

This meal is presented by:

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Relationship between service quality and  
tipping in Norway:

Do perceived service quality and other  
factors have a relationship with tip size in  
Norwegian restaurants?



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i Stavanger

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Relationship between service quality and tipping in Norway:

Do perceived service quality and other factors have a relationship with tip size in Norwegian  
restaurants?

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Running Head: SERVICE QUALITY AND TIPPING

Relationship between service quality and tipping in Norway:

Do perceived service quality and other factors have a relationship with tip size in  
Norwegian restaurants?

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### **Abstract**

This research paper focuses on the service quality and tipping relationship. It goes on examining how this relationship is in Norway and tries to find other factors that could have an effect on tipping. The method applied was to collect quantitative data from customers that had just finished their dining experience and had paid their bill and tip.

The main factors that were investigated on the customer level was perceived service quality, food quality, server attractiveness, group size and alcohol consumption and their effect on tip percent. The server self-rated quality was also investigated to see if it had any relationship with the tip percent.

Findings indicate that there is a relationship between service quality and tip percent but that this relationship is weak. There is also a relationship found between the factors server attractiveness, group size, patronage frequency and server self-rated service quality with tip percent. The implications of these and other findings are discussed.

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## Introduction

### Empirical and Theoretical Overview and Positioning

The phenomenon of tipping is present in Norway and it is discussed in Norwegian media from time to time, where some think it should only be done when the service is beyond expected and others say it is a part of the wage structure in the restaurant business (Baltzrud, 2002; Horne, 2011; Nordli, 2011). Disagreement on how to tip may occur when paying the bill resulting in a degrading of the customer vs. staff relationship of the meal experience (Hansen, Jensen, & Gustafsson, 2005, p. 143). It is interesting since it is voluntary to tip and since it is given after the service as a reward, rather than an incentive before the service.

The compensation of employees for their work is up to the organization to decide. But in certain positions in service organizations consumers choose to tip the employees directly as a reward for the service provided. This tipping varies over the world and the occupations tipped are many, and this also varies across the world (Lynn, 1997; Star, 1988 as cited in Lynn, Kwortnik, & Sturman, 2011; Lynn, Zinkhan, & Harris, 1993). According to Parrett (2003) the US the weighted average (weighted by the tip size) is 18,8 % in the food and beverage industry (as cited in Azar, 2009). The estimated annual tips in the US is \$41,8 billion in the industry (Azar, 2009). I have not been able to find any empirical studies exploring the tip sizes or amounts in Norway. In a report by Statistics Norway (Fløttum, 2010) it is said that:

Only in exceptional circumstances are tips given, and they tend to be small after all.

Two areas often mentioned are **restaurants and taxis**. In the restaurants industry, studies have been conducted... [and] a conclusion was drawn that tipping in Norwegian restaurants could not be very extensive (p. 41).

Tax authorities estimate a 3 % addition for tips to servers registered wages that do not report tips and that tips in restaurants are estimated to 0.1 billion NOK in 2001 (Fløttum, 2010, p. 397). However an online search gives us some tips from scandinavian tour guides indicating that tipping around 10 % is a nice gesture and that it is normal to tip by rounding up the bill (Mapes, 2011; Steves, 2011) if there is now service charges (Magellan's, 2011).

According to Lynn & Graves (1996) restaurant tips are supposed to be an incentive/reward for service (as cited in Lynn, 2003) and should and do increase with customers' perceptions of service quality (Azar, 2009; Lynn & McCall, 2000). Studies done in the U.S do however only find that service has a weak effect on tipping (Lynn, 2003; Lynn & McCall, 2000). Other studies find that there is a small difference with tipping size and the service-tipping relationship between the U.S. and Canada (Bodvarsson & Gibson, 1999) and the U.S. and Israel (Azar, 2010). In these studies the Canadian and Israeli results indicate that their tipping is more sensitive to service quality. Compared to Norway tipping is more prevalent in the U.S, Canada and Israel, and scores differently on most of the index scores in Hofstede Cultural Dimensions with Israel and on masculinity index with all the mention countries (Lynn, et al., 1993).

Despite that there is only found a weak relationship between customer service rating and tipping, Lynn, et al. (2011) found that most servers perceive that there is a moderate-to-strong relationship between the service they provide and the tip they receive in return. This also supported by a previous finding by Kwortnik, Lynn, and Ross (2009) (as cited in Lynn, et al., 2011)

**Purpose of this study and model**

Doing research on the relationship between tipping and service will contribute to science as no studies can be found that has looked on this relationship in a Norwegian context. It will also provide information on how prevalent tipping is in Norway and give us average tip percentages. The review done has shown that tipping is present in Norway but by doing research will also be possible to see if service is rewarded differently in a country where tipping is not as common as in the countries where previous research has been done. Would it be that the service-tipping relationship is stronger in Norway and therefore more important for servers to provide better service if they want to increase tips, and for management to use tipping as a way to motivate servers? Studies have also tried to find moderators of the service - tipping relationship. These includes customer patronage frequency and day of the week, server friendliness, payment method and server and customer sex (Lynn, 2006). I will try to find if some of these variables also plays a role in the service-tipping relationship in the Norwegian context and if I find different results than in previous studies.

## **Review and Theoretical Frame of Reference**

### **History of Tipping**

According to Azar (2004) tipping has been present since the Roman era, and at the days of feudal lords the lords gave beggars coins to ensure safe passage. It is although argued if this should be considered as tipping. Tipping the way we know it today is thought to have its origin in England as customers in coffee houses could drop coins in boxes labeled T.I.P. (To Insure Promtness) in the sixteenth century. (Brenner (2001) & Frankel (1990) as cited in Azar (2004)).

In the sixteenth century visitors to private homes were also expected to give money to the hosts servants if they were given service beyond their usual duties (Segrave (1998) as cited in Azar (2004)). This sum of money was called vails and over the years and by 1760 it developed into something that the servants expected to receive from every guest. People sometimes avoided visiting friends because of the cost of the vails. Although attempts to abolish vails happened, successful in some areas, this was still a common practice in England into the beginning of the twentieth century (Segrave (1998) as cited in Azar (2004)).

By 1795 tipping was also common in hotels in England and it had spread through Europe. In the late 1890s it had also become a practice in the United States as Americans that had traveled in Europe wanted to show that they had been abroad and familiar with European customs. At this time the average tip in the United States was 10% of the bill and they were also paid well. In Europe the average tip in restaurants was 5% of the bill. This later started to change and employers in the United States started cutting wages and even charged the servers for the opportunity to work and earn tips at fancy expensive restaurants. This also happened at popular restaurants in France and in many cases servers

in Europe received no wage and relied on tips. (Schein et al. (1984) as cited in Azar (2004))

In Norway tip from guests were the only pay the servers received , except for benefits of free room and board up until 1924 (Berntsen, 2010, pp. 16-18; Johannesen, 2006). In 1924 it was decided through union negotiations to add a 10% service charge to restaurant bills and tipping above this was abolished in the agreement (Berntsen, 2010, pp. 19-20; Johannesen, 2006). As this was a part of the collective agreement and not a government law this practice of denying servers to receive tips above the 10% service charge went away over the years according to Clas Delph in the Norwegian Hotel and Restaurant Association (Johannesen, 2006). This despite the immediate focus the restaurant owners had on this right after it was introduced (Berntsen, 2010, p. 20). Currently no service charge is put on top of the menu prices in Norway, and the guests are therefore only required to pay the amount of the bill.

This is also similar to how it was in the United States at the beginning of the 1900s. Scott (1916) says that: “The State of Washington adopted a law prohibiting tipping, but it was so generally ignored that the Legislature of 1913 repealed it (p. 122)”. Laws were also introduced in numerous other states but they were also repealed between 1913 and 1926 (Azar, 2004, p. 758; Scott, 1916, pp. 122-143).

### **Service Quality**

The perceived service quality comes from the expected service and the perceived service (Parasuraman, Zeithaml, & Berry, 1985, 1988). Service Quality is the result of customers evaluations of the service encounter is prevalent in the literature (Cronin and Taylor, 1992; Parasuraman et al., 1985 as cited by Carrillat, Jaramillo, & Mulki, 2007). One model for service quality is SERVQUAL developed by Parasuraman et al. (1988).

This measure developed by Parasuraman et al. (1988) consists of 22 items measuring five dimensions that contribute to the perceived service quality and the five dimensions are:

- Tangibles: Physical facilities, equipment, and appearance of personnel.
- Reliability: Ability to perform the promised service dependably and accurately.
- Responsiveness: Willingness to help customers and provide prompt Service.
- Assurance: Knowledge and courtesy of employees and their ability to inspire trust and confidence
- Empathy: Caring, individualized attention the firm provides its Customers. (p. 23)

The definition of service quality is defined by Parasuraman, et al. (1988) "...as the discrepancy between consumers' perceptions of services offered by a particular firm and their expectations about firms offering such services" (p. 14). The perceived service quality is therefore dependent on any difference between the expected service and the perceived service.

In a study of tipping in restaurants, McCarty, Shrum, Conrad-Katz, & Kanne (1990) finds that servers define service quality as fulfilling the needs of the customers, but also the personal interactions between the table and the server like making them feel comfortable and entertain them. In a study in Norwegian context Hansen et al. (2005) finds that in the customer vs. server interaction trust, attention and complaint handling were important factors for how customers viewed the service meeting and how satisfied they were. According to Hansen, Jensen, & Gustafsson (2004, p. 90) servers who, when requested to deliver individual bills, could remember what each customer had ordered could result in

positive reactions among the customers. This was a study in Norwegian context and, as this was something the customers did not experience often, this could also result in applause (Hansen, et al., 2004, p. 90).

In this research it is the perceived service quality that is going to be the measure for service quality.

## **Tipping**

Tips are a voluntary sum of money that consumers leave for workers in the service industry that have served the consumer (Lynn, Jabbour, & Kim, 2012; Lynn & McCall, 2000). The reasons for why people tip have been addressed in several studies and have been done both empirically and theoretically (Azar, 2004). In the study of servers in the restaurant business it is found that they believe the tip is a function of aspects of the customer, perceptions of service quality and situational factors (McCarty, et al., 1990). McCarty et al. (1990) finds that situational factors could be the number of people at the table or who is present with the one paying as the tip could be to impress someone. The number of people at the table is supported by Conlin, Lynn, & O'Donoghue (2003). Desire to reward good service, help servers, and gain social approval or status are psychological motivations that could explain tipping (Lynn, 2006; Saunders & Lynn, 2010 as cited in Lynn, et al., 2012). Lynn, et al. (2012) finds that tips increase more strongly with service the larger the bill size.

Customers are thought to think of tip as a percentage of the bill (Mills and Riehle, 1987 as cited in Parret, 2011) and that 70% calculate the tips based on a percentage of the check (Mills and Riehle, 1987 as cited in Conlin, et al., 2003). No research has been found, while doing this study, addressing this in Norway. Conlin, et al. (2003) found average tips to be 17,5%, Parret (2011) found it to be 19,1% and Azar (2010) found it to be 16,4%.

Internationally it has been found to be 15,6 (Maynard & Mupandawana, 2009) in Canada and 12,8% in Israel (Azar, 2010).

### **Service and Tipping Relationship**

I have looked into current studies of service and tipping and found many different approaches to the phenomenon. The idea that people tip as a reward for good service is consistent with equity theory (Adams, 1965; Walster, Berscheid & Walster, 1973 as cited in Lynn & McCall, 2000). The inputs and outcomes in exchange relationships between servers and customers are services and tips, and if receiving better service, customers should tip more to maintain equity in their relationships (Lynn & Grassmann, 1990; Lynn and Graves, 1996; Snyder, 1976 as cited in Lynn & McCall, 2000 ). So, according to Lynn & McCall (2000), if the motivation for tipping is the desire to reward good service, higher customer service ratings should be associated with with larger tips. According to Lynn & McCall (2000) reports from costumers that they reward good service with a tip should be regarded with skepticism. The fact that people are poor at indentifying the causes of their own behaviour have been demonstrated by researchers (Nesbitt & Wilson, 1977 as cited in Lynn & McCall, 2000). Studies on the service and tipping relationship have therefore had a design to measure the customers perception of the service quality in relation to the tip given for the service. In a meta-analysis Lynn & McCall (2000) find that this has been done by interviewing customers with a survey as they exit restaurants or having servers or other observers provide data on the service or dining experience.

The customer perceptions of service quality are only weakly related to tip percentages in studies where interviews have been done as the customer leaves the restaurant (Lynn, 2003; Lynn & McCall, 2000) but these studies are done in the United States and as mentioned the culture and tipping habits might be different in Norway.

However from an economic perspective and surveys done by asking respondents how they would tip under various thought service quality it has been found that people tip more for excellent/very good service then for poor service (Azar, 2010; Bodvarsson & Gibson, 1999).

Researchers have also tried to find moderators of the service and tipping relationship and found different things that a server can do to likely increase service (Lynn, 2005; Seiter & Weger, 2010; Strohmets, Rind, Fisher, & Lynn, 2002), but also other variables that could influence how people tip (Bodvarsson & Gibson, 1999; Lynn, 2003; Lynn, et al., 2012; Maynard & Mupandawana, 2009; Seiter & Weger, 2010). These effects will be described in more detail later.

### **Model and Hypotheses**

This leads to the purpose of this research. Based on the empirical problem and review I will try to find if there is a relationship between customer service rating and tip size in a Norwegian context:

Hypothesis 1 (H1): There is a positive relationship between customer service rating and tip size.

As mentioned servers do think there is a positive relationship with service quality and tipping, as they believe better service would, but not always, result in higher tips and that there is a medium to strong relationship. I will therefore also try to see if there is a relationship between the server service rating and tip size:

Hypothesis 2 (H2): There is a positive relationship between server service rating and tip size.

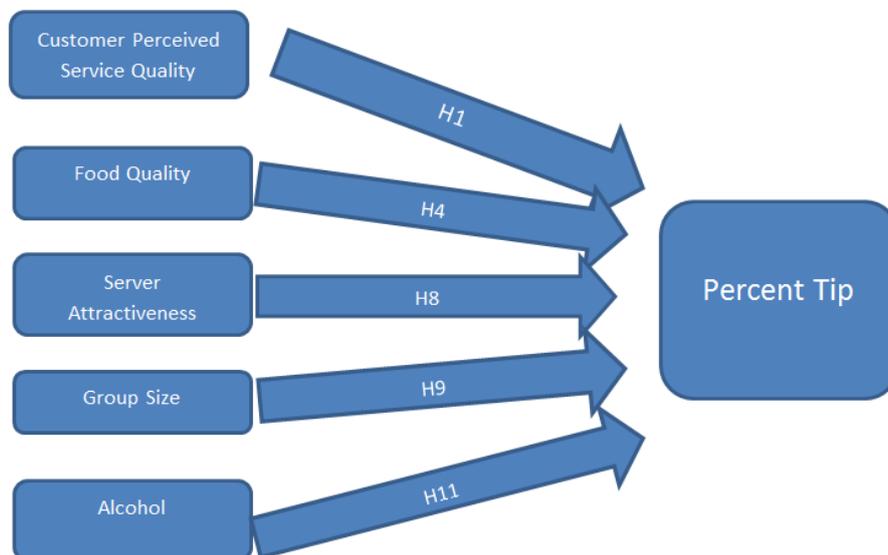
As mentioned studies has found that most servers think there is a medium to strong relationship. It would then also be possible to see if there is a high correlation between the server service rating and customer service rating:

Hypothesis 3 (H3): There is a positive correlation between customer service rating and server service rating.

I will further look into other variables that have an impact in other studies of service quality and tipping and describe their relationship to tipping in this study. These will be presented in the review together with additional hypotheses. I therefore propose two models to get a better overview and to make it easier to test the hypotheses.

Below Model 1 (Figure 1) of the customer variables relationship with tip percent and Model 2 of the server self-rated service quality relationship on tip percent are illustrated to get a better view of the models:

**Figure 1 Model 1**



**Figure 2 Model 2**



### *Validation of the model*

Relevant theory and findings are the basis of the conceptual model created here. A number of studies have been found that support the validity of this model and are presented here:

#### *Customer service quality vs. Customer tip*

Research on this relationship has resulted in positive correlations between customers perceived service quality and tip left by customers (Bodvarsson & Gibson, 1997; Lynn & Graves, 1996; Lynn & McCall, 2000) and positive relationship between these variables (Azar, 2010; Bodvarsson & Gibson, 1999; Conlin, et al., 2003; Lynn, et al., 2012; Parret, 2011)

#### *Server service rating vs. Customer tip*

Lynn (1988) do find a positive but non-significant correlation of .09. In another study the server service rating had to be discarded since the service was rated as excellent (5) on a 5 point scale for all cases, and therefore didn't show the variation (Sánchez, 2002). This was also the case in a study by Lynn & Graves (1996) where the server self-evaluation of service had to be dropped as too few were rated as poor service. The scale is not clearly stated and might have been just either poor or good service. The positive relationship between server service rating and tip size is also supported in another study where the servers rated their own service ability in general and not for every table (Lynn & Simons, 2000).

*Customer service rating vs. Server service rating*

No studies have been identified that look at this relationship in particular. However as servers have service experience and receives various feedback from customers during the meal there should be a positive relationship between these ratings.

*Other Variables*

Models in present research are many as different variables have been researched for predicting tip: Average sales, physical attractiveness, service ability, friendliness, self-monitoring, gender and service experience (Lynn & Simons, 2000); Bill, bill squared, time, dinner, alcohol, dessert, weekend, server sex, server race, food index, room index, service index ( $R^2=.87$ ) (Lynn, et al., 2012). Selected variables thought to be relevant in this study are presented later under review of relevant literature. These are food quality, bill size, payment method, age, customer sex, attractiveness, group size, patronage frequency and alcohol consumption.

**Planned Research Method and Data Collection**

The purpose of this study is to look at service quality and tip size and find the relationship between these variables. This research will also identify possible moderators of this relationship and the impact these may have on tip size. The research is planned to take place in Stavanger and Bergen in Norway. As mentioned no previous research has been found on these variables in Norway and as explained previously this is something that needs to be researched to gain knowledge of this phenomenon in Norway and how it relates to previous studies. To get reliable results it is important to collect data that measure the variables, moderators, and also collects demographic information. The level of analysis will primarily be the customers, but also the servers will be asked to provide data on the

service quality and tip size to check for H2 and H3. It will be a between-subjects study as multiple customers will be surveyed on a single dining occasion.

The variables will be observed and not manipulated and the research will take place in the form of hypothesis testing (Bordens & Abbot, 2005). The hypotheses are clearly stated and current study will find if these hypotheses appear in reality or if they have to be rejected if the relationships are not as expected. For the measures of service quality, food quality and attractiveness scaling will be used to turn data into numbers. This will capture the intensity, direction, level or potency of a variable along a continuum (Neuman, 2011, p. 226).

The design of the study is therefore descriptive, non-experimental and it will be done by surveying customers that exit the restaurant after enjoying a meal and drinks that paid the bill presented by the server. The survey instrument will be paper based and the participants will be given the questionnaire and asked to fill it out themselves to get more reliable responses but at the cost of receiving fewer completed surveys, similar to the method by Parret (2011). The selection of participants will be to ask all leaving customers between the hours of 5 p.m. until 10 pm. Similar studies collected data between the hours of 6 p.m. and 10 p.m. (Boyes, Mounts, & Sowell, 2004; Conlin, et al., 2003; Parret, 2011). The dining pattern might be different in Norway and the researcher expands this with one hour, hoping that this will give more respondents. The response rate in other studies using this method of data collection has received a response rate of 84% and 80% (Parret, 2011) and over 90% (Boyes, et al., 2004). I would however think that this would be lower in Norway, and therefore an incentive in the form of a gift certificate will be introduced as motivation to participate in the survey.

The restaurants will be selected based on being average Norwegian restaurants having above 100 seats, having an a la carte menu that contains smaller courses, starters,

entrees and dessert, be fully licensed to serve alcohol with at least two servers on the evening shift. To ensure this restaurant reviews available online will be studied as well as a visit from the author to those restaurants to see if the other criteria are met if information is not available online. As this research also involves the restaurant's permission and server participation the author will use his network to find restaurants that are likely to participate on both management and server level. This will ensure that the data collection to run smoother on risk of researcher bias on the restaurant selected. Restaurants participating will be ensured anonymity to ease the cooperation if necessary. The restaurant manager will be shown the full survey and explained the full intention of the research and asked not to inform the servers of anything about the survey instrument or research intentions and guide those questions to the researcher.

The research will be performed over three weeks from Thursday to Sunday. Leaving customers will be asked if they would like to fill out a short survey about their restaurant visit, not taking more than five minutes for a master thesis project at the University of Stavanger (UiS). By doing this they would participate in the drawing of two NOK 1000,- gift certificates. A paper explaining the research in more detail including contact details of researcher and email of supervisor at UiS will be available, to ensure cooperation, to those who need further confirmation on the credibility of the study. The participating customers will then be given a questionnaire with pen attached to a clipboard and asked to fill out the questionnaire. When done the participants will put the questionnaire in an envelope and drop it in a larger envelope that the surveyor is holding. Then the participant will be asked for e-mail or telephone number if he or she wants to participate in the drawing of the gift certificate.

The data from the servers will be collected by having them fill out bill size, tip size and their own evaluation of the service they provided to that same table after bill and tip is

collected. They will be asked to do this without thinking on the tip they received and will write it down on a post-it note, then fold it and put in a jar together with post-it notes from the other servers at work that day. This is a part of making it anonymous to the servers to get them to participate. Hellsaa (2009) found that Norwegian servers do not like to talk about their tip and therefore necessary precautions were needed to ensure cooperation. They will be guaranteed anonymity, as well as the restaurant will not be identified in the study. The servers will be introduced to the research and informed that the customers will be questioned about their perceptions of service quality and some other aspects of the visit. The servers will not be shown the full survey instrument to make sure they do not influence any of the variables.

By following the research method as described the researcher hope it will ensure satisfactory responses and response rate. The researcher also hopes that I will be able to connect the questionnaire data to the server data to be able to analyze the relationship between customer service rating and server service rating. This should be possible by finding the same bill and tip amounts on the customer surveys. This is the easiest way to ensure that servers feel that their ratings are anonymous while making it easy for them to quickly write it down, to make sure this part of the data collection get as many responses as possible.

This method will give the researcher the opportunity to calculate the relationship between the variables and add to previous research in other countries and cultures. This way it will also be comparable to the previous research and that is another advantage of the quantitative research design of this study.

**Limitations**

The generalizability of this study will be limited to the restaurants where the study is planned to take place. It might also be that results are comparable and that it may be generalizable to the population in the two cities where the study is planned to take place. Other limitations will be that the servers may impact the results as they know that the researcher is doing a study and interview the guests and therefore in some ways may change behavior and provide better service during the data collection.

### **Review of Former Empirical Studies**

Research on the service and tipping relationship have resulted in different results and looked into many different aspects of the service and tipping relationship, other than perceived service quality and tip size. A more detailed review of research will now be presented on the different variables.

### **Service Quality and Tipping**

Previous studies of the service-tipping relationship have found a relationship between service and tipping. Lynn & McCall (2000) found, in a meta-analysis of 13 studies in a total of 20 restaurants with a total of 2547 dining parties, that the "...relationship between tip sizes and service ratings were fairly consistent across restaurant and studies" (p. 209). They also get results that indicate a small, but reliable and positive relationship between service evaluations and tip sizes. They find a mean  $r = .11$  for the ratings on a single item scale, and mean  $r = .22$  for the multi item scale, meaning that at the most 5% of the variability of the tip sizes are explained. They do not find that patronage frequency does not moderate this relationship and that server favoritism on patrons is unlikely to have an effect on the tipping as the service-tipping relationship is not stronger among patrons. Also customer mood is found to be an unlikely explanation for the service-tipping relationship.

In the their article Lynn, et al. (2012) conclude that restaurant tips increase with perceived service quality and "...that this relationship was robust across meal type, day of week, sex and race of server as well as customers' alcohol consumption, education, income, race, worship frequency, and hospitality work experience" (p. 102).

In a study by Lynn & Simons (2000) they find that the service and tipping relationship may be stronger for dinner than lunch and for waiters than waitresses.

According to Lynn & Simons (2000) their results suggest that data sets containing combined lunch and dinner should separate out lunch if the goal is to examine the impact of server behavior or attributes on tips. They also find that the service quality effect on tipping to be .27, but this study was done at the server level of a self ranked service quality scale and not on the service encounter level.

Service and tipping relationship may also be stronger during weekdays than in weekends as Conlin, et al. (2003) find in their study of 39 restaurants in Houston, Texas. This study had 1393 observations of individuals that paid the bill as they exited restaurants between 6 and 10 pm.

Azar (2010) finds a high sensitivity of tips to service quality and suggests that the impact is larger than what it is previously considered to be, but as mentioned the method used are not interviews of customers as they leave the restaurant.

### **Food Quality**

Food Quality is found to have a positive correlation with service quality (mean  $r=0.40$ ) and with tip size (mean  $r=0.06$ ) and that service quality were more strongly related to tip size (mean  $r=0.14$ ) (Lynn & McCall, 2000). It is not known if this will be different in Norway, but it is likely that this will also be the case here if people tip according to the service they receive.

Hypothesis 4: Food Quality has a weaker positive correlation to tip size than service quality.

### **Tip Size**

The size of the tip are usually talked about as a percent figure of the bill size and as mentioned 70% of customers think of the tip given as a percentage of the bill (Mills and Riehle, 1987 as cited in Conlin, et al., 2003). In a studies of customers leaving restaurants

the average tip has been found to be 17,5% (Conlin, et al., 2003) and 19,1 % (Parret, 2011) and other studies have found it to be 19,5 (Sánchez, 2002) and 16,4 (Azar, 2010). Studies have found that tipping is present in Norway (Hansen, et al., 2005; Hellsaa, 2009), but no studies have been found during this research that indicate the tipping behavior or a percent figure in Norway. As mentioned it has been found to be 15,6 (median 14,3) (Maynard & Mupandawana, 2009) in Canada and 12,8% in Israel (Azar, 2010).

Online tipping guides indicate that it is customary to tip 10% in Norway, or by rounding up the bill (Magellan's; Mapes; Steves) and also newspaper articles indicating that 10% is the norm, give or take 5% if the service is good or bad (Nordli, 2011). As mentioned Statistics Norway (Fløttum, 2010) indicate however that tipping is not very widespread in Norway and is estimated to about 0,1 billion annually. This research will therefore provide a more accurate insight to the average tip in Norway and will present the average tip size that is found in this study.

### **Bill Size**

Bill size has been found to moderate the service and tipping relationship as tip increased more strongly with service the larger the bill size of the customer (Lynn, et al., 2012) and Conlin et al. (2003) find that percent tip decreases with bill size. It is also found that tipping is strongly and positively related to bill size and accounts for 50% of the variance in tip (Lynn, 1988). Based on this another hypothesis is made:

Hypothesis 5: Bill size is positively related to tip amount.

### **Payment Method**

According to Lynn et al. (1993) several studies have found that customers paying with credit cards leave larger tips than cash customers and that this effect "...may be due to

the facilitating effects of credit card stimuli on spending and to the reduced psychological impact of costs that have been postponed via the credit card ” (p. 480). I would therefore check the effect of this on tip size.

Hypothesis 6: When paying with credit cards customers leave a higher tip.

### **Age**

Age is also something that is found to have an impact on the service and tip relationship. Sánchez (2002) find that older customers tip more than those younger but the age of the customer was estimated by the server and this might have impacted the results. In contrast to this finding Maynard & Mupandawana (2009) find that dining parties with diners above 65 years old on average tip 0,4% less. Conlin et al. (2003) also find that percent tip decreases with the age of the tipper and this was, as mentioned before, interviews of paying customers leaving restaurants.

### **Customer Sex**

Lynn et al. (2012) find that customer sex moderates the effects of service on tipping but the moderation effect was inconsistent in their two studies. In the study among university students where the students recorded their own dining experiences over 4 weeks the effects of service on tipping was stronger when the customer was female. In the other study a consumer panel were asked to indicate how much they would tip on two different bill sizes under three different service quality levels. This was also a stratified sample trying to get equal responses from Blacks, Hispanics and Whites. In that study the effect of the service on tip was stronger when the customer was male. (Lynn, et al., 2012)

In a Canadian study (Maynard & Mupandawana, 2009) with 73822 observations where a member of a household recorded purchases at restaurants over two weeks every quarter, over 5 years finds that males dining alone tip 0,6% higher on average. In a study of

customers exiting restaurants in Phoenix, Arizona it was found that men tip less than women but also that men seems to seek social approval by tipping more than women (Boyes, et al., 2004). According to Maynard & Mupandawana (2009) their findings support the findings of Boyes, et al. (2004).

A meta-analysis by Lynn (1997 as cited in Lynn & Simons, 2000) finds that men tip more than women when the server was female. In their own study, Lynn & Simons (2000) finds that server gender had no effect on the tip. In another study it is found that servers perceive men to be among the best tippers (McCall & Lynn, 2009).

Although inconsistent previous findings it seems that males are better tippers. According to research "...men more than women prefer equity or merit based distribution of resources (Austin & McGinn, 1977; Dickinson & Tiefenthaler, 2002 as cited in Lynn, et al., 2012, p. 101). This means that service quality and tipping relationship should be stronger when the customer is male. The researcher would therefore try to test this hypothesis:

Hypothesis 7: When the tipper is male the tip percent is higher.

### **Attractiveness**

Research within service quality and tipping have also looked upon the impact that servers that are attractive or not have on tips. Hornik's (1992) study of customers reaction of a short touch at the end of the meal by attractive and unattractive servers of both genders find that the highest average tip and service evaluation was from women touched by an attractive waitress. The lowest average tip was from male customers, not touched, by an unattractive waiter and lowest average service evaluation was from male customers, not touched, by an unattractive waitress. The attractiveness of servers was rated two weeks

before data collection on a seven point scale where seven represented high attractiveness (Hornik, 1992).

Research in general has also found that men favor women who are physically attractive while women favor high status and wealth (Buss 1987 as cited in Lynn & Simons, 2000). Lynn & Simons (2000) did a study to find predictors of male and female average tip earnings. Lynn & Simons (2000) find in their study that attractiveness has no effect on waiters but that attractive waitresses received larger sales adjusted tips than less attractive waitresses. Lynn (2009) also finds that female attractive servers receive larger average tips than its counterparts. Other studies have also found that attractive servers receive more tips (Lynn (1992) & May (1978) as cited in Lynn, et al., 1993).

The author would think that this will also have an effect in Norway and that attractiveness will have an effect on tipping.

Hypothesis 8: Server attractiveness has a positive relationship with tip percent.

### **Group Size**

The number of people in a party is also something that can have an impact on service and tipping. Conlin et al. (2003) find that group size has a large positive effect on percent tip although their findings are reported as not significant (was significant at the 10% level). To test for this the following hypothesis will be tested:

Hypothesis 9: Group size has a positive effect on percent tip.

### **Patronage Frequency**

According to Lynn & McCall (2000) regular customers may be more likely to rate service higher as people that like the service at a restaurant are more likely to become

patrons and they may receive better service since the servers are familiar with the patrons. Lynn & McCall (2000) finds that patronage frequency is positive related to tip size (mean  $r=0.08$ ) and service quality (mean  $r=0.03$ ) but these relationships are weak. Conlin et al. (2003) find that "...tip increases by an average of 0.187 percentage points if the customer frequents the particular restaurant one additional time per month" (p. 310) and that repetition leads to better service quality. This is supported by Lynn & Grassman (1990) as they also find a positive relation between tip and patronage frequency.

Sánchez (2002) finds that there is an increase in tip when patronage frequency increases. It is also found that customers that do not visit the restaurant more than twice a year or on their first visit tipped the least and therefore Sánchez (2002) finds support for the thought that frequent patrons leave larger tips than those who are less frequent patrons.

Hypothesis 10: There is a positive correlation between patronage and tip percent.

## **Alcohol**

Alcohol is also something that might have an impact on tipping. Lynn (1988) does a study of 207 dining parties in a restaurant in a large Midwestern city in the United States to find the effect alcohol consumption has on tipping. The "...results indicate that alcohol consumption does increase tipping and that this effect is reliable even after partialing out the effects of several other variables" (Lynn, 1988, p. 89). Other research before this had not been able to find any relationship between alcohol consumption and tipping (Crusco & Wetzel 1984; Cunningham, 1979; Freeman, Walker, Borden and Latane, 1975; as cited in Lynn, 1988). Alcohol is found to have a correlation of .15 with percent tip (Lynn, 1988).

In the study by Maynard & Mupandawana (2009) they find that for each alcoholic beverage the tip increase with 0,2%. Conlin, et al. (2003) find that percent tip increases

with alcohol consumption, but that there is no effect of alcohol consumption on service quality. Lynn & Sturman (2010) also find in a within-subject analysis of 51 college students multiple dining experiences that alcohol has a positive effect on percent tip. In the study by Sánchez (2002) the tip amount is higher for those paying customers who have consumed alcohol.

Based on the previous research alcohol consumption by customers paying the bill may have a positive effect on the tip.

Hypothesis 11: Alcohol consumption has a positive effect on tip percent.

It seems however that it will not have any effect on service quality.

Hypothesis 12: Alcohol consumption has no effect on service quality.

## **Method**

### **Research Design**

Previous research found relationship with these variables, but no studies were found in a Norwegian context. The study is therefore as mentioned planned to be done in Norway and two cities on the west coast, Bergen and Stavanger. Tipping is already known to exist in Norway (Hansen, et al., 2005; Hellsaa, 2009; Lynn, 1997) and the intent of this research is to see if people tip according to the quality of service that they receive. The second perspective of the study would be to check if any other factors have an impact on the service and tipping relationship. According to Neuman (2011) using surveys are one of the data collection techniques of quantitative research.

## Sample

Due to constraints in time and resources the study was planned to take place in one restaurant in Stavanger and one restaurant in Bergen in Norway. In Bergen the researcher had about 5 restaurants in mind that would possibly fit the description and where it would be easier to get managements cooperation as the researcher either knew the restaurant's owner or manager. By going into the website Tripadvisor (Tripadvisor) the researcher found 128 restaurants listed in Bergen. On this website restaurants are scored on a 5 point scale average based on guest reviews and restaurants with the score of between 2 and 4 were considered. But most of these restaurants also had less than 10 reviews, and there are also other weaknesses, among others that the reviewers might not be Norwegian. I therefore looked into restaurant reviews at the regional Bergen newspaper Bergens Tidende (bt.no) as an additional source. Here restaurants are scored on a 6 point scale and where a restaurant for this study would preferably be rated 3 or 4. The latest reviews here were from 2010 with reviews going back to 2001 with a total of 258 reviews. Through this process one restaurant was identified as suitable for this study as it where within these ranges and that I knew had not changed much since the last newspaper restaurant review.

Stavanger was later dropped from the study. This was decided after data collection in Bergen had started, but before a specific restaurant in Stavanger had been selected and contacted. The sample description does therefore not include the description of this planned part of the study. The study was planned to be done between March 26<sup>th</sup> and April 23<sup>rd</sup>. The sample would include people that dine at this restaurant and leave between 5pm and 10 pm between these dates.

The restaurant was contacted and willing to participate in the study. The restaurant manager was informed of the intention of the study and shown the full survey. The name of the restaurant will not be mentioned in this study as it was promised anonymity and

confidentiality. The manager informed the servers in the restaurants of the researcher's presence and before each session of data collection the researcher would inform the servers on what they needed to do and that it was a study of service and how Norwegians tip.

## **Data Collection**

### **Problems and Changes in Research Method**

Data collection started March 29<sup>th</sup> 2012 in the restaurant in Bergen. Precautions had been taken to have a short survey (3-4 minutes), have an incentive (gift certificate), an information letter and using method that had received over 80% response rate in the United States (without incentives). The researcher did all the interviews and was placed at the exit of the restaurant, equipped with two clipboards with pen and paper and the researcher introduced himself as a master student from the University of Stavanger and asked if they wanted to participate in a short survey and at the same time participate in the drawing of two gift certificates valued at 1000 NOK.

The first day the researcher received 50% response rate, the second 0%, and for the first three hours of the third day 0%. Response rates are based on the people the researcher actually asked, as some exited while the researcher talked with other people or where talking on the phone as they exited. In addition people that only had drinks or did not speak Norwegian are not included in the data collection. Up until this the researcher had noticed that most people said no because (according to themselves) they did not have the time. Reasons were catching the bus, going to a store before it closed or just saying they did not have the time. No people asked about anonymity before the researcher mentioned it after they had said yes to participate. At that time a decision was made to change the method a little. Other ways that was thought of was that the server distributed envelopes with the

questionnaire or servers informing about my presence after the guests had paid and tipped, or having servers gather the data as some previous studies (Lynn, 1988; Sánchez, 2002; Seiter & Weger, 2010). Ideas were among others to do an online survey (Lynn, et al., 2012) or consumer diary (Lynn, et al., 2012; Lynn & Sturman, 2010; Maynard & Mupandawana, 2009), but that could have an impact on the validity and reliability of the data collected with regards to the planned analysis and hypotheses. Also time would be an issue as it would delay the research process and also possibly additional costs.

The researcher decided to try to have the servers mention his presence at the end of the meal, after the bill had been settled and tip had been given. The researcher talked to the servers and they told that they could do that. As some of the servers had limited knowledge of the Norwegian language the informed consent could also be given to the guest if it was hard to explain. This was only done two or three times as the server quickly found a way to ask the guests in Norwegian. It also appeared that people thought it would be easier to answer it at the table rather than on the way out. The researcher therefore placed himself in the restaurant at a table next to the exit, but also where the researcher could communicate with the servers, and the researcher approached the tables that had told the servers that they wanted to take part in the survey or wanted more info.

The one or ones that had paid the bill was given the informed consent with instructions to fill it out if they wanted to participate in the drawing of the gift certificate, the questionnaire, a pen and an envelope. Instructions were that it would take about 3-4 minutes to fill out the form themselves, then to put the questionnaire in the envelope and give it to me when exiting the restaurant. Each table was also spied that the servers or the restaurant would not see the surveys themselves to make sure they answered honestly. The researcher then left the table and received the questionnaire when the guest left or by picking it up at the table, letting the guest drop that envelope into another bigger envelope

together with the questionnaires collected that day. The rest of that day the response rate was 100% with this new method. Although the new method relied on the servers asking the guests this would create a bias as they might not ask all guests, and maybe only the ones they perceived they had given good service.

Due to the initial problem with data collection and the change of the method the researcher decided to continue the data collection in Bergen so at least data from one restaurant was as good as possible. Due to Easter week from April 2<sup>nd</sup> to April 10<sup>th</sup> the data collection was continued in Bergen from April 12<sup>th</sup> to April 20<sup>th</sup>. This also required more resources for travel and living and also other obligations set a limit to the length of the data collection.

### **Measures**

The study was developed to measure different variables effects on tipping. The method of using a survey questionnaire was the design of collecting the needed data. To test the hypotheses measures were necessary. The measures for the variables will be measurements that already exist and have been used and tested in similar studies. This will make it easier to compare results from this study to others. However no specific survey instrument was found that had been validated and tested in similar studies, and therefore a survey questionnaire had to be designed. Measurements of the different variables was taken from different studies and adapted to this study. These measurements had to be translated to Norwegian and this was done by the researcher. These were then translated back to English by a person unrelated to the research. This way I could assure that the quality of the measurement translation. The survey questionnaire was then printed, stapled and administered on paper to the customers. See Appendix A (Norwegian) & B (English) for the full survey questionnaire.

An informed consent, paper informing the participant of the research, promising anonymity and the possibility of participating in the drawing of a gift certificate was also developed. Its intent was to be an information paper and for the collection of information if people wanted to participate in the drawing of the incentive (Appendix C (Norwegian) & D (English)).

Following is a more detailed description of the development of the survey questionnaire.

### *Scale*

In the previous studies different scales have been used but most studies found have used a 5 point scale (Boyes, et al., 2004; Conlin, et al., 2003; Lynn & Grassman, 1990; Lynn & Simons, 2000; Sánchez, 2002). For the purpose of this study the researcher will use a 7 point Likert scale similar to a more recent study (Parret, 2011). This is done because the researcher do not want to lose any information about the variance in the phenomena and to capture its complex distinctions better (Neuman, 2009). Also, according to a quote by Nunnally (1978, p521 as cited in Neuman, 2011), the reliability "...tends to level off at about 7, and after about 11 steps, there is little gain in reliability from increasing the number of steps" (p. 228). Using a 7 point scale will therefore increase the reliability. Points are described as 1 (poor) and 7 (excellent). Only endpoints are labeled. A study on scale finds that using endpoints only are the best way when a researcher wants to relate variables and that in comparative studies the same scale format should be used (Weijters, Cabooter, & Schillewaert, 2010). The labeling of endpoints in this study is consistent with similar studies of customer rating of perceived service quality (Bodvarsson, Lukstich, & McDermott, 2003; Conlin, et al., 2003; Lynn & Grassman, 1990; Lynn &

Graves, 1996; Lynn, et al., 2012; Parret, 2011). This scale is used for the measures of perceived service quality, food quality and server attractiveness.

For other variables and demographic questions we use a nominal scale (for dining group, payment type, meal type, server sex, patronage, service working experience, customer sex, marital status, education, tip sharing) and ratio scale (for age, tip norm, bill size, tip size, units of alcohol, table size, amount of bills, amount of people paid for). In addition the server records server perceived service, bill size and tip size for tables. This will later be tried to match the surveys from customers.

### ***Coding***

Questions on the questionnaire are coded so it will be easier to analyze the collected data. In addition the server records are also coded. Coding of the variables is shown in Appendix E.

### ***Service quality measure***

Lynn & McCall (2000) finds that four studies use a customer rating of service on a multi item scale, ten use customer rating of service on a single item scale, three use a server rating of service and six use a rating of dining experience. In a recent similar study a single item scale is used (Parret, 2011) and other studies have also used a single item scale (Bodvarsson & Gibson, 1997; Bodvarsson, et al., 2003; Boyes, et al., 2004; Lynn & Simons, 2000; Sánchez, 2002). In this study a single item scale will be used to keep the questionnaire as short as possible. This scale will be measured on a 7 point likert scale with only endpoints labeled (1=Poor; 7=Excellent). The item is: How would you rate the service you got from your server on the following scale? This item is the same as in Parret (2011) as that study provides the full questionnaire of the study.

### *Food quality measure*

For the measuring of food quality I will use the same 7 point likert scale with 1 (Poor) and 7 (Excellent) and only endpoints labeled. In similar studies of service quality and tip relationship a single item scale has been used (Bodvarsson, et al., 2003; Boyes, et al., 2004). For this study a single item scale will be used to measure food quality: How would you rate the food?

### *Server attractiveness measure*

In the study by Parret (2011) a single item scale is used for the measure of server attractiveness, but here all values on the scale is labeled. In a self-rating measure of server attractiveness a single item scale is used (Lynn, 2009). In a study of attractiveness of people in photos a single item 10 point scale with only endpoints labeled “not at all” and “very” were used with the question “How attractive do you find this person (Wood & Brumbaugh, 2009, p. 1232). To be consistent with the measures of the other variables in this study the researcher will therefore use a 7 point likert scale with only endpoints labeled 1 (Little Attractive) and 7 (Very attractive). As in previous mentioned studies a single item scale will be used to measure server attractiveness with the question: How attractive do you think your server was?

### *Tip size*

Tip size is recorded in kroner (NOK) and later calculated together with bill size to form a percent tip. This measure and computing of percent tip is the same as other studies where tip size is measured (Bodvarsson & Gibson, 1997; Bodvarsson, et al., 2003; Boyes,

et al., 2004; Conlin, et al., 2003; Lynn & McCall, 2000; Lynn & Sturman, 2010; Parret, 2011; Sánchez, 2002)

### ***Other variables***

Other variables were also collected. These were intended to provide descriptive information and function as independent variables for some of the hypothesis tests. These variables were not measured using scales. For an overview of the variables measured in the survey instrument see Appendix E.

### **Anonymity and Confidentiality**

The restaurant was promised anonymity and the data collected would be kept confidential, and therefore no name of the restaurant or detailed descriptions that could possibly identify the restaurant is presented in this research paper. Also no other people than the researcher will have access to any data collected.

The survey respondents were also promised anonymity and therefore that the researcher would not be able to identify the respondent based on the data collected. The respondents will also fill out the questionnaire by themselves, put it in an envelope, seal it and then drop it into a bigger envelope that the researcher has, with the rest of the collected surveys from that day. If the respondents wants to participate in the drawing of the gift certificate they fill out a separate piece of paper, the informed consent, and drop this into a second envelope containing all the other informed consents from that day.

### **Reliability and Validity**

To ensure reliability and validity of the measurements previous measures from service quality and tipping research have been adopted in this study. According to Lapan & Quartaroli (2009) and Neuman (Neuman, 2009, 2011) this is a method that increases the reliability and validity. Predictive validity is assessed by the researcher believing that the survey would measure the hypotheses presented in the literature review. As explained in the development of the measures reliability increases when using a 7-point-scale, and this scale is used for three of the measures in the questionnaire (Neuman, 2011). Although the measures are on a single item scale and the validity of the survey instrument has not been tested. Although to ensure validity of the survey instrument it will be shown to other people as a pretest. This will be done to see if any problems are found or any misunderstandings or wrong interpretations occur and ensure face validity of the survey questionnaire (Neuman, 2009, 2011).

Definition of the concepts of service and tipping has been found and also other factors have been defined through the literature review to increase reliability. One weakness on reliability is that the researcher has decided on using a single scale to measure service quality. The reason for this is that the researcher wants to limit the length on the questionnaire to get more respondents and to be sure respondents finish the questionnaire and is aware that this weakens the reliability (Neuman, 2011).

Another thing the researcher is aware of is the researcher bias that can affect the validity of the results (Lapan & Quartaroli, 2009). The researcher must be aware of the effect that the researcher may have on the respondents. But as the respondents will answer the questions themselves on paper with pen, attached to a clipboard, without the researcher asking them, some of this bias is taken care of. This will also not be able to be controlled for in the results as only one interviewer, the researcher, is going to do all the data

collection. Another bias is that the servers may not ask all customers and not ask customers that were not happy with the service experience.

Order effects of the questions and the questionnaire layout will also be taken into consideration when designing the questionnaire (Neuman, 2011). In particular the attractiveness rating will be placed at the second page as it is likely to be a question that can be uncomfortable. Also the recordings of bill and tip size will be placed at the second page to not impact the rating of service and food quality that will be on the first page. Questions will be numbered and not cramped together.

### **Pretest**

The questionnaire was shown individually to 5 people, 2 former male servers, 1 male chef/restaurant manager, 1 female with multiple service work experience including as server and one female not having any server experience, but with service work experience. Two living in Stavanger, one in Bergen and two living in the south-eastern part of Norway, and aged between 24 and 52. The respondents read through the questions and gave feedback on what they thought was asked for. No changes were made in the questionnaire after this review. Although a concern about the server attractiveness measure (Question 10) was raised by the two females, as they wondered if people would actually answer this. This was taken into consideration but as the questionnaire is being answered anonymously and each respondent is explained that the survey has no affiliation with the restaurant and the servers I will keep the item as it is. A copy of the questionnaire is provided in Appendix A (Norwegian) and Appendix B (English)

## **Data Analysis**

SPSS is a tool that allows the researcher to analyze large amount of quantitative data quickly and to perform complicated analyses. According to Pallant (2010) the main steps for the analysis is: to prepare a codebook → set up the structure of the data file → enter data → screen data file for errors → explore data using descriptive statistics and graphs → modify variables for further analyses. The next step depends on the intent of the study. The intent for this study is to explore relationships and therefore statistical analyses to explore relationships will be conducted. Following the steps of Pallant (2010) SPSS Statistics 17.0 is used for the analysis of the data and before creating the data file and entering the data, a codebook for all the questions in the questionnaire was created. This included a variable description, SPSS variable name, and coding instructions (Appendix E). This would secure that variables was entered correctly to create the data file and make it easier to enter data from the questionnaires into SPSS. A total of 30 variables were created for the questionnaire and 3 variables for the server collected data.

The data file was then set up and data was entered into the data file in SPSS. A screening of the data will then follow.

## **Descriptive Statistics**

Descriptive statistics are used to describe characteristics of the sample (Pallant, 2010). This is summarizing the data and providing frequencies in numbers or percentages for variables that shows how many cases occur in each frequency. Statistics like mean and standard deviation are not used for categorical variables like sex, but for continuous variables like age (Pallant, 2010). Therefore the descriptive statistics presented also depends on the type of variable.

### **Cross-tabulation**

Cross-tabulation is when cases are classified according to the categories of the variable and can be used to identify relationships between variables (Pallant, 2010). This could give information on how cases by category of one variable are distributed into the categories of a second variable (Neuman, 2011). According to Neuman (2011) data can be measured at any level of measurement, but interval and ratio data must be grouped.

### **Correlation Analysis**

To describe the strength and direction of the linear relationship between two variables a correlation analysis is used (Pallant, 2010). According to Neuman (2011) the correlation coefficient indicates the strength of association, where association is how two phenomena appear to act together or occur together. Pearson product-moment correlation coefficient ( $r$ ) is designed for interval level (continuous) variables but can also be used for dichotomous variables (Pallant, 2010). When a dichotomous variable is used the correlation is usually referred to as point-biserial correlation, but the process of computing the correlation is the same as for the Pearson correlation (Howitt & Cramer, 2003, p. 105).

The Pearson coefficient is the most commonly used measure of correlation and ranges from -1.0 to +1.0 (Neuman, 2011). According to Pallant (2010) positive correlation is when one variable increases, the other variable do as well. A negative correlation is when one variable increases, the other variable decreases. The size of the value is indicating the strength of the relationship and with a perfect correlation of -1.0 or +1.0 indicates that the value of one variable can be determined exactly by knowing the other variable value (Pallant, 2010).

According to Cohen (1988, pp.79-81 as cited in Pallant, 2010) a correlation of .10 to .29 is considered small; correlation of .30 to .49 is considered medium; and correlation

of .50 to 1.0 is considered large. When the  $r$  is squared you get the RSquared ( $R^2$ ) that tells how much percentage in one variable (dependent) is explained or accounted for by the other variable (independent) (Neuman, 2011). In this study correlation analysis will be used to find the strengths and directions of relationships to test the hypotheses.

### **Multiple Regression Analysis**

To explore the relationship between several independent variables and their effect on a dependent variable multiple regression analysis could be used (Neuman, 2011; Pallant, 2010). The  $R^2$  tells how a set of variables explains a dependent variable (Neuman, 2011). Multiple regression can also find which variable is the best predictor of an outcome and the predictive power of a set of independent and control variables on the dependent variable (Pallant, 2010). There are different multiple regressions, but standard multiple regression is considered to be suitable to answer the research questions.

## Results

In this chapter descriptive statistics are presented and statistical analyses are performed with the purpose of testing the hypotheses and to provide data for further discussion. The hypotheses were proposed by the researcher and the study has been designed to answer these hypotheses:

Hypothesis 1 (H1): There is a positive relationship between customer service rating and tip size.

Hypothesis 2 (H2): There is a positive relationship between server service rating and tip size.

Hypothesis 3 (H3): There is a positive correlation between customer service rating and server service

Hypothesis 4 (H4): Food Quality has a weaker positive correlation to tip size than service quality

Hypothesis 5 (H5): Bill size is positively related to tip amount.

Hypothesis 6 (H6): When paying with credit cards customers leave a higher tip.

Hypothesis 7 (H7): When the tipper is male the tip percent is higher.

Hypothesis 8 (H8): Server Attractiveness has a positive relationship with tip percent.

Hypothesis 9 (H9): Group size has a positive effect on percent tip.

Hypothesis 10 (H10): There is a positive correlation between patronage and tip percent.

Hypothesis 11 (H11): Alcohol consumption has a positive effect on tip percent.

Hypothesis 12 (H12): Alcohol consumption has no effect on service quality

The plan was to have the survey done on two restaurants in two different cities. As explained previously this changed into one restaurant in Bergen, Norway. The survey was conducted between March 29<sup>th</sup> and April 20<sup>th</sup>. A total of 102 questionnaires were collected. Since the servers that approached the tables asking if the customers wanted to participate it was hard to measure the response rate. Some servers asked all their tables while others apparently did not ask any tables. Some servers said they did but the researcher could observe that they did not, and some also admitted that they did not ask many tables. This seemed to happen more the more busy the evening seemed to be for the servers and this also influenced the collection of the server data these days. However talking to the servers after each evening most of the people they asked wanted to take a part in the study as they, but it is still impossible to set a definite response rate because of the method.

Two days the researcher collected zero questionnaires, likely because, by the researchers own observations, the servers did not ask the guests. At the most 28 questionnaires were collected on one day, with a total of 21 unique tables. As each customer filled in their own questionnaire of their own experience and most people had split bills, all questionnaires are kept as they are for analysis and not collapsed into a single table or removed for analysis.

Data was then checked for errors where the values would fall outside the possible values for the variable. This was done by checking the frequencies for each variable and no errors were found. 89 questionnaires had at least one food item, and values for both bill size and tip that allowed for the computing of the percent tip variable (TipPercent). These 89 questionnaires were used for further analysis.

## Missing Data

Some variables are missing data. Of the categorical variables these variables are missing data: 9 values (10.1%) of relation to dining party are missing values, but these are the 9 single diners (see Appendix F). Marital status is missing 3 values (3.4%) and Tip shared with cooks is missing 4 values (4.4%).

For the variable server attractiveness there is 14 missing values. The missing values are from both female (7) and male responses (7) with average age 53.64 and aged between 24 and 67 years old (see appendix E). It is worth noticing however that in 12 of the cases the server was of the same sex as the customer. This means that the sexual preference of the customer might have resulted in that the customers did not want to rate the attractiveness of someone of the same sex as themselves.

Other variables that were missing data are Age (2 missing values), Tip Norm Norway (14 values), Tip shared with cooks (4 missing values) but these are likely to be of random cause or the fact that a do not know alternative was not present.

I managed to link up 62 questionnaires with the server self-rated service quality. This was done by matching the notes from the server with bill and tip sizes on the questionnaires after each day. I did not find any questionnaires from the same day that had equal bill and tip size. Reasons for not matching all questionnaires with the server self-rated service quality are likely to be that they did not write down evaluation of every table, even when they knew the guest was going to fill out the questionnaire. This might have been because of not much time to do so, that the server did not want to report the tips or because the server just forgot.

**Descriptive Results**

*Customer Sex*

**Table 1 Customer Sex Frequency**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Female	60	67,4	67,4	67,4
	2 Male	29	32,6	32,6	100,0
	Total	89	100,0	100,0	

**Figure 3 Customer Sex Distribution**

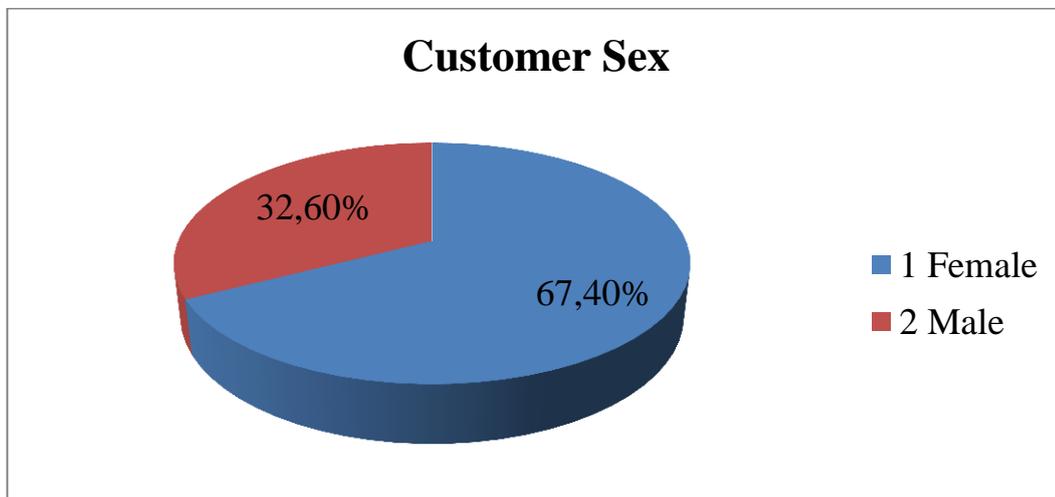


Figure 3 illustrates the customer sex distribution of the respondents where 67.4% are female and 32.6% are male. It shows that there are more female respondents than in the population in general. However among the population that eats out at this restaurant or Norwegian restaurants in general this might be representative of the population.

*Age*

Table 2: Age Frequency and Central Tendencies

Descriptive Statistics									
	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Age in years Valid N (listwise)	87	24	72	53.38	11.014	-.717	.258	.415	.511

Figure 4: Age Distribution

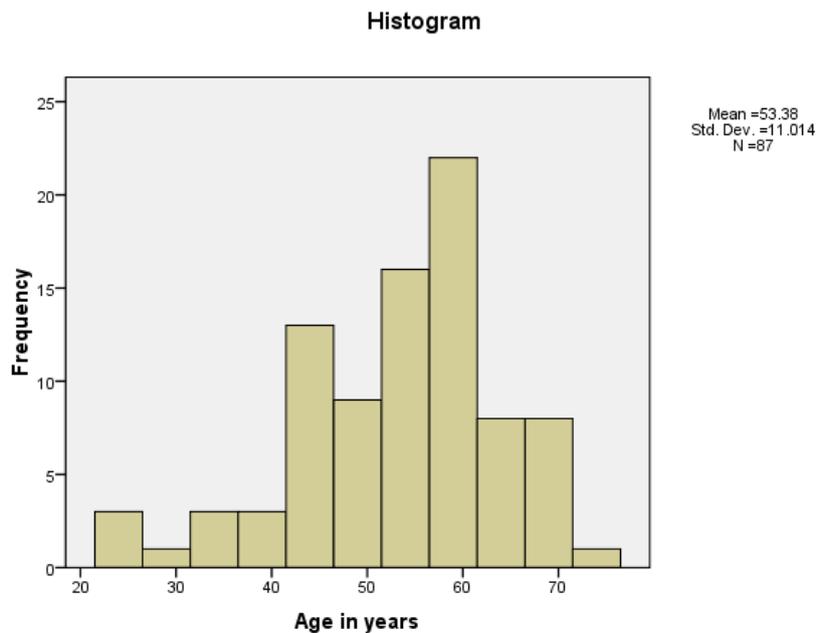


Figure 4 shows the data collected in this study on the age of the respondents. The mean age of the respondents were 53.38 with the youngest respondent being 24 years old and the oldest was 72 years old. By the mean and Figure 4 it is easy to see that there are few young respondents and that there is a majority of respondents between 50 and 60 years old. For the ease of further data analysis the age of respondents were coded into 4 age groups by the researcher where those 44 or lower are coded into one group. This resulted

20.7% to be 44 or lower, 26.4% in the group “45-54”, 36.8% in the group “55-64” and 16.1% in the group 65 and above (see Figure 5).

Figure 5 Age Category Distribution

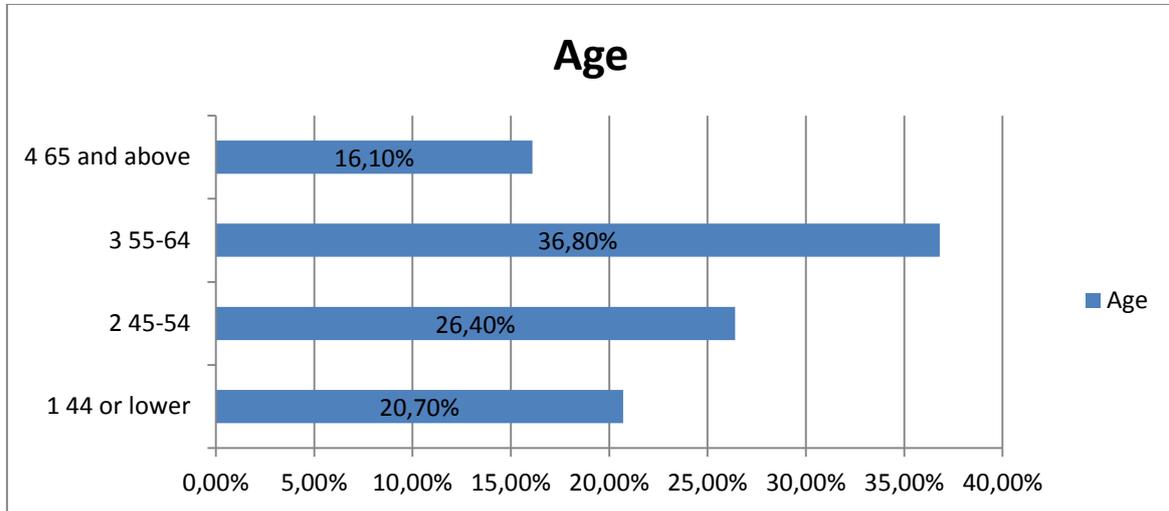


Table 3 Customer Sex and Age Categories

		Age Categories				Total
		1 Below 44 or lower	2 45-54	3 55-64	4 65 and above	
Sex 1 Female	Count	13	20	21	6	60
	% within Age Categories	72.2%	87.0%	65.6%	42.9%	69.0%
2 Male	Count	5	3	11	8	27
	% within Age Categories	27.8%	13.0%	34.4%	57.1%	31.0%
Total	Count	18	23	32	14	87
	% within Age Categories	100.0%	100.0%	100.0%	100.0%	100.0%

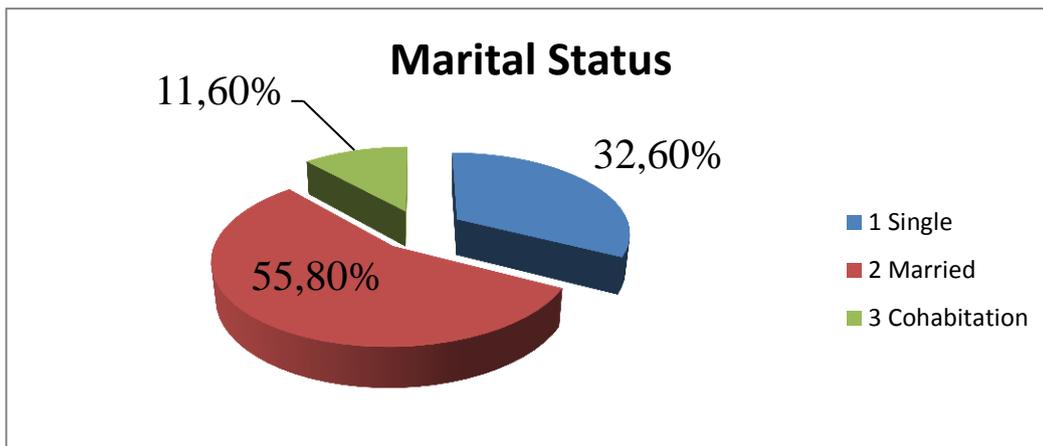
When doing a cross-tabulation (Table 3) to see the relationship between the variables customer sex and age, one can see that among the respondents 65 and above there is a majority of males (57.1%). In the other age categories it is worth noticing that only 13.0% of male respondents are in the age group “45-54”.

*Marital status*

Table 4 Marital Status

		Marital Status			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Single	28	31.5	32.6	32.6
	2 Married	48	53.9	55.8	88.4
	3 Cohabitation	10	11.2	11.6	100.0
	Total	86	96.6	100.0	
Missing	System	3	3.4		
Total		89	100.0		

Figure 6 Marital Status Distribution



The customers that are included in this survey are 55.8% married, 11.6% lives in cohabitation and 32.6% are single (Figure 6). This shows that 67.4% are living with a partner. According to Statistics Norway 65% of Norwegians are married, 13% lives in cohabitation and 23% are single in the age group “50-54 years old” in the period of 2008-2010. This seems to be close to that statistics, although there are 10% more singles in this questionnaire.

*Education*

Table 5 Education

		Education level			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Secondary School	5	5.6	5.6	5.6
	2 High School	8	9.0	9.0	14.6
	3 Vocational School	12	13.5	13.5	28.1
	4 University/College 1-2 years	9	10.1	10.1	38.2
	5 University/College 3-4 years	27	30.3	30.3	68.5
	6 University/College 5 or more years	28	31.5	31.5	100.0
	Total	89	100.0	100.0	

Figure 7 Distribution of Level of Education

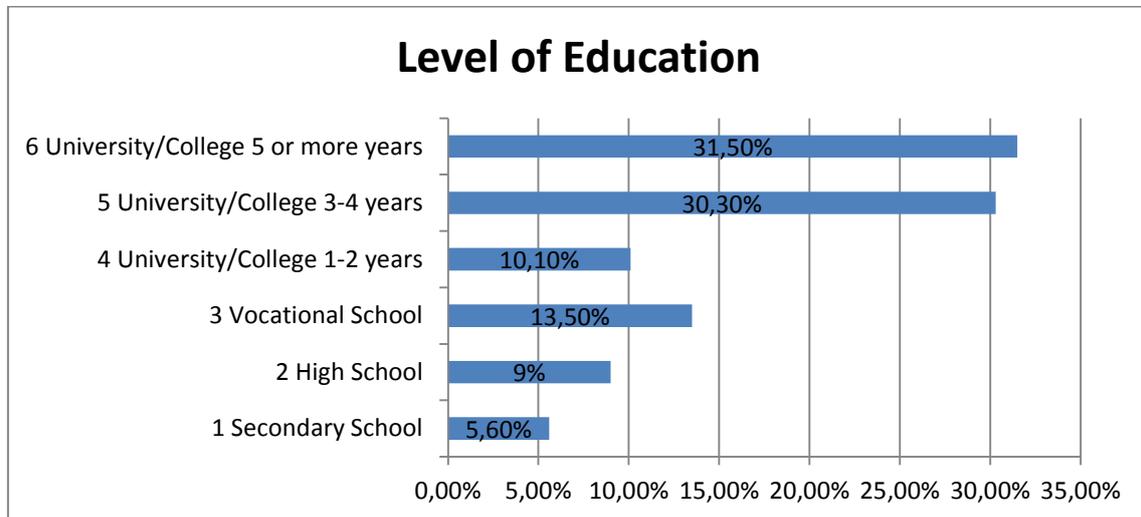


Figure 7 illustrate the distribution of the highest completed education. It shows that a majority of the respondents have University/college education. 71.9% (28.8%) have completed a university education of 1-2 years or more, while 22.5% (43.7%) have completed high school or vocational school as their highest level of education (in

parentheses the average highest completed education for Hordaland County where Bergen is situated according to Statistics Norway (StatisticsNorway, 2011). This shows that the educational level of the respondents is a lot higher than the average education for the county.

*Food service experience*

Table 6 Food Service Experience Frequency

		Food service Expericen			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Server	13	14.6	14.6	14.6
	2 Bartender	3	3.4	3.4	18.0
	3 No	73	82.0	82.0	100.0
	Total	89	100.0	100.0	

Table 7 Cross-tabulation FSExp with FSExp family/friends

			Food service Experience			Total
			1 Server	2 Bartender	3 No	
Family FSExp	1	Count	8	1	29	38
	Yes	% within Food service Exp.	61.5%	33.3%	39.7%	42.7%
	2	No Count	5	2	44	51
		% within Food service Exp.	38.5%	66.7%	60.3%	57.3%
Total		Count	13	3	73	89
		% within Food service Exp.	100.0%	100.0%	100.0%	100.0%

Table 6 shows that 82.0% had no experience working as a server or bartender, and Table 7 shows that 60.3% of the ones that had no food service experience (FSExp) themselves did also not know anyone in their close family and friends that had or was working as a server or bartender. That means that 49.4% of all respondents did not have FSExp and did not know any that had FSExp. 14.6% had worked as a server and 3.4% had worked as a bartender.

*Tip share*

**Table 8 Tip Share Frequency**

		<b>Tip shared with cooks</b>			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	62	69.7	72.9	72.9
	2 No	23	25.8	27.1	100.0
	Total	85	95.5	100.0	
Missing	System	4	4.5		
Total		89	100.0		

**Table 9 Cross-tabulation Tip Share with FSExp**

		Food service Expericen			Total
		1 Server	2 Bartender	3 No	
Tip shared with cooks 1 Yes	Count	7	2	53	62
	% within Food service Expericen	53.8%	66.7%	76.8%	72.9%
2 No	Count	6	1	16	23
	% within Food service Expericen	46.2%	33.3%	23.2%	27.1%
Total	Count	13	3	69	85
	% within Food service Expericen	100.0%	100.0%	100.0%	100.0%

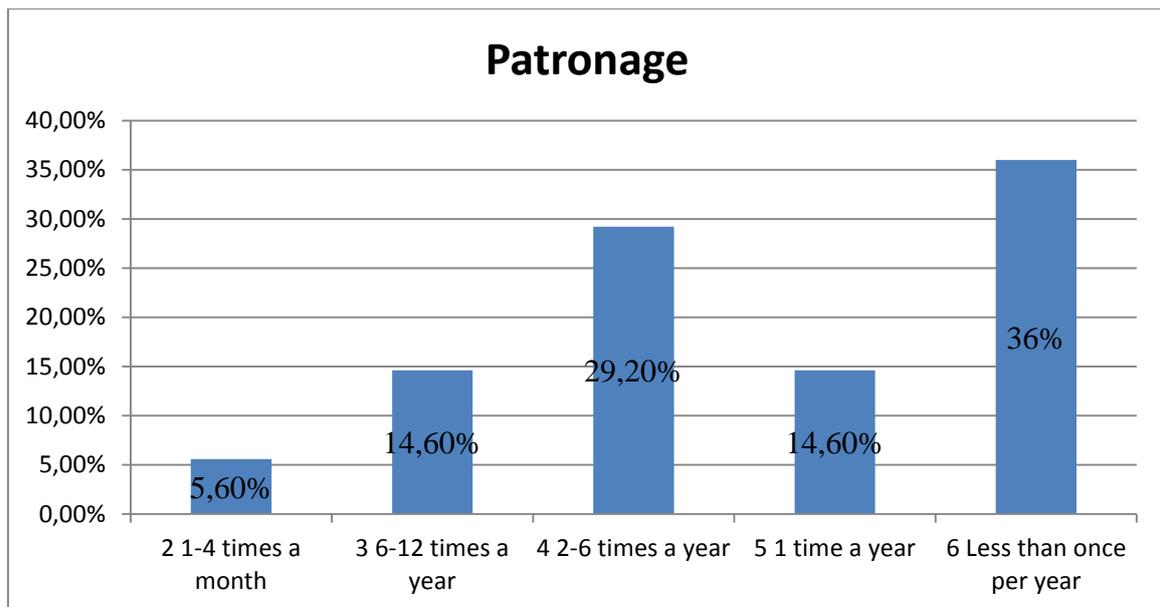
Table 8 shows that 72.9% expect that the tip is being shared with the cooks and 27.1% don't expect this. A cross tabulation with FSExp (Table 9) shows that among those with server experience 53.8 expect that the tip is shared while among those with no FSExp 76.8% expect that the tip is to be shared. This shows that the expectations are different depending on the customer FSExp.

*Patronage frequency*

Table 10 Patronage Frequency

		Patronage			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2 1-4 times a month	5	5.6	5.6	5.6
	3 6-12 times a year	13	14.6	14.6	20.2
	4 2-6 times a year	26	29.2	29.2	49.4
	5 1 time a year	13	14.6	14.6	64.0
	6 Less than once per year	32	36.0	36.0	100.0
	Total	89	100.0	100.0	

Figure 8 Patronage Distribution



Only 5.6% of the respondents frequent the restaurant more than once a month. 36.0% of the customers visit the restaurant less than once a year. 29.2% frequent the restaurant 2-6 times a year. This shows that there is not a lot of patrons as those who visit the restaurant more than 6 times a year only represents 20.2% of all customers at this restaurant. For correlation analysis patronage is computed into a new variable with 1 being defined as less than 6 times a year, while 2 is defined as 6 or more times a year similar to

the study of Lynn & Grassman (1990) where those that visited the restaurant 5 or more times were defined as regular customers, and those less than 5 times defined as non-regular customers. Table 11 shows that 71 respondents (79.9%) visit the restaurant less than 6 times a year. 18 respondents or 20.2% visit the restaurant 6 or more times a year.

**Table 11 Patron Frequency**

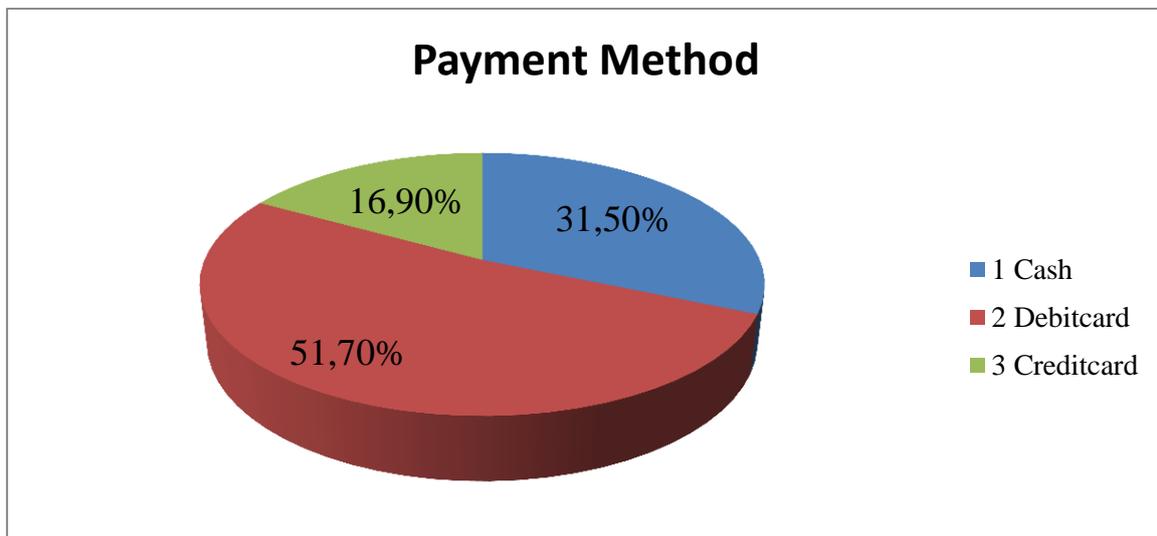
Patronage Frequency				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1 less than 6 times a year	71	79.8	79.8	79.8
2 6 or more times a year	18	20.2	20.2	100.0
Total	89	100.0	100.0	

*Payment method*

Table 12 Payment Method Frequency

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1 Cash	28	31.5	31.5	31.5
2 Debitcard	46	51.7	51.7	83.1
3 Creditcard	15	16.9	16.9	100.0
Total	89	100.0	100.0	

Figure 9 Payment Method Distribution



As can be seen on Figure 9 Payment Method Distribution, most people pay with their debitcard (51.7%), then cash (31.5%) and the least used payment method is creditcards (16.7%).

*Group type*

Table 13 Group Type

		Relation to Party			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Colleagues	27	30.3	33.8	33.8
	2 Friends	20	22.5	25.0	58.8
	3 Family	30	33.7	37.5	96.3
	4 Other	3	3.4	3.8	100.0
	Total	80	89.9	100.0	
Missing	System	9	10.1		
Total		89	100.0		

Figure 10 Group Type Distribution

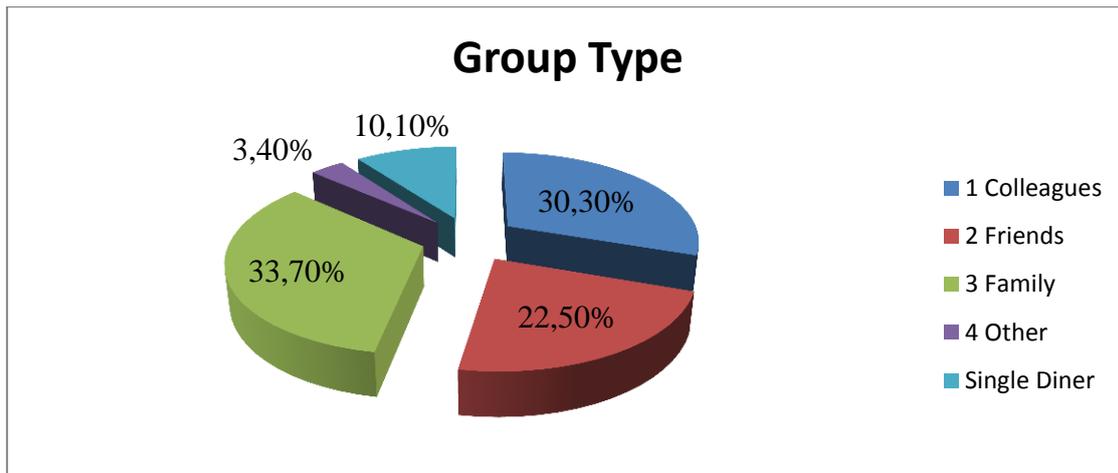


Figure 10 illustrates the respondent relation to the other people that dined at the same table. The 9 missing values (Table 13) are the single diners as identified in the missing variables section. These are put in together with the other groups in Figure 10 and it shows that most of the respondents dined together with family (33.7%) closely followed by colleagues (30.3%). 22.5% dined together with friends and 3.4% indicated other on this variable. 10.1% dined alone. Most people dine out with other people, and for 56.2% of the respondents with other than family. If single diners are removed, 62.6% of the ones that

dine with someone dine out with someone else than their family. This could indicate that getting food is not the single priority for the guests, but also the social experience of the restaurant visit.

*Meal type*

Table 14 Meal Type Starter

<b>Starter</b>				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0	88	98.9	98.9	98.9
1	1	1.1	1.1	100.0
Total	89	100.0	100.0	

Table 14 shows that only 1 respondent's dining party had a starter. This is 1.1% of the respondents. However 75.3% of the respondents someone had a main course (see Table 15 ). In Table 16 shows that 14.6% of the dining parties had dessert.

Table 15 Meal Type Main Course

<b>Main Course</b>				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0	22	24.7	24.7	24.7
1	67	75.3	75.3	100.0
Total	89	100.0	100.0	

Table 16 Meal Type Dessert

<b>Dessert</b>				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0	76	85.4	85.4	85.4
1	13	14.6	14.6	100.0
Total	89	100.0	100.0	

Table 17 Meal Type Light Meal

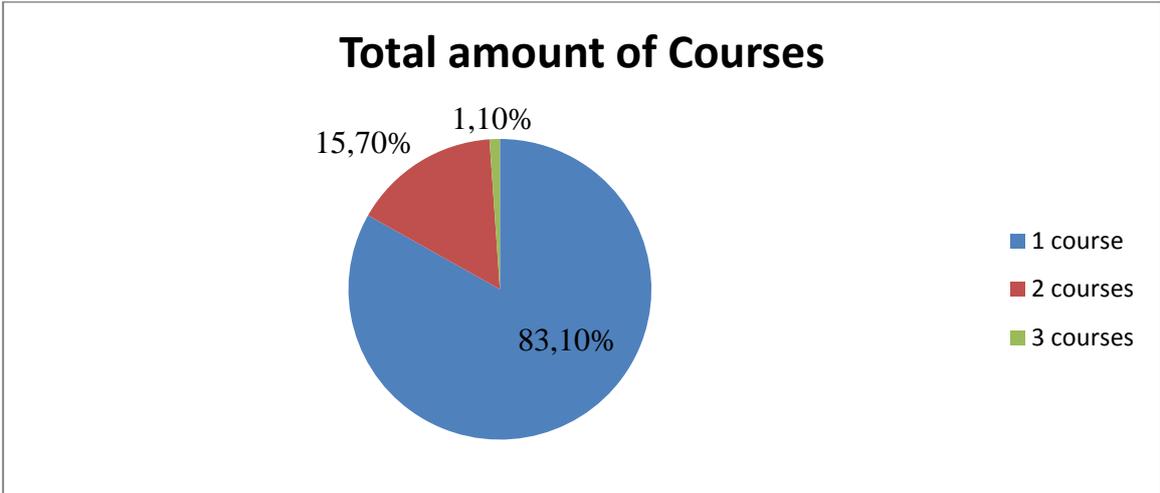
<b>Light Meal</b>				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0	75	84.3	84.3	84.3
1	14	15.7	15.7	100.0
Total	89	100.0	100.0	

Table 18 Meal Type Lunch

<b>Lunch</b>				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0	78	87.6	87.6	87.6
1	11	12.4	12.4	100.0
Total	89	100.0	100.0	

A total of 28.2% had a light meal. This includes the lunch meal in Table 18, as the lunch menu and the light meal menu were labeled “Lunch / Light Meal” and was available all day. As the questionnaire did not take this into consideration it was the respondent own idea of the meal type that was recorded. Figure 11 depicts that a 1.1% of the respondents had a total of 3 courses, 15.7% had 2 courses and 83.1% had only 1 course. This shows that most respondents do not eat more than one course and very few have tables (1 respondent) had three courses. The reason that so many only have one course is unknown.

Figure 11 Total amount of courses per respondent



*Alcohol***Table 19 Alcohol Paid for by Respondent Frequency**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0 No	40	44.9	44.9	44.9
1 Yes	49	55.1	55.1	100.0
Total	89	100.0	100.0	

Table 19 shows that 55.1% of the respondents had alcohol on their table and paid for it. Table 20 shows the amount of alcohol consumed by the respondent. This shows that 47.2% of the respondents did not consume alcohol. If the respondent had alcohol it shows that most people consumed 1 or 2 units of alcohol (a total of 39.4%). Only one respondent had 6 units of alcohol and no respondent had 5 units of alcohol. If someone asked for the definition of a unit, one unit of alcohol was defined as one drink, one glass of wine or one bottle or glass of beer. A wine bottle equaled five wine glasses and one respondent asked the researcher about this. The highest amount of alcohol consumed was 6 units and the mean amount of alcohol per respondent was 1.09 (see Table 21).

**Table 20 Units of Alcohol Consumed by Respondent Frequency**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0	42	47.2	47.2	47.2
1	15	16.9	16.9	64.0
2	20	22.5	22.5	86.5
3	8	9.0	9.0	95.5
4	3	3.4	3.4	98.9
6	1	1.1	1.1	100.0
Total	89	100.0	100.0	



*Service Quality Scale*

Figure 12 Customer Service Quality Scale Distribution



Table 22 Central Tendency Customer Service Quality Scale

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Service Quality	89	3	7	5.76	1.108	-.388	.255	-.992	.506
Valid N (listwise)	89								

The mean of the customer service quality scale is 5.76, and there is no values scored 1 and 2 as the minimum score is 3 and the maximum score is 7. 33.7% of respondents rate the service as excellent, 25.8% rate it 6, 24.7 rate it 5, 14.6% rate it 4 and 1.1% rate it 3. Table 23 shows that there is a small variation among the rating of the different age categories. The older the respondent is, the more likely it seems that a higher service quality score is reported. In the age groups over 55 there is 40% or more that rate the service 7, while in the age groups below 55 this rating is present in less than 28% of the respondents. This might be that older people receive better service or that they perceive the

service to be higher. It could also be that older people are perceived better tippers and therefore receive better service in the first place.

**Table 23 Cross-tabulation of Age Categories and Customer Service Quality Scale**

			Age Categories				Total
			1 Below 44 or lower	2 45-54	3 55-64	4 64 and above	
Service Quality	3	Count	0	0	1	0	1
		% within Age Categories	.0%	.0%	3.1%	.0%	1.1%
	4	Count	2	4	5	2	13
		% within Age Categories	11.1%	17.4%	15.6%	14.3%	14.9%
	5	Count	5	8	6	2	21
		% within Age Categories	27.8%	34.8%	18.8%	14.3%	24.1%
	6	Count	6	6	7	4	23
		% within Age Categories	33.3%	26.1%	21.9%	28.6%	26.4%
	7 Excellent	Count	5	5	13	6	29
		% within Age Categories	27.8%	21.7%	40.6%	42.9%	33.3%
	Total	Count	18	23	32	14	87
		% within Age Categories	100.0%	100.0%	100.0%	100.0%	100.0%

*Food Quality Scale*

Table 24 Food Quality Scale Frequency

Food Quality				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 3	2	2.2	2.2	2.2
4	8	9.0	9.0	11.2
5	35	39.3	39.3	50.6
6	25	28.1	28.1	78.7
7 Excellent	19	21.3	21.3	100.0
Total	89	100.0	100.0	

Table 25 Central Tendency Food Quality

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Food Quality	89	3	7	5.57	.999	-.171	.255	-.415	.506
Valid N (listwise)	89								

The food quality scale has a mean of 5.57 and a minimum rating of 3 and maximum rating of 7 (see Table 25). Most respondents rate the food quality 5 (39.3%), while 28.1% rate the food quality 6 and 21.3% rate the food quality as 7 and therefore excellent (Table 24). It seems that people are not as happy with their food quality as they are with the service quality.

*Server Attractiveness Scale*

Table 26 Distribution Server Attractiveness Scale

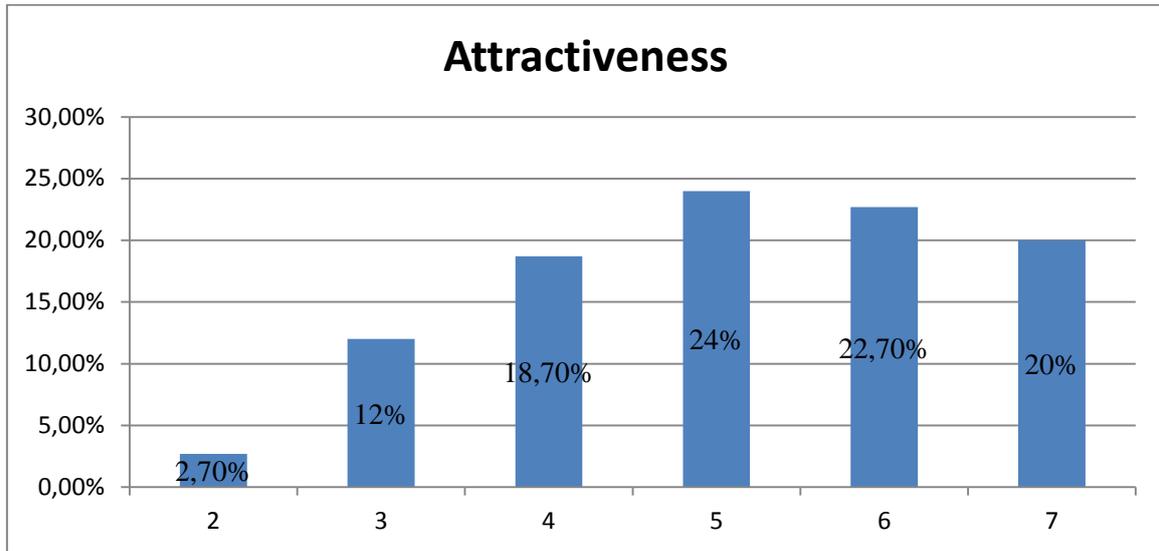


Table 27 Central Tendency Server Attractiveness Scale

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Server attractiveness	75	2	7	5.12	1.395	-.281	.277	-.836	.548
Valid N (listwise)	75								

The mean value for the server attractiveness scale is 5.12 and with ratings from 2 to 7 (very attractive). A score of 1 was labeled little attractive. It also seems to be a more normal distribution than the food quality and service quality scales. 2.7% rated their server attractiveness 2, while 12% rated their server 3, 18.7% of respondent rated the server 4, 24% rated the server 5 and this was the highest % in the distribution, 22.7% rated their server 6 and 20% rated their server 7 (very attractive). This scale will be used to check if attractiveness of the server has an effect on tip size (H8).

*Bill size*

Figure 13 Distribution of Bill Size

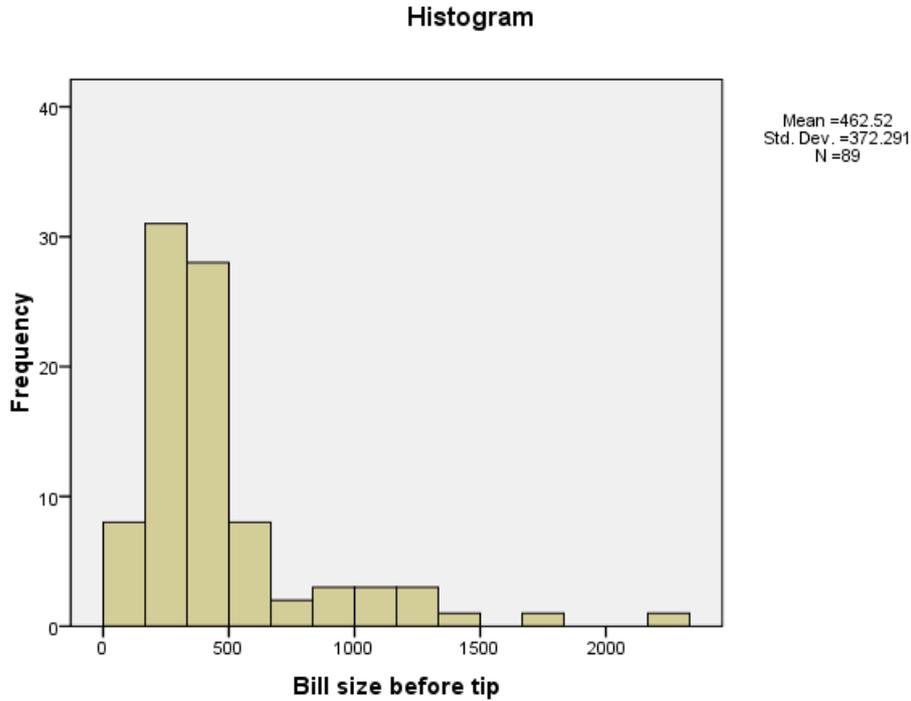


Table 28 Central Tendency Bill Size

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
	Bill size before tip	89	120	2300	462.52	372.291	2.441	.255	7.424
Valid N (listwise)	89								

Table 28 shows that the average bill was 462.52 NOK and the bill sized varied from 120 NOK to the largest at 2300 NOK. Figure 13 shows however that most bills seem to be below 600 NOK.

*Tip Norm Norway*

Figure 14 Distribution Tip Norm Norway

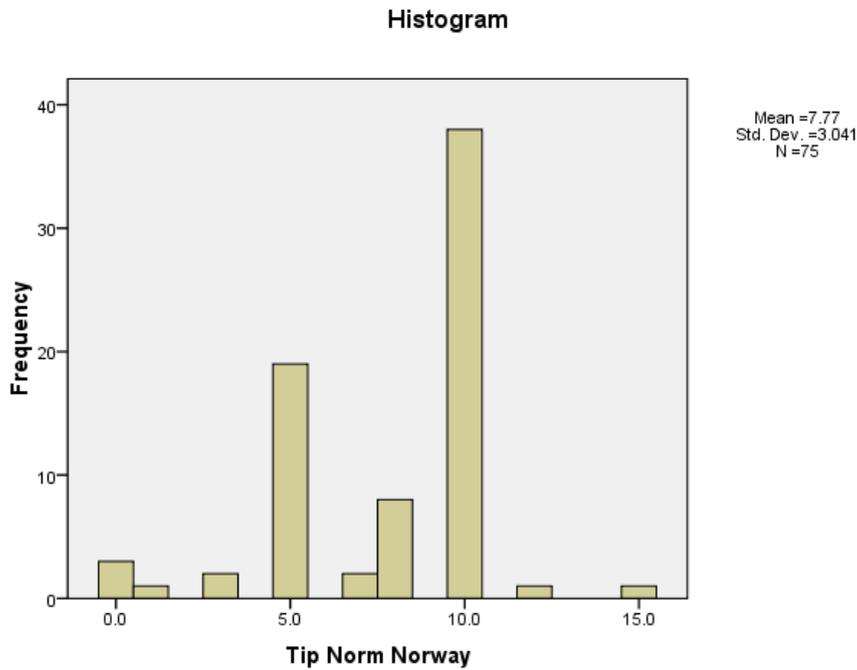


Table 29 Central Tendency Tip Norm Norway

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
						Statistic	Std. Error	Statistic	Std. Error
Tip Norm Norway	75	.0	15.0	7.767	3.0406	-.739	.277	.203	.548
Valid N (listwise)	75								

Figure 14 shows that most people think that the tip norm in Norway is 10.0% and second most think it is 5.0%. The mean tip norm score is 7.7% with values from 0.0% to 15.0% (Table 29). By analyzing the numbers more closely it can be identified that the one that indicated that the tip norm is 15%, only tipped 4.07% of the bill. Of the 3 that indicated that the tip norm was 0.0% 2 respondents did not tip and 1 tipped 1.48% of the bill.

*Tip amount*

Figure 15 Distribution of Tip Amount

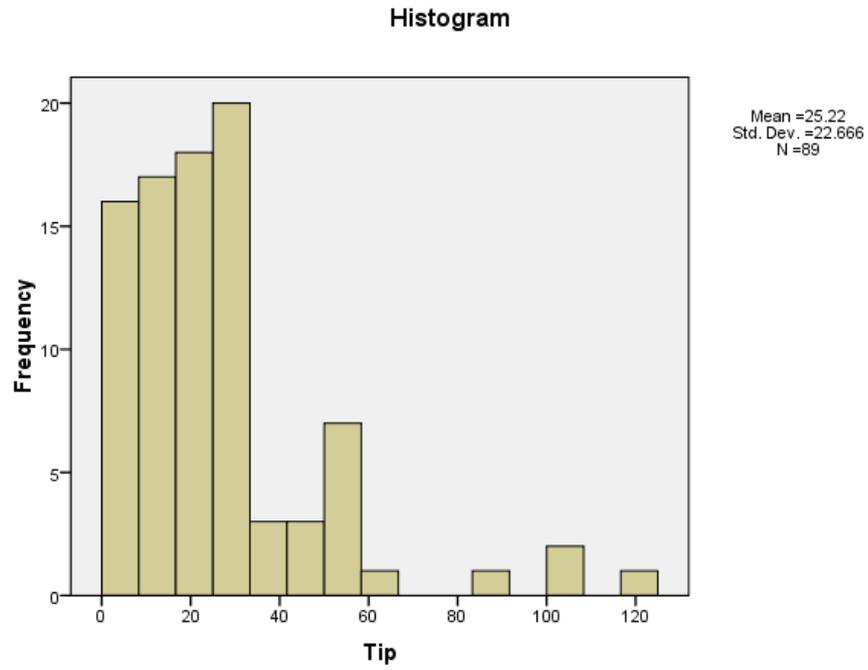


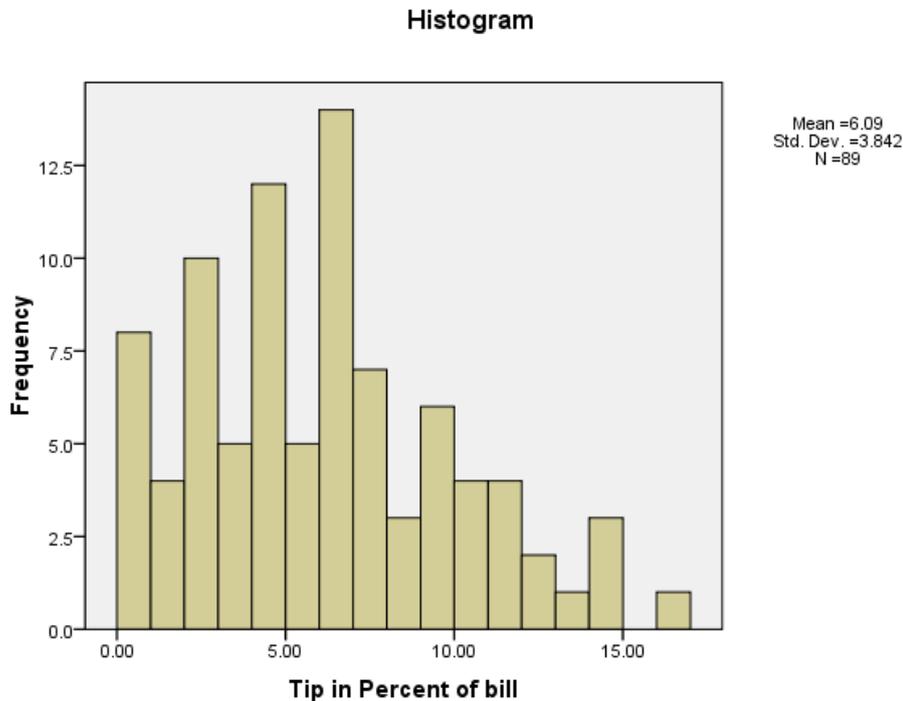
Table 30 Central Tendency Tip Amount

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Tip	89	0	124	25.22	22.666	2.020	.255	5.362	.506
Valid N (listwise)	89								

The mean tip amount is 25.22 NOK and varies from 0 to 124 NOK. Most of the tip amount values are below 40 NOK.

*Tip size*

Figure 16 Distribution Tip Size



Tip Size is computed by  $\text{Tip Amount} / \text{Bill Size} * 100$  and into a variable that is going to be the dependent variable for most of the hypotheses. Table 31 shows that the mean tip is 6.09% and with a minimum tip of 0.0% and a maximum tip of 16.67%. Figure 16 shows that the tip percent looks normally distributed with a peak around 6.0%. Most tips in percent is also within the range of what people considered to be the tip norm 0% to 15%.

Table 31 Central Tendency Tip Size

			Statistic	Std. Error
Tip in Percent of bill	Mean		6.0866	.40726
	95% Confidence Interval for Mean	Lower Bound	5.2773	
		Upper Bound	6.8960	
	5% Trimmed Mean		5.9448	
	Median		6.0606	
	Variance		14.761	
	Std. Deviation		3.84204	
	Minimum		.00	
	Maximum		16.67	
	Range		16.67	
	Interquartile Range		5.27	
	Skewness		.504	.255
	Kurtosis		-.232	.506

### Assessing Normality

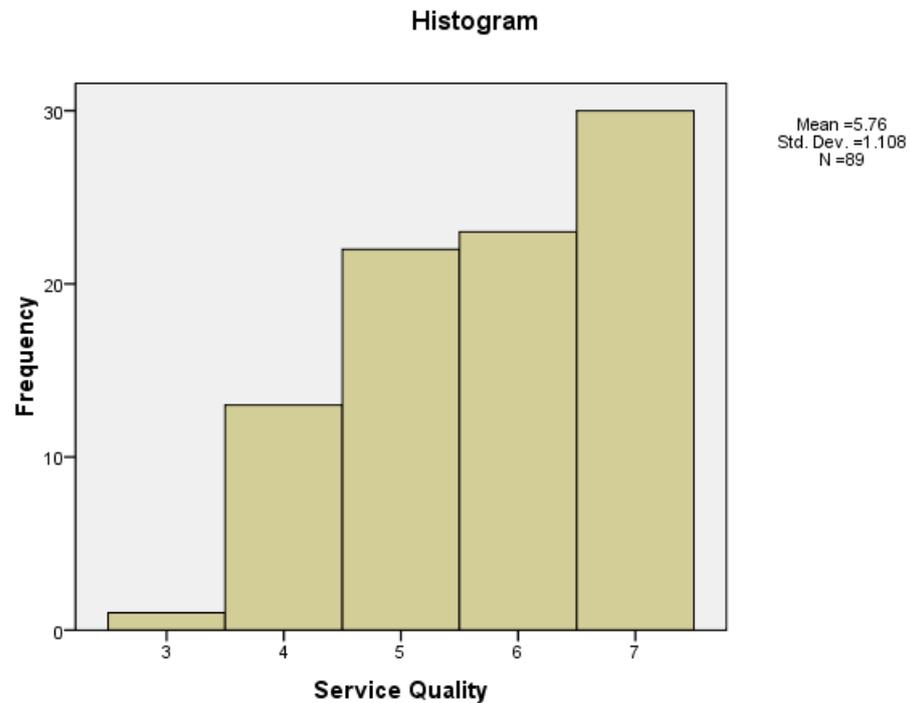
For the purpose of the future analysis some analyses require that the distribution is normally distributed. This part of the paper checks the different scales used as independent variables and also the dependent variable tip percent to see if the values are normally distributed.

#### Customer Service Quality Scale

Customer rated service quality has a negative skewness of  $-.388$  indicating that scores are clustered at the higher end of the scale. Standard error times two is  $.51$  and since the skew statistic fall within  $-.51$  and  $+.51$  there should be no significant skewness problem (Brown, 1997). Kurtosis of this scale is  $-.922$  indicating a relative flat distribution and therefore many cases in the extremes. Standard error times two is  $1.012$  and since the kurtosis value fall within  $-1.012$  and  $+1.012$  I assume that kurtosis are within the expected range of

fluctuations (Brown, 1997). The mean is 5.76 and the 5% trimmed mean 5.81 and the median 6 with scores ranging from 3 to 7. Therefore since the trimmed mean is close to the

Figure 17 Service Quality Scale

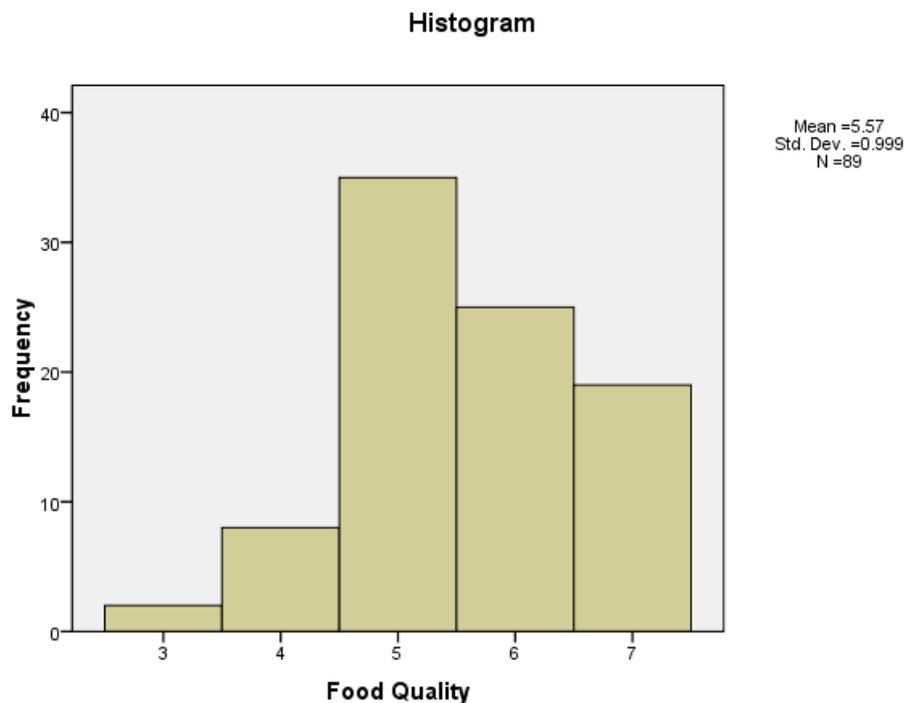


mean it is not likely that extreme scores have a strong influence on the mean (Pallant, 2010). However by looking at the histogram (Figure 17) there are a lot of responses on the endpoint value 7. The case of negatively skewed results has been the case for this measures in other studies, but Lynn (2003) find that this has not reduced the size of the service and tipping relationship in existing literature.

### Food Quality Scale

The skewness of the food quality scale is  $-.171$  with two times standard error  $.510$  and skewness is therefore within the  $-.510$  and  $+.510$  and therefore there should be no skewness problem. It is however negatively skewed with scores on the high end of the scale. Kurtosis is  $-.415$  and this is within the two times standard error  $-1.096$  and  $+1.09$  and therefore within the expected range of fluctuations. The mean is  $5.57$ , the 5% trimmed mean is  $5.61$  and the median  $5$  with scores from  $3$  to  $7$ . There seems that no extreme values impact the mean strongly, and the median is not too far from the mean. Looking at the histogram (Figure 18) this scale seems to have a normal distribution.

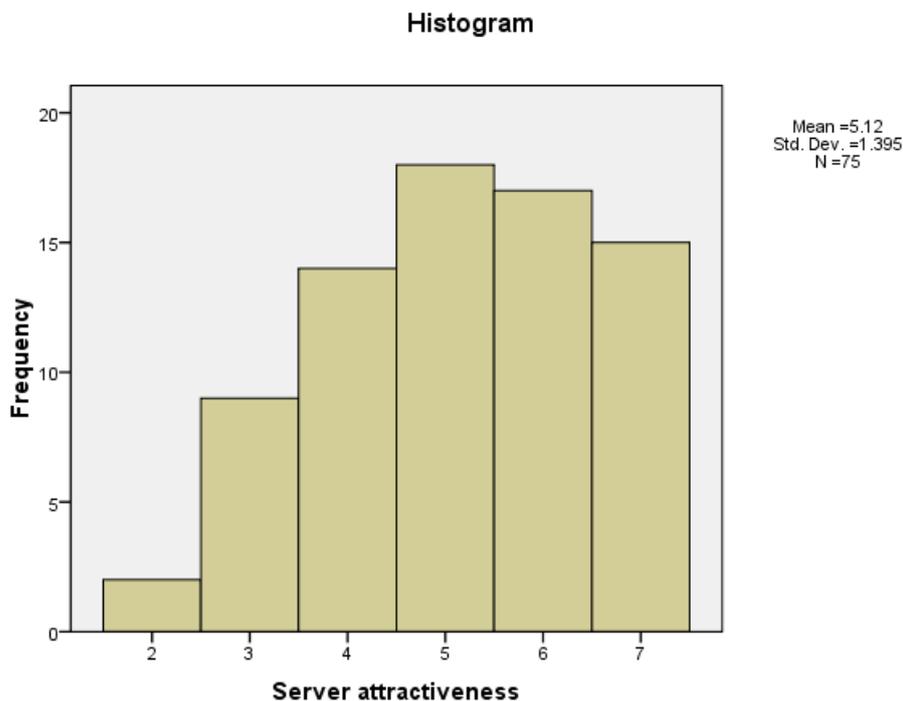
Figure 18 Food Quality Scale



### Server Attractiveness Scale

The skewness of the server attractiveness scale is  $-.281$  and within the two times standard error that is  $-.554$  to  $+.554$  and there should be no problem with the skewness. The kurtosis is  $-.836$  and the two times standard error is  $1.096$ . The scores are therefore within the expected range of fluctuations as it is within the two times standard error  $-1.096$  to  $+1.096$ . The mean is  $5.12$ , the 5% trimmed mean  $5.16$  and the median  $5$  indicating that this scale is not impacted strongly by extreme values and the median is not far from the mean. Scores range from 2 to 7. Looking at the histogram this scale seems to have a normal distribution.

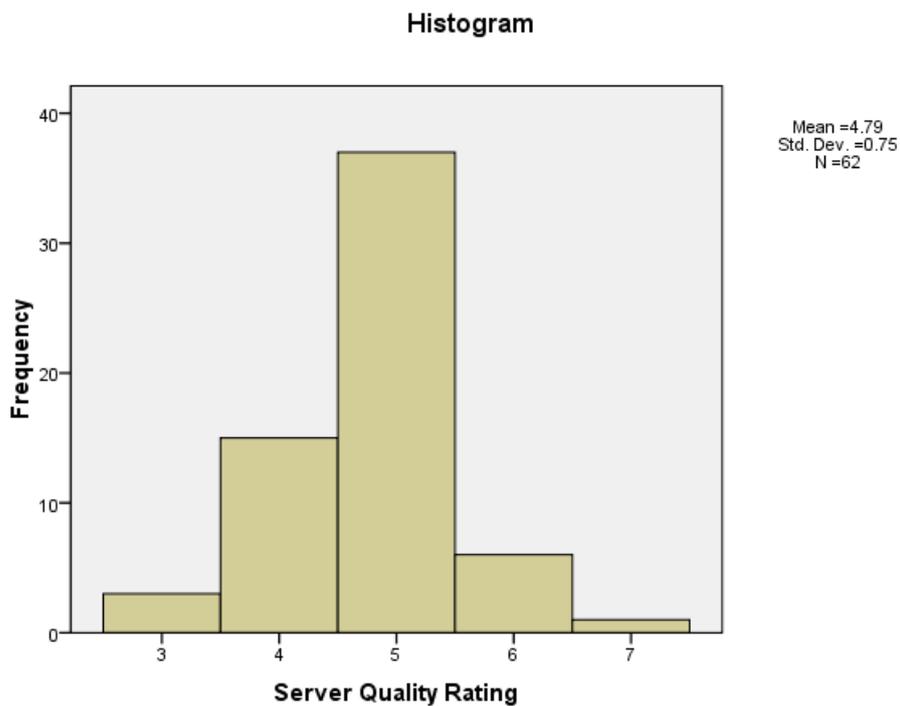
**Figure 19 Server Attractiveness Scale**



### Server Self-rated Service Quality Scale

The server rated service quality scale has got a mean of 4.79 and a 5% trimmed mean 4.80 and a median of 5. This indicates that extreme values have almost no impact on the mean, and the median is close to the mean. The scores range from 3 to 7. The skewness is  $-.115$  is therefore close to normal distribution and it is also within the two times standard error  $-.608$  to  $+.608$ . The kurtosis is  $1.054$  and that is within the two times standard error  $-1.198$  to  $+1.198$  and therefore within the expected range of fluctuations. The histogram (Figure 20) also shows that the distribution is normal.

**Figure 20 Server rated Service Quality Scale**



### Tip Percent

The dependant variable tip percent has a mean of 6.09 and a 5% trimmed mean of 5.95 and the median is 6.06 (Table 31 and Figure 16). Therefore no extreme values have a big impact on the mean and the median is close to the mean. The tip ranges from 0 to

16.67. The skewness is .504 and the two times standard error is .510. It is therefore within the two times standard error  $-.510$  to  $+.510$  and there should not be a problem with the skewness. This do however show a positive skew with scores clustered at the lower values. The kurtosis is  $-.232$  and within the two times standard error  $-1.01$  to  $+1.01$  and hereby within the expected range of fluctuations. The histogram also shows the same and the Kolomogorov-Smirnov Test is non-significant (.158) If the results of Kolomogorov-Smirnov Test is non-significant, above .05, it indicates normality (Pallant, 2010). I will therefore say that this distribution is normal.

### **Correlation Analysis**

Correlation analysis is used first to test the strengths of six independent variables on the dependent variable tip percent. The six independent variables are Customer Service Quality rating (H1); Server Service Quality rating (H2); Food Quality Rating (H4); Server Attractiveness rating (H8); Group Size (H9); Alcohol Consumption (H11) with the hypothesis number in parentheses.

Using the Pearson product-moment correlation coefficient the relationships between the independent variables and the dependent variable tip percent was investigated. The results of the correlation analysis (Table 32 page 86) are presented in Model 1 (Figure 21) and Model 2 (Figure 22) on the next page.

Figure 21 Model 1 with correlations

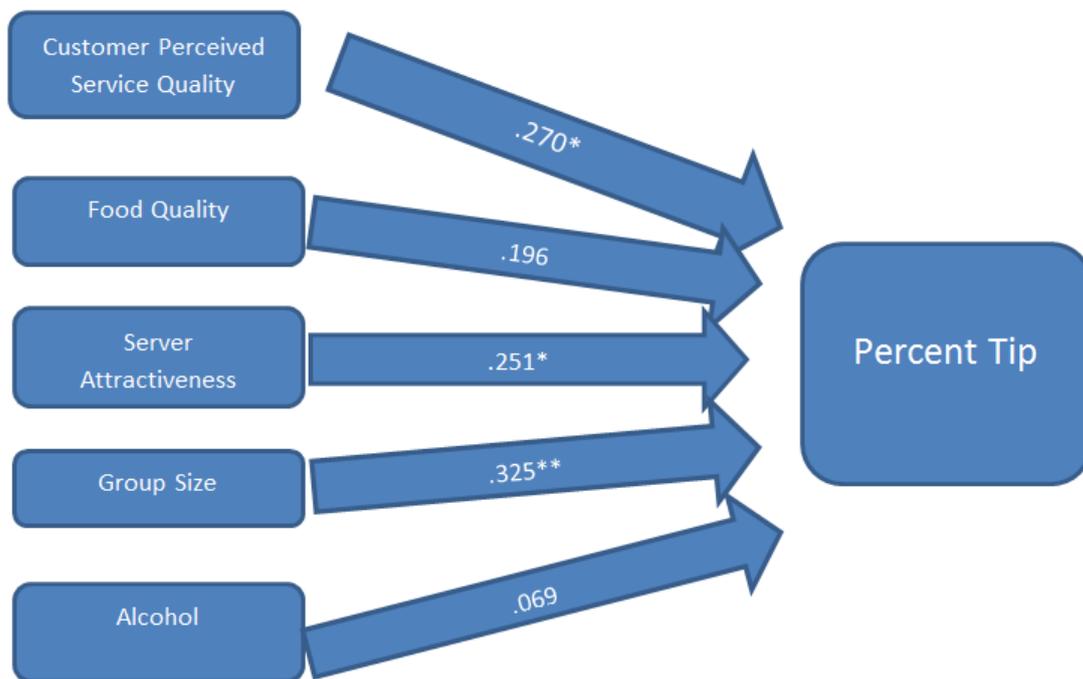
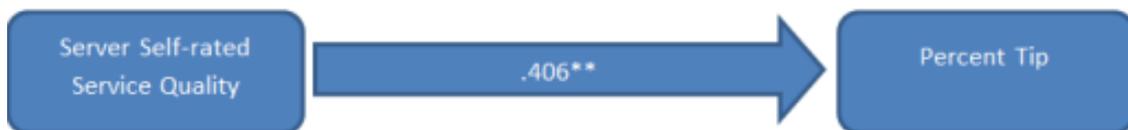


Figure 22 Model 2 with correlation



The significant level is illustrated with the \* behind the correlation coefficient. \* = significant ( $p$ ) at the 0.05 level and \*\* = significant ( $p$ ) at the 0.01 level. The other correlation coefficients are non-significant. The correlation between Customer Service Quality and percent tip is found to be small and positive,  $r = .270$ ,  $n = 89$ ,  $p = .011$ . This means that high level of service quality is associated with higher tip percent. Food Quality does not have a significant correlation coefficient. Server Attractiveness relationship with percent tip is found to have a weak, positive correlation coefficient of  $r = .251$ ,  $n=75$ ,  $p = .030$ . This means that there is a small association between high rating on attractiveness and

higher percent tip. Group size is found to have a medium positive correlation,  $r = .325$ ,  $n = 89$ ,  $p = .002$ , with tip percent. Higher groups size is associated with higher tip percent. Alcohol consumption is not found to have a significant correlation with tip percent,  $r = .069$ ,  $n = 89$ ,  $p = .521$ . The negative correlation between alcohol consumption and service quality was also non-significant,  $r = -.009$ ,  $n = 89$ ,  $p = .934$ . It can therefore not be said anything about these relationships.

Server self-rated service quality is found to have a medium positive correlation,  $r = .406$ ,  $n = 62$ ,  $p = .001$ , with tip percent. This means that higher service quality is associated with higher tip percent and that this relationship is of medium strength.

Other significant relationships found is perceived service quality with food quality with a medium positive correlation of  $r = .452$ ,  $n = 89$ ,  $p = .000$ . This means that high level of service quality is associated with higher food quality, but as the correlation is not strong it seems that it does not measure the same thing.

Perceived service quality with server attractiveness with a large, positive correlation of  $r = .757$ ,  $n = 75$ ,  $p = .000$ , with a high level of server attractiveness associated with higher level of perceived service quality. This could be that people perceive attractive servers as better service providers, or that people receiving high quality service think their server is more attractive. But this cannot be concluded here as this is only an analysis that explore the relationships.

Perceived service quality with server self-rated service quality had a medium, positive correlation of  $r = .497$ ,  $n = 62$ ,  $p = .000$ . This means that higher perceived service quality is associated with high server self-rated service quality. This is good as these variables should measure the same thing; service quality. However it should have been stronger and it indicates that servers have a different thought on the service they provide then the guests.

A correlation analysis was performed to find the point-biserial correlation between sex and tip percent but it failed to reach significance,  $r = .059$ ,  $n = 89$ ,  $p = .582$  (Appendix G). If it had been significant the correlation would have been almost non-existent but positive, meaning that males would be associated with higher tip percent.

The point-biserial correlation between dichotomous variable patronage frequency and tip percent was found to be  $r = .246$ ,  $n = 89$ ,  $p = .020$  (Appendix H). This means that the ones that frequent the restaurant 6 or more times a year are associated with higher tip percent. A correlation between the dichotomous variable patronage frequency and service quality rating failed to reach significance level,  $r = .159$ ,  $n = 89$ ,  $p = .159$ . This was done to check if regular customers are associated with higher service quality ratings, but again no statistical significant result was found for this relationship.

A dichotomous variable of credit card payment (CreditPayment) was created with 1 = credit card payment and 0 non credit card payment (consisting of the cash and debit card payments). The negative correlation between credit payments and tip percent was not found to be significant,  $r = -.199$ ,  $n = 89$ ,  $p = .062$  and therefore no statements about this relationship can be drawn (Appendix I).

The correlation between bill size and tip amount was found to be significant, large and positive,  $r = .677$ ,  $n = 89$ ,  $p = .000$  (Appendix J). This means that higher bills are associated with higher tip amount.

Table 32 Correlation Analysis

Correlations									
	Service Quality	Food Quality	Server attractiveness	Server Quality Rating	Size of Party	Units of Alcohol Consumed	Tip in Percent of bill		
Service Quality	1	.452**	.757**	.497**	-.090	-.009	.270*		
		.000	.000	.000	.404	.934	.011		
	108.045	44.034	88.520	24.645	-26.079	-1.112	100.980		
	1.228	.500	1.196	.404	-.296	-.013	1.147		
	89	89	75	62	89	89	89		
Food Quality	.452**	1	.358**	.310*	-.121	-.076	.196		
	.000	.002	.002	.014	.258	.479	.066		
	44.034	87.775	37.080	13.500	-31.809	-8.584	66.156		
	.500	.997	.501	.221	-.361	-.098	.752		
	89	89	75	62	89	89	89		
Server attractiveness	.757**	.358**	1	.286*	-.029	-.024	.251*		
	.000	.002	.002	.046	.804	.837	.030		
	88.520	37.080	143.920	13.245	-9.560	-3.200	103.119		
	1.196	.501	1.945	.276	-.129	-.043	1.393		
	75	75	75	49	75	75	75		
Server Quality Rating	.497**	.310*	.286*	1	.194	.088	.406**		
	.000	.014	.046	.000	.131	.495	.001		
	24.645	13.500	13.245	34.274	29.113	4.839	69.962		
	.404	.221	.276	.562	.477	.079	1.147		
	62	62	49	62	62	62	62		
Size of Party	-.090	-.121	-.029	.194	1	.156	.325**		
	.404	.258	.804	.131	.144	.144	.002		
	-26.079	-31.809	-9.560	29.113	783.888	52.697	328.397		
	-.296	-.361	-.129	.477	8.908	.599	3.732		
	89	89	75	62	89	89	89		
Units of Alcohol Consumed	-.009	-.076	-.024	.088	.156	1	.069		
	.934	.479	.837	.495	.144	.144	.521		
	-1.112	-8.584	-3.200	4.839	52.697	145.281	29.939		
	-.013	-.098	-.043	.079	.599	1.651	.340		
	89	89	75	62	89	89	89		
Tip in Percent of bill	.270*	.196	.251*	.406**	.325**	.069	1		
	.011	.066	.030	.001	.002	.521	.002		
	100.980	66.156	103.119	69.962	328.397	29.939	1298.991		
	1.147	.752	1.393	1.147	3.732	.340	14.761		
	89	89	75	62	89	89	89		

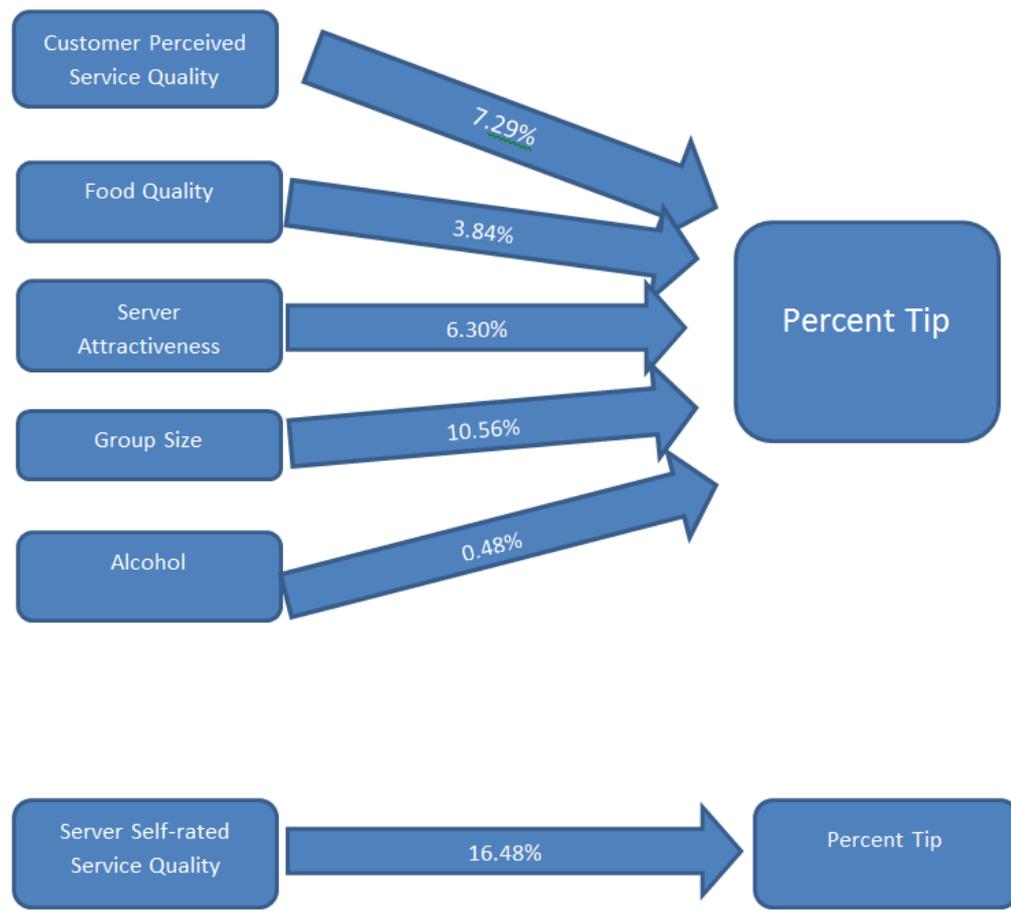
\*\* . Correlation is significant at the 0.01 level (2-tailed).

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

### Coefficient of Determination

The Coefficient of determination ( $R^2$ ) is calculated for the relationships in Model 1 and Model 2 and is presented in Figure 23. These values indicate how much variance these variables share with the dependent variable percent tip.

Figure 23 Model 1 and Model 2 with Coefficients of determination ( $R^2$ )



It shows that service quality explains 7.29% of the variance in tip percent. With only group size explaining more, 10.56% of the variance in tip percent. It also shows that server self-rated service quality explains 16.48% of the variance in tip percent.

### **Multiple Regression Analysis**

The multiple regression analysis was done by the researcher to explore the relationship between the independent variables and the dependent variable as predicted in Model 1. The strengths of the relationship will be found and each variables contribution will be found.

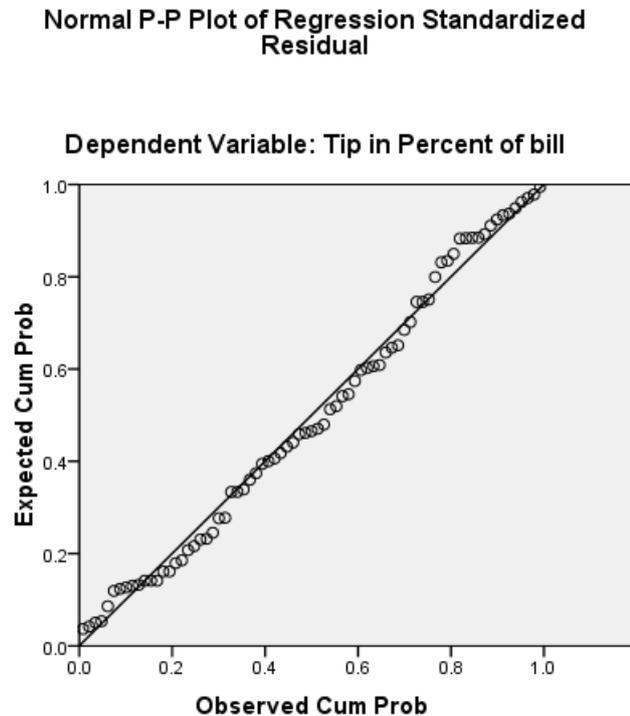
Initial analysis of the output indicates that alcohol is very weakly correlated with the dependent variable tip percent. Pallant (2010) suggest that the correlation preferably should be above .3 and less than .7. I choose to keep variables that show a correlation above .10 (small correlations), although the second lowest variable's correlation with tip percent is .196. No values were close to a correlation of .7. An adjusted model without the alcohol variable, Model 1 Adjusted, was therefore created. This was done to do analysis without the alcohol variable that only showed a correlation of .021 with tip percent. The standardized beta coefficient of alcohol (.000) shows that it has no contribution to explaining the dependent variable. The multiple regression analysis of Model 1 can be found in Appendix K. Table 33 on page 91 presents the multiple regression analysis conducted in order to examine Model 1 Adjusted.

The values of Model 1 Adjusted will be presented in the results. The results were also checked for multicollinearity and no values were found indicating multicollinearity. Tolerance values were larger than .10 and VIF values were well under 10 as Pallant (2010) describe as cut-off points of determining multicollinearity.

The Normal P-P plot (Figure 24) was examined and was found to have a reasonably straight line. This suggests no major deviations from normality. The scatterplot was also taken into consideration and was found to be rectangular distributed and no outliers were found (more than 3.3 or less than -3.3) as recommended by Tabachnick and Fidell (2007,

as cited in Pallant, 2010, p. 159). The results are therefore found not to be in violation of the assumption of multiple regression analysis.

Figure 24 Model 1 Adjusted: Normal P-P Plot



The value of R<sup>2</sup> (R Square) is found to be .211 and it indicates 21.1% of the variance in the dependent variable tip percent is explained by the model (the independent variables). However the Adjusted R<sup>2</sup> is used when the sample is small and Adjusted R<sup>2</sup> is a better estimate of the true population value (Pallant, 2010). The Adjusted R<sup>2</sup> is .166, and the independent variables therefore explain 16.6% of the variance in tip percent. The researcher thinks that this is a better estimate of the true population value. The ANOVA Table 33 at page 91 checks the statistical significance of the results. Model 1 Adjusted reaches statistical significance ( $p = .002$ ).

The Beta values of the standardized coefficients are used to compare the contribution of each individual independent variable. The largest beta coefficient is .360

for the variable Group size (Size of the Party). Group size makes the strongest unique contribution to explaining the dependent variable, when the variance of the other variables is controlled for. This is the only statistically significant value of unique contribution ( $p = .001$ ). The second largest beta coefficient was the independent variable service quality (.188). The smallest beta coefficient was the one from server attractiveness with .074. Food Quality had a beta coefficient of .128.

**Table 33 Multiple Regression Analysis of Model 1 Adjusted**

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.460 <sup>a</sup>	.211	.166	3.50780

a. Predictors: (Constant), Size of Party, Server attractiveness, Food Quality, Service Quality

b. Dependent Variable: Tip in Percent of bill

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	231.007	4	57.752	4.693	.002 <sup>a</sup>
	Residual	861.326	70	12.305		
	Total	1092.333	74			

a. Predictors: (Constant), Size of Party, Server attractiveness, Food Quality, Service Quality

b. Dependent Variable: Tip in Percent of bill

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1 (Constant)	-3.157	2.756		-1.145	.256	-8.655	2.340					
Service Quality	.652	.591	.188	1.104	.273	-.526	1.831	.270	.131	.117	.388	2.578
Food Quality	.493	.460	.128	1.072	.287	-.424	1.410	.196	.127	.114	.788	1.269
Server attractiveness	.203	.448	.074	.452	.652	-.691	1.097	.251	.054	.048	.426	2.349
Size of Party	.463	.138	.360	3.358	.001	.188	.739	.325	.372	.356	.980	1.020

a. Dependent Variable: Tip in Percent of bill

## Discussion

In this part of the research paper the results will be discussed and the different hypotheses will be confirmed or falsified. Implications of the research will also be discussed together with limitations of the research and recommendations for future research. The data from the survey questionnaire and collection of the server self-rated service quality provided grounds for the discussion of the hypotheses.

The tip percent mean was found to be 6.09%, while the mean value of what the respondents thought was the tip norm in Norway was 7.77%. As mentioned in the literature a lot of news articles and online tip guides write that the norm is around 10%. The results in this study indicate that in the real world this is lower. No previous studies have been found on tip norms or the average tip percent in Norway. It will therefore be of interest to have more studies that could further investigate this.

### Service Quality and Tip Percent

Hypothesis 1: There is a positive relationship between customer service rating and tip size.

This relationship was investigated by finding the correlation coefficient between these variables and computing the R<sup>2</sup> to find the how much of the variance in tip percent was explained by the customer service rating. The results showed that there is a significant, small, positive relationship ( $r = .270$ ) between service quality and tip percent, and that service quality explains 7.29% of the variance in tip percent. This is more than the previous findings in literature that found the correlation to be .11 and explain 1.21% of the variance in tip percent, when measuring service quality at a single item scale, while .22 and a 4.84% variance in tip percent on a multi-item scale (Lynn & McCall, 2000).

The results are higher in this study indicating that this relationship might be stronger in this country. This is similar to the findings in Canada and Israel where the findings on the service and tipping relationship indicated that tipping was more sensitive to service quality in those countries (Azar, 2010; Bodvarsson & Gibson, 1999). But the relationship is not very strong as the correlation is considered small, indicating that there are other factors that impact the variance in tip percent. The results do show that there is a positive relationship and hereby confirming hypothesis 1.

*Hypothesis 2: There is a positive relationship between server service rating and tip size.*

The result from the correlation analysis was significant and showed that the relationship was medium, positive with  $r = .406$  and explaining 16.48% of the variance in tip percent. Lynn & McCall (2000) find a non-significant correlation between the servers rating of service quality and tip percent. Other studies have, as previously explained, found that servers think there is a medium to strong relationship between service quality and tip (Kwortnik, Lynn & Ross, 2009; as cited in Lynn, et al., 2011). The finding here indicate that there is a medium sized correlation between the server rated service quality and tip size. This is similar to what the servers are found to think about the relationship. This might also be that the ratings from the servers have been influenced by the tip levels as they rated their service quality after they received the tip. However there is a positive relationship between server service rating and tip size and hypothesis 2 is confirmed.

### **Customer Service Rating and Server Service Rating**

*Hypothesis 3: There is a positive correlation between customer service rating and server service rating.*

The correlation between customer perceived service quality and the server self-rated service quality was found to be significant, medium and positive with an  $r = .497$ . No previous findings were found in the literature review that had data on this relationship. However it was expected to be a positive correlation as they are supposed to measure the same thing, namely Service Quality. The relationship should have been higher, but it might also show that the servers evaluate service differently than the customers, and that also expectations of the customers may play a role in this. Hypothesis 3 is found to be confirmed.

### **Food Quality and Tip Percent**

*H4: Food Quality has a weaker positive correlation to tip size then service quality.*

The data was not sufficient to get a significant correlation coefficient for the relationship between food quality and tip percent. But a significant, medium and positive correlation was found for the correlation between food quality and service quality with  $r = .452$ . This is similar with previous studies as the mean correlation was found to be .40 (Lynn & McCall, 2000). But the current study failed to get a significant correlation with food service and tip size. This means that the hypothesis that food quality has a weaker positive correlation to tip size then service quality is failed to be proven as no statistical significant result was found for the relationship between food quality and tip percent.

### **Bill Size and Tip Amount**

*Hypothesis 5: Bill size is positively related to tip amount.*

Bill size was found to correlate significantly and positive with a large correlation of  $r = .677$  and accounts for 45.8% of the variance in tip amount. This is less than a previous finding by Lynn (1988) where it was found to account for 50% of the variance. It does however provide support for the hypothesis. The hypothesis that bill size is positively related to tip amount is confirmed.

### **Payment Method and Tip Percent**

*Hypothesis 6: When paying with credit cards customers leave a higher tip.*

The correlation between payment method and tip percent was not significant and therefore no conclusion can be drawn on the direction or strength of this relationship, although the results indicated that it could have a small, negative relationship;  $r = -.199$ ,  $n = 89$ ,  $p = .062$ . Previous research had found a positive relation, but this study could not find any significant results. The data results for the hypothesis that “When paying with credit cards customers leave a higher tip” failed to reach statistical significance and no conclusion can be made.

### **Customer Sex and Tip Percent**

*Hypothesis 7: When the tipper is male the tip percent is higher.*

The correlation analysis between sex and tip percent did not reach statistical significance, but indicated a very small, positive correlation;  $r = .059$ ,  $n = 89$ ,  $p = .582$ . However no conclusions can be drawn as the result is not significant. As found in the literature review there was inconsistent findings on this relationship. This study failed to

receive a significant result and no conclusion could be made about the hypothesis “When the tipper is male the tip percent is higher”.

### **Server Attractiveness and Tip Percent**

*Hypothesis 8: Server Attractiveness has a positive relationship with tip percent.*

Server attractiveness is found to have a significant, small, positive correlation of  $r = .251$  with tip percent and that server attractiveness explains 6.3% of the variance in tip percent. This means that more attractive servers are associated with higher tip percentage, but that the relationship is weak. As found in literature review previous studies had found that attractive servers receive more tips. This study support these findings and it therefore seems to be a relationship in between these variables in Norway. It was also found a significant, large, positive relationship between service quality and server attractiveness ( $r = .757$ ,  $n = 75$ ,  $p = .000$ ). It means that receiving high service quality is associated with higher attractiveness rating. It could be that attractive servers are perceived as providing better service and therefore receive higher tip. The hypothesis “Server attractiveness has a positive relationship with tip percent is confirmed.

### **Group Size and Tip Percent**

*Hypothesis 9: Group size has a positive effect on percent tip.*

A significant, medium, positive correlation was found between group size and tip percent ( $r = .325$ ,  $n = 89$ ,  $p = .002$ ), and it explains 10.56% of the variance in tip percent. This is the strongest impact any of the customer rated variables have on percent tip. As mentioned in the literature review a previous study found results significant at the  $p = .10$  level that group size had a positive effect on tip percent (Conlin, et al., 2003). This study

managed to reach significance at the  $p = .01$  level ( $p = .002$ ) and support this previous finding. The current study finds support for the hypothesis “Group size has a positive effect on percent tip” and confirmed the hypothesis.

### **Patronage Frequency and Tip Percent**

*Hypothesis 10: There is a positive correlation between patronage and tip percent.*

It was found a correlation between the dichotomous variable patronage and percent tip. This correlation was small, positive and statistically significant ( $r = .246$ ,  $n = 89$ ,  $p = .020$ ). The result indicates that those frequenting the restaurant 6 or more times a year is associated with higher tip percent and that it explains 6.05% of the variance in tip percent. In literature a mean  $r = .08$  was found in a previous study (Lynn & McCall, 2000). The current study does find a higher correlation between these variables indicating that this relationship might be stronger in Norway. The results also support the hypothesis “There is a positive correlation between patronage and tip percent” and the hypothesis is confirmed.

### **Alcohol Consumption**

*Hypothesis 11: Alcohol consumption has a positive effect on tip percent.*

The correlation between alcohol consumption was found to not have a significant correlation with tip percent. The non-significant ( $p = .521$ ) correlation that was found was .069 and that is also less than what is considered a small correlation. Therefore no conclusions about the strength of the relationship can be done. This independent variable was also removed from the proposed model “Model 1” and another model was introduced “Model 1 Adjusted” without the alcohol variable. This study therefore failed to find positive correlations between these variables as other studies have found. Lynn (1988)

found a correlation of .15 with percent tip and as mentioned in the literature review various other studies also found a positive effect on tipping. The hypothesis that “Alcohol consumption has a positive effect on tip percent” failed to reach statistical significant and no conclusion can be made.

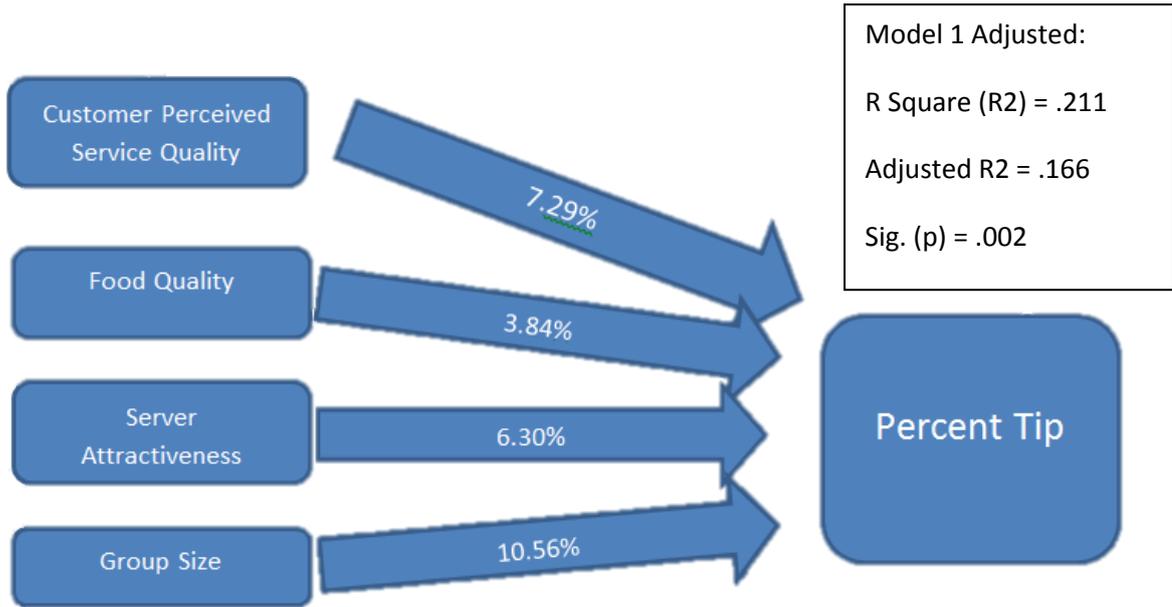
*Hypothesis 12: Alcohol consumption has no effect on service quality*

The correlation between alcohol consumption and service quality was found to be,  $r = -.009$ ,  $n = 89$ ,  $p = .934$  and therefore non-significant. So no conclusion about the strength of this relationship can be draw. Previous research by Conlin et al. (2003) showed there was no effect of alcohol consumption on service quality. This current study finds no statistical significant effects of alcohol on service quality. The data therefore failed to prove the hypothesis “Alcohol consumption has no effect on service quality”.

### **Model 1 Adjusted**

The “Model 1 Adjusted” (Figure 26) was found to have an Adjusted  $R^2 = .166$ . The independent variables service quality, food quality, server attractiveness and group size therefore provide an explanation of 16.6% of the variance in tip percent. The variable with the largest significantly unique contribution was group size ( $\beta = .360$ ) and no other variables made a statistically significant contribution. Why group size had such a significant contribution was not the intention of this study. Looking at the possible variables that would have an effect on tip percent was the intention. Conlin et al. (2003) found an  $R^2$  of .1680 using 10 independent variables. This cannot be compared to the results from this current study as the variables are different. The model was not taken from any previous studies but put together by the researcher out of what was thought to have a relation with percent tip based on previous research and that would also possible have the same relationships in this study.

Figure 25 Model 1 Adjusted with coefficients of determination



**Summing up**

The Table 34 below show if the hypotheses the researcher tested was confirmed or not. It shows that seven of the twelve hypotheses were confirmed while five were rejected.

Table 34 Hypotheses

Hypothesis Nr.	Hypothesis	TRUE	FAILED
1	There is a positive relationship between customer service rating and tip size.	x	
2	There is a positive relationship between server service rating and tip size.	x	
3	There is a positive correlation between customer service rating and server service rating.	x	
4	Food Quality has a weaker positive correlation to tip size than service quality		x
5	Bill size is positively related to tip amount.	x	
6	When paying with credit cards customers leave a higher tip.		x
7	When the tipper is male the tip percent is higher.		x
8	Server Attractiveness has a positive relationship with tip percent.	x	
9	Group size has a positive effect on percent tip.	x	
10	There is a positive correlation between patronage and tip percent.	x	
11	Alcohol consumption has a positive effect on tip percent.		x
12	Alcohol consumption has no effect on service quality		x

It is also worth noticing that 72.9% of the respondents expect that the tip is shared with the cooks. Among those respondents that did not have food service experience 76.8% expected that the tip was shared with the cooks. This brings up the question if the tip should be shared with the kitchen staff and to what extent it should be done. No research data is found about how this is done in Norway, but at this restaurant it was not the case that the servers shared their tips with the kitchen staff on a regular basis. They did however tell the researcher that they did it occasionally. This is something that the researcher by own experience from several restaurant has found to be an area of conflict between servers and kitchen staff and this is also supported by the study of (Hellsaa, 2009). Comparing this with the results on the service quality relationship with tip percent and food quality relationship with tip percent it seems that the service efforts have explains more of the variance in tip then food quality. This could mean that the service provided by the servers have a bigger impact on the percent tip than the food quality that is primarily the cooks job. However since the food quality relationship with tip percent did not reach statistical significant no conclusions can be made based on the results.

It is also worth noticing that the findings of the service and tipping relationship is found to be stronger in this study than in the meta-analysis by Lynn & McCall (2000). This was as expected as stated in the literature review since the pay the servers receive from the restaurant is enough to make a living on its own, and that if people tipped they would do it more based on the perceived service. It did however not explain very much of the variance in tip percent (only 7.29%) and therefore other factors may have a bigger influence on tip percent. However the server level analysis of the service quality and tip percent produced a higher result with a statistical significant correlation of .406, explaining 16.48% of the variance in tip percent. This could therefore be a better measure of the relationship

between service quality and tip percent, but it does not include the customer perception of service and could therefore also be a weaker measure of the real service quality.

Server attractiveness was found to have a relation with tip percent. It was also found to have a large correlation with service quality. These results indicate that attractive servers will make better tips than servers perceived by the guest to be less attractive. The close relationship between service quality and server attractiveness indicates that these variables also influence each other and that the more attractive the server is the higher service quality is rated. This could be a weak measure as some did not answer this question, but that was found to likely be because the server was the same sex as the customer and that the respondent therefore did not like to give a response on attractiveness to someone of the same sex.

The Model 1 Adjusted tried to account for some of these other factors and it explained 16.6% of the variance in tip percent. The independent variables in Model 1 Adjusted were Service quality, Food quality, Server attractiveness and Group size. However the analysis of the hypotheses also found that regular guests are associated with higher tip percent. This could therefore also be included in a future model that tries to explain tip percent in Norway.

The hypotheses that were not confirmed failed to be confirmed because the data did not give statistical significant results and therefore no conclusion about the relationship could be made.

### **Implications, Limitations and Recommendations**

The idea that customers tip servers for the service they receive is supported by the results of this study. But since the result is small it may be that the tip is not primarily provided to reward the servers for the quality of the service they received. This research also found that group size explains 10.56% of the variance in tip percent, and contributed a

statistical significant unique contribution ( $\beta = .360$ ) to Model 1 Adjusted. This could mean that servers that have larger tables could expect a larger tip percent. This research did not analyze any differences between split bills with multiple respondents for each table and the tables where one respondent paid the bill for the entire table. This is a weakness to this research. The fact that the questionnaires with multiple respondents per table were included might also be a weakness.

Theoretically the results may also question the fact that servers believe there is a moderate to strong relation between service quality and tipping. The server self-rated service quality could have been impacted by the tip they received, and that the servers based their evaluation to some extent on that. This is also a weakness with this measure. It also has some implication both theoretically and for the restaurant industry, that tipping is not the most efficient way of monitoring and rewarding the server effort. Economists' theories have stated that tipping exists because it is the most efficient way of rewarding service effort (Bodvarsson and Gibson, 1994; as cited in Lynn, 2003). Other implication for the restaurant industry is that tip is not a good way of motivating employees to deliver good service or to identify dissatisfied customers. It could also be of importance to know that attractive servers are associated with higher tips and service quality. It would be controversial to hire people because of their attractiveness, but this study did probably not just measure the looks of the server, but also other aspects that made the customer perceive the server to be attractive. It could have been that the service provided made the server appear more attractive to the respondent. Further research is needed to get more reliable results on this.

This research used interviews using a survey questionnaire on customers that had just paid their bill and had left a tip. The planned method with exit interviews was discarded as very few to no respondents was willing to participate. This method still

provided strength and reliability to the data collected as it was right after the experience they were questioned about and did not now about the research or questions before after the meal and payment. However as the servers were the ones initially asking the participants if they wanted to participate in a short survey, they might also have chosen not to ask some of the guests that seemed to not be happy with the service quality. However the survey did seem to get a normally distributed sample on the service quality scale, and the alternative could have been that the sample had been very small. This also makes implications to future research on this topic and the fact that exit interviews may not be very effective in collecting data for a larger sample, and that the method used here could be an alternative. Interview bias might also have occurred, and as only one interviewer (the researcher) was used when collecting data this could not be controlled for.

There are also limitations to the generalizability to the findings in this study. As the sample was small and only one restaurant, in one city in the western parts of Norway the findings would not hold outside this particular restaurant. Also a majority of the guests were above 40 years old and the study might not have picked up the tipping behavior of younger customers well. More studies are needed to generalize to the Norwegian population and the relationship between service and tipping. The current study does however build on previous studies when it comes to the directions and strengths of the findings, and this gives more strength to the generalizability of this research.

### **Conclusion**

This research paper focused on the service and tipping relationship and other factors that might influence tipping. Factors in previous studies were found through a literature review of research on service quality and tipping research. This study tried to find if previous research results would hold in this study.

The findings in this research paper primarily builds on the results of previous research when it comes to the findings that service quality has a weak relationship with tip percent. It also finds that 7 out of 12 hypotheses are confirmed, while the other hypotheses were failed to be confirmed because they lacked statistical significant results. This indicates that the tip that is given in Norwegian restaurants is only weakly related to the service that the server provided.

The research finds that there are multiple factors that explain the variance in tip percent. It therefore suggests that tip percent is not a good measure for management to measure the service quality delivered by the servers. The research also finds that the average tip in the study is 6.09% indicating that the various online guidelines and newspaper articles may give tourists and the public a wrong impression of the tip amounts expected when dining in Norway.

The generalizability of this study is limited to the restaurant the data was collected, but together with previous literature it seems to find the same factors with similar strength and directions. This shows that the results might also hold in other populations. Further research on this phenomenon in Norwegian context is needed to tell more about the presence of tipping in Norway and the relationship it has with service quality and other factors that impact tipping.

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**Appendices**

## Appendix A

## Questionnaire Norwegian Version

**Denne undersøkelsen er en del av en Masteroppgave ved Norsk Hotellhøgskole, Universitetet i Stavanger. Den gjennomføres for å få økt forståelse av hvordan gjester vurderer serviceopplevelsen i Norske restauranter. Det er 21 spørsmål om dagens restaurantbesøk og utfyllingen vil ta 3-4 minutter. Det er viktig at du svarer på alle spørsmål.**

1. Hvor mange personer var på ditt bord, **inkludert deg selv**? \_\_\_\_\_
2. Om flere enn en, hvilke av følgende grupper var du ute og spiste med? (sett sirkel rundt ditt svar)
  1. Kollegaer
  2. Venner
  3. Familie
  4. Annet: \_\_\_\_\_
3. Hvor mange regninger hadde bordet? \_\_\_\_\_
4. Hvor mange betalte du for, **inkludert deg selv**? \_\_\_\_\_
5. Hvordan betalte du? (sett sirkel rundt ditt svar)
  1. Kontant
  2. Bankkort/Debitkort
  3. Kredittkort
  4. Annet: \_\_\_\_\_
6. Hadde noen du betalte for, **inkludert deg selv**: (sett sirkel rundt dine svar)
  1. Forrett?
  2. Hovedrett?
  3. Dessert?
  4. Smårett?
  5. Lunsjrett?
  6. Alkohol?
    - a. Hvis alkohol, hvor mange enheter hadde du? \_\_\_\_\_
7. Hvilket kjønn var din/deres servitør? (sett sirkel rundt ditt svar)
  1. Mann
  2. Kvinne
8. Hvordan vil du rangere servicen du fikk av din/deres servitør på følgende skala? (sett sirkel rundt ditt svar)

**Dårlig****Utmerket**

1                      2                      3                      4                      5                      6                      7

9. Hvordan vil du rangere maten? (sett sirkel rundt ditt svar)

**Dårlig****Utmerket**

1                      2                      3                      4                      5                      6                      7

10. Hvor attraktiv synes du din servitør var? (sett sirkel rundt ditt svar)

**Lite Attraktiv**

**Veldig  
Attraktiv**

1                      2                      3                      4                      5                      6                      7

11. Hvor ofte er du på denne restauranten? (sett sirkel rundt ditt svar)

1. Mer enn en gang i uken.
2. 1 – 4 ganger i måneden
3. 6 – 12 ganger i året
4. 2 – 6 ganger i året
5. 1 gang i året.
6. Mindre enn 1 gang i året

12. Har du noen gang jobbet som servitør eller bartender? (sett sirkel rundt ditt svar)

1. Servitør
2. Bartender
3. Nei

13. Har noen av dine nærmeste venner eller familie jobbet som servitør eller bartender? (sett sirkel rundt ditt svar)

1. Ja
2. Nei

14. Hvor mye var summen av den delen av regningen som du betalte, **før eventuell tips**? \_\_\_\_\_

15. Hvor mye tipset du servitøren?(i kroner) \_\_\_\_\_

16. Hva er ditt kjønn? (sett sirkel rundt ditt svar)

1. Kvinne
2. Mann

17. Hva er din Alder? \_\_\_\_\_

18. Hva er din sivilstatus? (sett sirkel rundt ditt svar)

1. Enslig
2. Gift
3. Samboer

19. Hva er din høyeste fullførte utdanning?

1. Ungdomsskole
2. Videregående skole
3. Yrkesfaglig utdanning
4. Universitet- og høgskolenivå 1-2 år
5. Universitet- og høgskolenivå 3-4 år
6. Universitet- og høgskolenivå 5 år eller mer.
7. Annet:

20. Hva mener du er normalt å tipse i Norge, **i prosent** av en regning?(Ikke angi et intervall)

\_\_\_\_\_

21. Forventer du at tipsen deles med kokkene?

1. Ja
2. Nei

## Appendix B

## Questionnaire English Version

This survey is a part of a Master thesis research at the Norwegian Hotel School, University of Stavanger. The study is being done to get increased knowledge of how guests evaluate the service in Norwegian restaurants. There are 21 questions about the restaurant visit today and it will take approximately 3-4 minutes to fill out the survey. It is important that you answer all questions.

1. How many people were at your table, **including yourself**? \_\_\_\_\_
2. If more than one, select the group of people you dined with? (circle your response)
  1. Colleagues
  2. Friends
  3. Family
  4. Other: \_\_\_\_\_
3. How many bills did your table have? \_\_\_\_\_
4. How many people did you pay for, **including yourself**? \_\_\_\_\_
5. How did you pay? (circle your response)
  1. Cash
  2. Debitcard
  3. Creditcard
  4. Other: \_\_\_\_\_
6. Did any that you paid for, **including yourself**, have:(circle your response)
  1. Startert?
  2. Main Course?
  3. Dessert?
  4. Light Meal?
  5. Lunch Course?
  6. Alcohol?
    - a. If alcohol, how many units did you have? \_\_\_\_\_
7. What was your server's sex? (circle your response)
  1. Male
  2. Female
8. How would you rate the service you received from your server on the following scale? (circle your response)

**Poor****Excellent****1****2****3****4****5****6****7**

9. How would you rate the food? (circle your response)

**Poor****Excellent****1****2****3****4****5****6****7**

10. How attractive do you think your server was? (circle your response)

**Little Attractive**

**Very Attractive**

1                      2                      3                      4                      5                      6                      7

11. How frequent do you dine at this restaurant? (circle your response)

1. More than once a week
2. 1 – 4 times a month
3. 6 – 12 times a year
4. 2 – 6 times a year
5. 1 time a year
6. Less than 1 time a year

12. Have you ever been employed as a server or bartender? (circle your response)

1. Server
2. Bartender
3. No

13. Have any of your closest friends or family worked as a server or bartender? (circle your response)

1. Yes
2. No

14. What was the total amount of the bill that you paid, **before eventual tip**? \_\_\_\_\_

15. How much did you tip your server? (in kroner) \_\_\_\_\_

16. What is your sex? (circle your response)

1. Female
2. Male

17. What is your age? \_\_\_\_\_

18. What is your marital status? (circle your response)

1. Single
2. Married
3. Cohabitant

19. What is the highest level of education that you have completed?

1. Secondary School
2. High School
3. Vocational School
4. University / College 1-2 years
5. University / College 3-4 years
6. University / College 5 years or more
7. Other:

20. What do you think is the tip norm for tipping in Norway, **in percent** of a bill? (Do not give an interval) \_\_\_\_\_

21. Do you expect that the tip is shared with the cooks?

1. Yes
2. No

Appendix C

Informed Consent Norwegian Version

Det Samfunnsvitenskaplige fakultet

Norsk Hotellhøgskole

Universitetet i Stavanger

4036 Stavanger

29. Mars 2012



Vi driver et forskningsprosjekt som en del av en masteroppgave ved Norsk Hotellhøgskole ved Universitetet i Stavanger (UiS). Vi undersøker hvordan gjester vurderer serviceopplevelsen i Norske restauranter og vi trenger derfor din hjelp til å gjennomføre denne undersøkelsen.

Ved å fylle ut skjemaet kan du være med i trekningen av to gavekort på restaurantbesøk til en verdi av 1000,- pr stykk. Ønsker du å være med i trekningen fyll ut enten e-post adresse eller telefonnummer under.

E-Post: \_\_\_\_\_

Telefon: \_\_\_\_\_

Undersøkelsen er enkel å fullføre og tar 3-4 minutter. Den er anonym både for gjesten og restauranten. Ingen navn på gjester eller restaurant kommer til å bli nevnt i forskningsrapporten. Ved å fullføre undersøkelsen godtar du din egen deltakelse i forskningen.

Dersom du har spørsmål, ta kontakt, kontaktinformasjon er nederst på denne siden.

Dersom du ønsker bekreftelse på at undersøkelsen er igangsatt ved UiS ta kontakt med veileder Kai V. Hansen: [kai.v.hansen@uis.no](mailto:kai.v.hansen@uis.no)

På forhånd takk for din deltakelse i denne undersøkelsen.

Med Vennlig Hilsen

Andre Sæle Rønhovde

E-post: [as.ronhovde@stud.uis.no](mailto:as.ronhovde@stud.uis.no) Tlf: 97019582

Appendix D

Informed Consent English Version

Det Samfunnsvitenskaplige fakultet

Norsk Hotellhøgskole

Universitetet i Stavanger

4036 Stavanger

29. March 2012



We are doing a research project as a part of a master thesis at the Norwegian Hotel School at the University of Stavanger (UiS). We are researching how guests evaluate the service experience in Norwegian restaurants and by completing this questionnaire you will help us with this research.

By completing the survey you can participate in the drawing of two gift certificates for restaurants, each with a value of 1000 NOK. If you want to participate in the drawing fill out either your e-mail or your telephone number here:

E-Mail: \_\_\_\_\_

Telephone: \_\_\_\_\_

The questionnaire is simple to complete and takes 3-4 minutes to complete. It is anonymous for both the guest and the restaurant. No name of guests or the restaurant will be mentioned in the research report. By completing the questionnaire you accept your own participation in the research.

If you have any questions, contact information is provided at the bottom of this page.

If you want a confirmation that this research is initiated at the UiS

contact thesis supervisor Kai V. Hansen: [kai.v.hansen@uis.no](mailto:kai.v.hansen@uis.no)

Thank you in advance for your participation in this research survey.

Regards

Andre Sæle Rønhovde

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## Appendix E

## Coding of Variables before Data Entry to SPSS

Description of Variable	SPSS Variable Name	Coding instructions
Identification Number	ID	
Day of Week	Day	1=Monday, 2=Tuesday, 3=Wednesday, 4=Thursday, 5=Friday, 6=Saturday, 7=Sunday
Total People at your table	TSize	Size of party
Relation to group of people in your party	TGroup	1=Colleagues, 2=Friends, 3=Family, 4=other
How many bills at the table?	TBills	Amount of bills at the table
Paid for how many people?	PPeople	Amount of people paid for
How did you pay?	PayMeth	1=Cash, 2=Debitcard, 3=CreditCard, 4=Other
Meal type Starter	MT1	1=yes, 0=no
Meal type Main course	MT2	1=yes, 0=no
Meal type Dessert	MT3	1=yes, 0=no
Meal type Smårett	MT4	1=yes, 0=no
Meal type Lunch	MT5	1=yes, 0=no
Total courses at table	MTot	Amount of courses
Alcohol paid for	Alc	1=yes, 0=no
Alcohol consumed	AlcCons	Units of alcohol
Server Sex	ServSex	1=Male, 2=Female
Service Quality	ServiceQ	1=Poor, 7=Excellent
Food Quality	FoodQ	1=Poor, 7=Excellent
How attractive did you think your server was?	ServAttr	1=Not very Attractive, 7=Very attractive
How often do you dine at this restaurant?	Patron	1=More than once a week, 2=1-4 times a month, 3=6-12 times a year, 4=2-6 times a year, 5=1 time a year, 6=less than once a year
Worked as a server or bartender?	FSExp1	1=Server, 2=Bartender, 3=No
Any of close friends or family worked as server/bartender?	FSExp2	1=yes, 2=no
Amount of the bill paid?	BillSize	Size of bill in kroner
Tip size	BillTip	Size of tip in kroner
Sex	Sex	1=Female, 2=Male
Age in years	Age in years	Age in years
Marital Status	Marital	1=single, 2=married, 3=Partner
Highest education level achieved?	edlevel	1=Secondary, 2=High School, 3=Vocational School, 4=University/college 1-2 years, 5=University/college 3-4 years, 6=University/college 5 or more years, 7=Other
Norm of tip in % in Norway	TipNorm	Value in %
Should tip be shared with cooks?	TipShare	1=yes, 2=no
Server recorded bill size	SBillSize	Size of bill in kroner
Server recorded tip size	STipSize	Size of tip in kroner
Server Service Quality rating	SService Q	1=Poor, 7=Excellent



Appendix G

Correlation customer sex and tip percent

Correlations		Tip in Percent of bill	Sex
Tip in Percent of bill	Pearson Correlation	1	.059
	Sig. (2-tailed)		.582
	Sum of Squares and Cross-products	1298.991	9.430
	Covariance	14.761	.107
	N	89	89
Sex	Pearson Correlation	.059	1
	Sig. (2-tailed)	.582	
	Sum of Squares and Cross-products	9.430	19.551
	Covariance	.107	.222
	N	89	89

Appendix H

Correlations Patronage Frequency

		Correlations		
		Tip in Percent of bill	Patronage Frequency	Service Quality
Tip in Percent of bill	Pearson Correlation	1	.246*	.270*
	Sig. (2-tailed)		.020	.011
	Sum of Squares and Cross-products	1298.991	33.582	100.980
	Covariance	14.761	.382	1.147
	N	89	89	89
Patronage Frequency	Pearson Correlation	.246*	1	.159
	Sig. (2-tailed)	.020		.138
	Sum of Squares and Cross-products	33.582	14.360	6.247
	Covariance	.382	.163	.071
	N	89	89	89
Service Quality	Pearson Correlation	.270*	.159	1
	Sig. (2-tailed)	.011	.138	
	Sum of Squares and Cross-products	100.980	6.247	108.045
	Covariance	1.147	.071	1.228
	N	89	89	89

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

Appendix I

Credit Card Payment and Tip Percent Correlation

Correlations

		Tip in Percent of bill	Credit Card Payment
Tip in Percent of bill	Pearson Correlation	1	-.199
	Sig. (2-tailed)		.062
	Sum of Squares and Cross-products	1298.991	-25.276
	Covariance	14.761	-.287
	N	89	89
Credit Card Payment	Pearson Correlation	-.199	1
	Sig. (2-tailed)	.062	
	Sum of Squares and Cross-products	-25.276	12.472
	Covariance	-.287	.142
	N	89	89

Appendix J

Bill Size and Tip Amount Correlation

<b>Correlations</b>		Bill size before tip	Tip
Bill size before tip	Pearson Correlation	1	.677**
	Sig. (2-tailed)		.000
	Sum of Squares and Cross-products	1.220E7	502802.663
	Covariance	138600.616	5713.667
	N	89	89
Tip	Pearson Correlation	.677**	1
	Sig. (2-tailed)	.000	
	Sum of Squares and Cross-products	502802.663	45209.506
	Covariance	5713.667	513.744
	N	89	89

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

Appendix K

Model 1 Multiple Regression Analysis

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.460 <sup>a</sup>	.211	.154	3.53313

a. Predictors: (Constant), Alcohol paid for, Server attractiveness, Size of Party, Food Quality, Service Quality

b. Dependent Variable: Tip in Percent of bill

ANOVA<sup>b</sup>

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	231.008	5	46.202	3.701	.005 <sup>a</sup>
Residual	861.325	69	12.483		
Total	1092.333	74			

a. Predictors: (Constant), Alcohol paid for, Server attractiveness, Size of Party, Food Quality, Service Quality

b. Dependent Variable: Tip in Percent of bill

Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1 (Constant)	-3.150	2.873		-1.097	.277	-8.882	2.581					
Service Quality	.653	.595	.188	1.096	.277	-.535	1.840	.270	.131	.117	.388	2.579
Food Quality	.492	.470	.128	1.047	.299	-.446	1.430	.196	.125	.112	.765	1.307
Server attractiveness	.203	.452	.074	.449	.655	-.698	1.104	.251	.054	.048	.425	2.350
Size of Party	.464	.140	.360	3.303	.002	.184	.744	.325	.370	.353	.961	1.040
Alcohol paid for	-.008	.844	.000	-.009	.993	-1.692	1.676	.021	-.001	.000	.946	1.057

a. Dependent Variable: Tip in Percent of bill