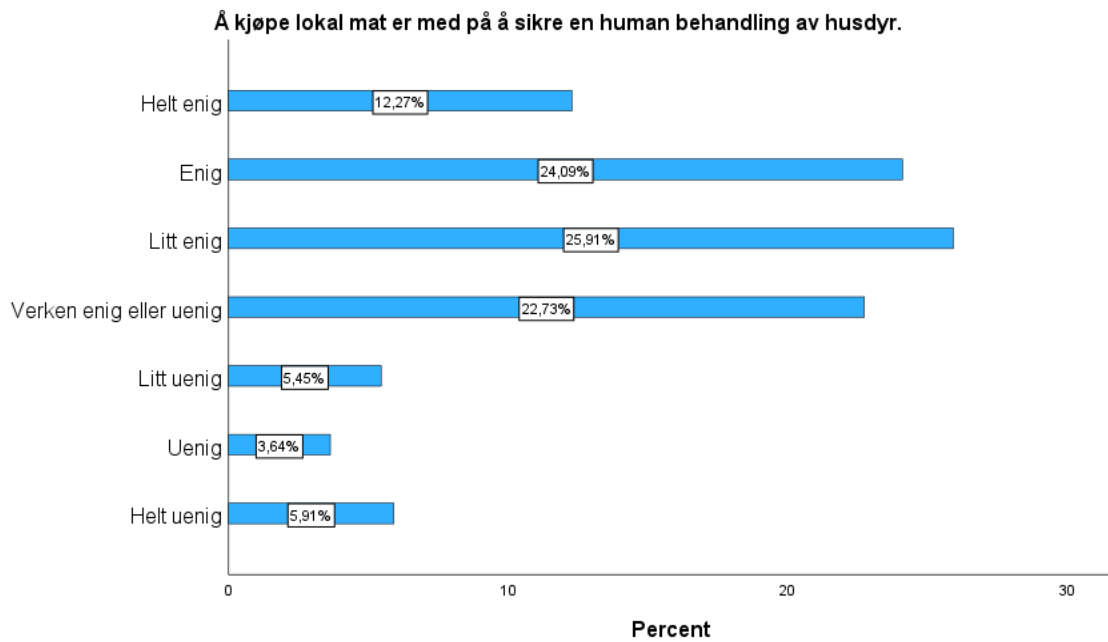
Antall svar: 220

Snitt: 4.88

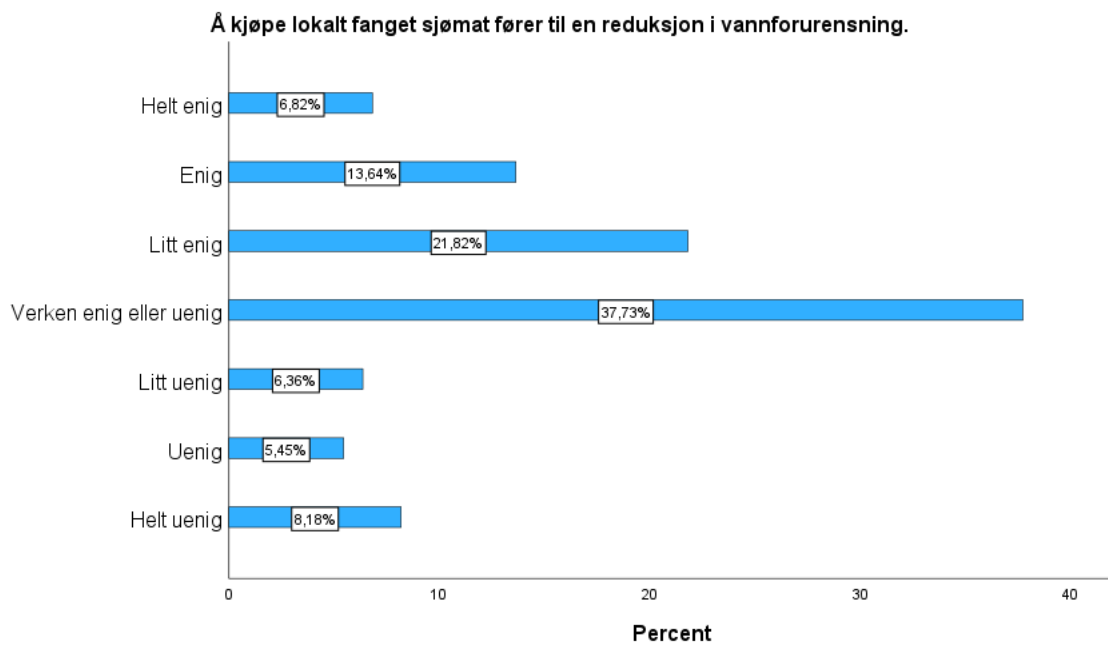
Median: 5



Antall svar: 220      Snitt: 4.8      Median: 5



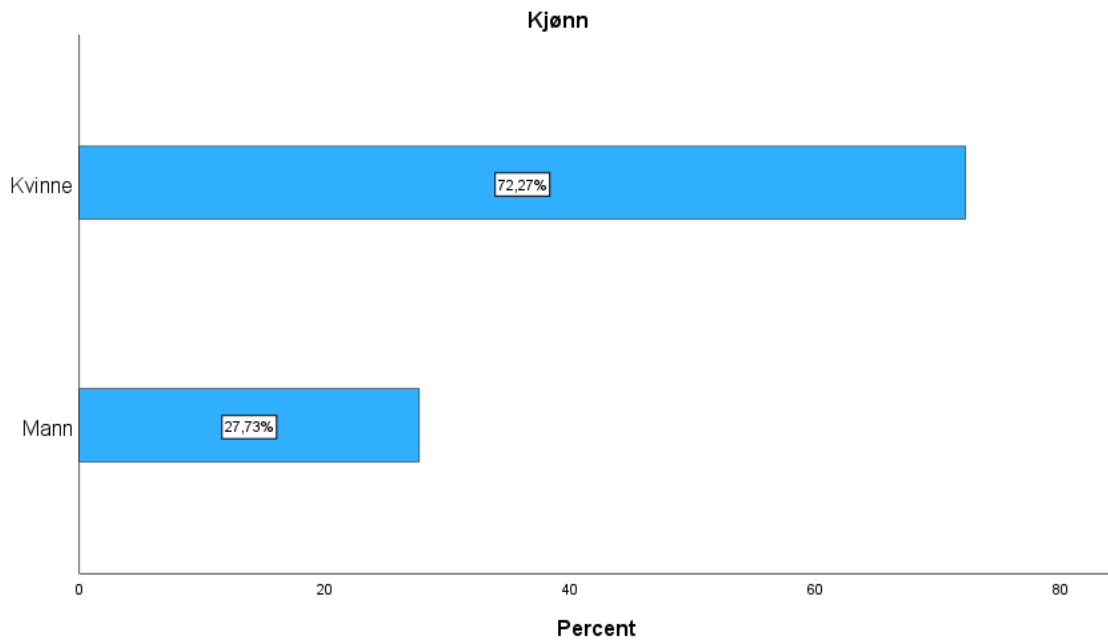
Antall svar: 220      Snitt: 4.28      Median: 4



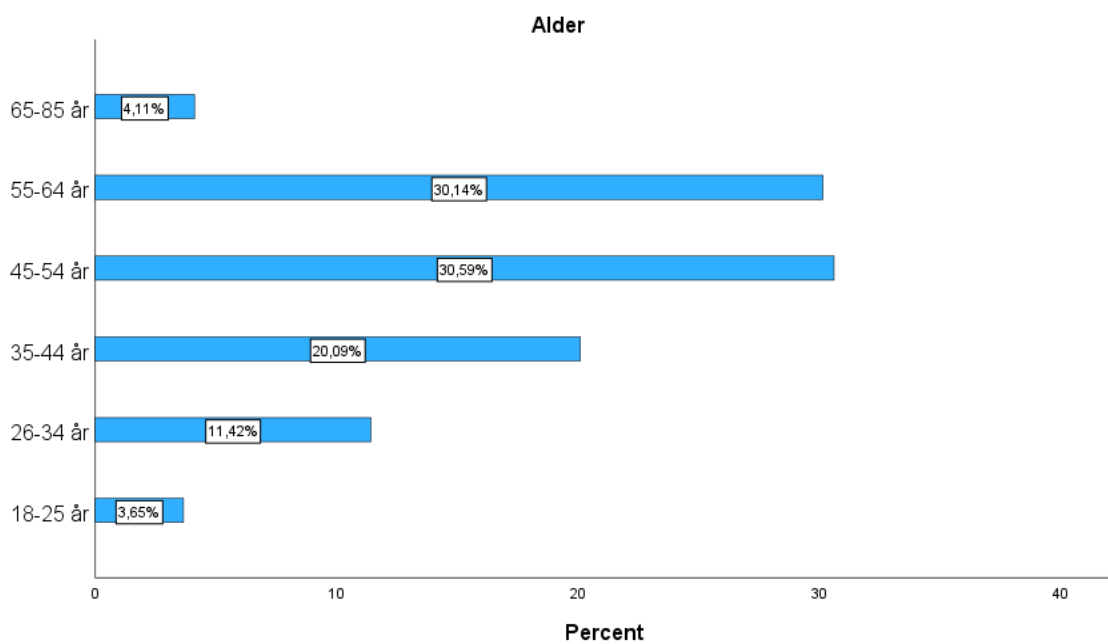
### Seksjon 3: Demografi

Følgende spørsmål spør om din demografiske bakgrunn. Informasjonen du oppgir vil ikke være knyttet til deg på noen måte. I stedet vil svarene dine bli kombinert med svarene fra alle andre besøkende som svarer.

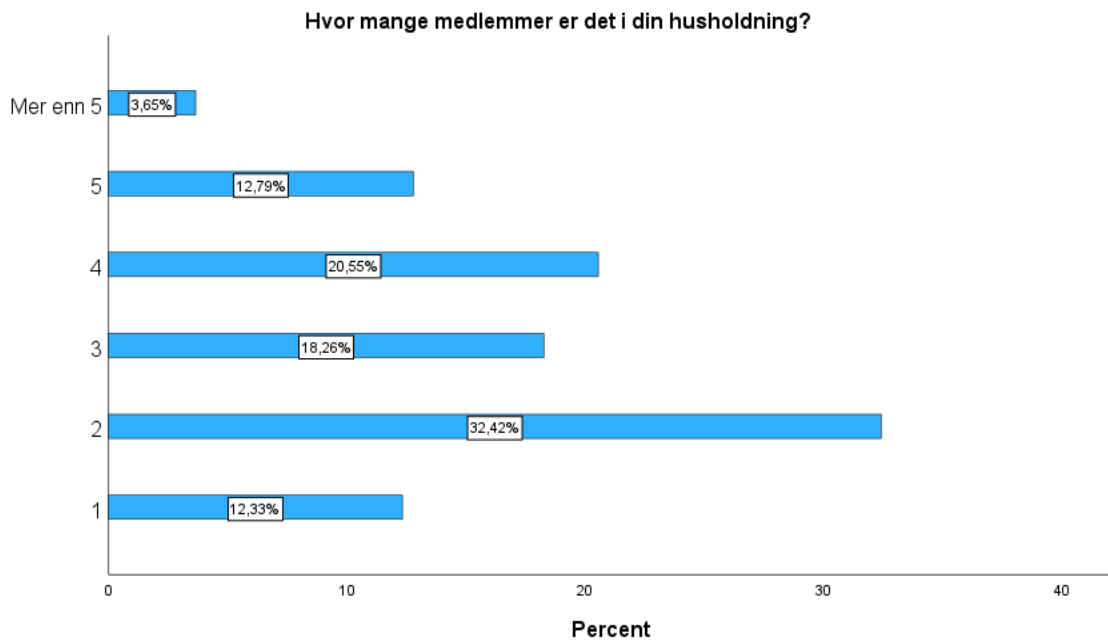
Antall svar: 220



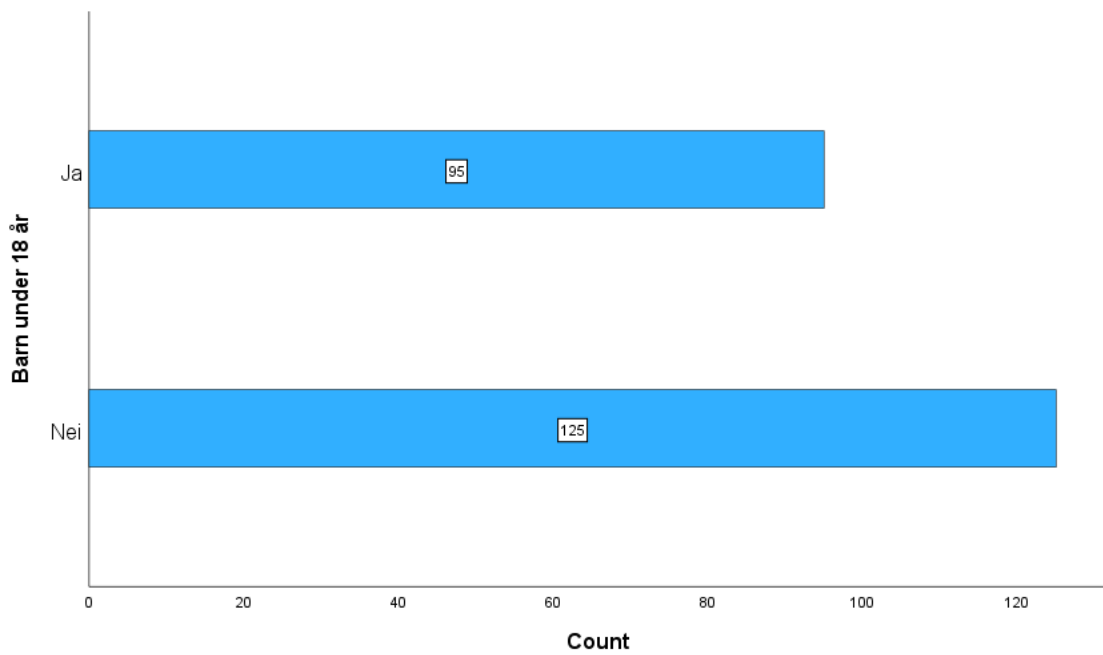
Antall svar: 220



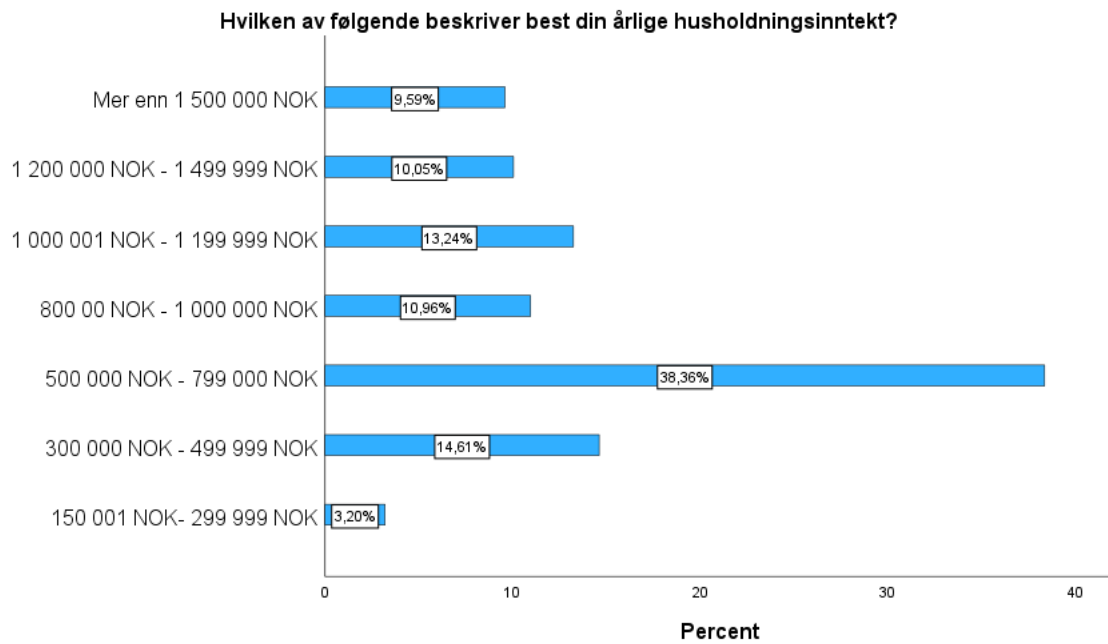
Antall svar: 219



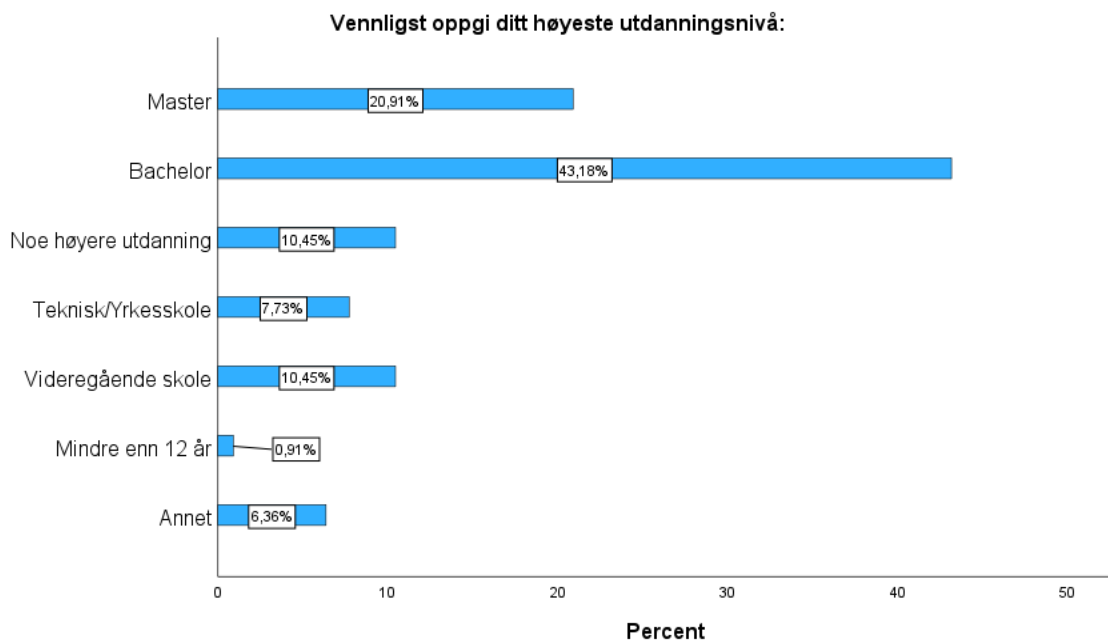
Antall svar: 218



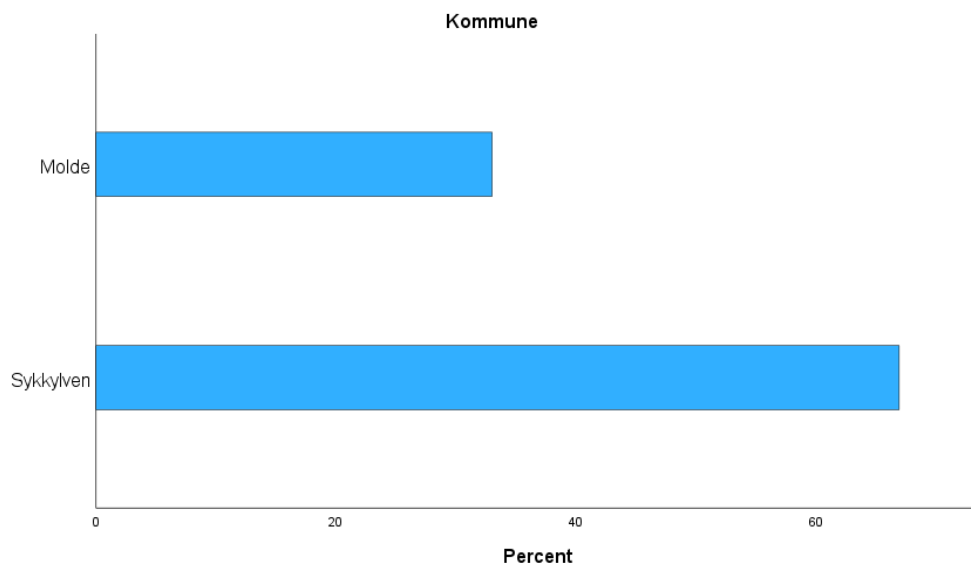
Antall svar: 219



Antall svar: 220



Antall svar: 220





## Appendix 2: Demographic statistics

